Liberty University

School of Music

# Teaching Aural Skills in Undergraduate Music Using World Music Concepts: A Narrative Inquiry

A Thesis Submitted to

the Faculty of the School of Music

in Candidacy for the Degree of

Doctor of Music Education

by

**Eugene Seow**

Lynchburg, VA

August 2024

**Abstract**

This project recognizes the potential of pedagogical innovation through world music concepts, particularly in applying world music education techniques to acquiring undergraduate aural skills. The study examines concepts from African drumming, Indian *tala*, Arabic *maqam*, and Japanese *gagaku*, briefly inquiring into the psychology and theory behind these world musics, and determines how best to transfer the concepts to an undergraduate aural skill teaching curriculum alongside its core concepts rooted in the Western classical idiom. Thus, teachers can augment aural skills education at the collegiate level with cross-cultural perspectives and integrative techniques. This qualitative narrative inquiry research recognizes the imbalance in academia where non-Western musical theoretical concepts often receive less scholarly weight than Western ones. Through technical applications of world musics, this paper aims for a byproduct: to change the conception of anything non-Western as exotic, instead seeking to normalize non-Western ideas in aural skills acquisition education. The study presents possible approaches through sample exercises to specific world musics through the Western lens of music education, showing possible synergy methods between them. Indeed, many fields increasingly incorporate non-Western concepts into teaching methods; this project hopes to inspire academics to examine world music concepts to expand their repertoire of pedagogical approaches.

*Keywords:* pedagogical innovation, music education, world music, undergraduate aural skills, aural skills acquisition

## Dedication/Acknowledgements

This thesis signifies the culmination of my doctoral studies at Liberty University. Throughout my life, I have consistently engaged in music as a performer and composer. Hence, in stark contrast to my previous experiences, this chance to examine and combine data as a musician has profoundly impacted me. It has played no small part in inspiring me towards greater pedagogic aspirations to influence society from its foundation positively.

I am indebted to all my teachers in my undergraduate, graduate, and professional careers, particularly the mentors in theory, ear training, composition, and instrumental performance, of which there are too many to mention. I am grateful to my committee chair, Dr. Jeffrey T. Meyer, for his mentorship and guidance on this project; his subject matter expertise is unparalleled. Likewise, I thank Dr. Brian Stiffler for his keen eye and insightful comments; his scholarly know-how is impeccable. Finally, I would like to recognize the immeasurable patience and understanding of my parents, who have always been behind me on this path less trodden, where I labor towards the nigh unattainable beauty of musical perfection.

**Contents**

**List of Figures** ..... **vi**

**Chapter One: Introduction** ..... **1**

**Background** ..... **1**

**Statement of the Problem** ..... **4**

**Statement of the Purpose** ..... **5**

**Significance of the Study** ..... **5**

**Research Question and Sub Questions** ..... **8**

**Hypotheses** ..... **9**

**Core Concepts** ..... **11**

**Definition of Terms** ..... **15**

**Summary** ..... **17**

**Chapter Two: Literature Review** ..... **20**

**Introduction** ..... **20**

**Aural Skills Pedagogy in Western Music** ..... **21**

**World Music as a Pedagogical Tool** ..... **23**

**World Music – Rhythmic Concepts** ..... **26**

Indian Classical Music: *Tala* ..... 27

Rhythm in Sub-Saharan Africa ..... 29

**World Music – Melodic Concepts** ..... **33**

Arabic *Maqam* ..... 33

*Gagaku* Scales ..... 37

**Summary** ..... **41**

**Chapter Three: Methodology** ..... **44**

**Introduction** ..... **44**

**Research Design** ..... **44**

**Participants and Setting** ..... **47**

**Researcher Positionality** ..... **48**

**Philosophical Assumptions** ..... **49**

**Data Collection Plan** ..... **50**

Researcher-Based Protocols ..... 50

Transcription ..... 51

Saturation ..... 51
**Summary ..... 52**
**Procedures ..... 53**
**Data Analysis ..... 53**
Aural Skills in Current Western Curricula ..... 53
Rhythmic Concepts ..... 57
Melodic Concepts ..... 61
**Coding and Data Synthesis ..... 65**
**Summary ..... 67**

**Chapter Four: Results ..... 69**
**Introduction ..... 69**
**Results: Rhythmic Integrations ..... 72**
Parallels between Indian *Tala* and Western Meter ..... 72
Communal Rhythms and Improvisation with African Drumming Concepts ..... 79
**Results: Melodic Integrations ..... 87**
Intervallic Ear Training with Arabic *Maqam* ..... 87
Japanese *Gagaku*: Recognizing Tetrachordal Cells and Mode Creation ..... 97
**Summary ..... 104**

**Chapter Five: Conclusions ..... 106**
**Introduction ..... 106**
**Significance ..... 109**
**Limitations ..... 112**
**Recommendations ..... 115**
**Summary ..... 117**

**Bibliography ..... 121**

## List of Figures

Figure 1. Advanced Rhythmic Exercise. deOgburn et al., Ear Training 4 Workbook, 111. ..... 56
Figure 2. Lydian Mode Melodic Exercise. deOgburn et al., Ear Training 3 Workbook, 72. ..... 56
Figure 3. Expression of Sankeerna Jati Dhruva Tala. ..... 59
Figure 4. Rhythmic cells in 16th note subdivisions. ..... 71
Figure 5. Expression of Misra Jati Matya Tala. ..... 72
Figure 6. Misra Jati Matya Tala with Western time signature. ..... 73
Figure 7. Expression of Khanda Jati Matya Tala. ..... 73
Figure 8. Khanda Jati Matya Tala with Western time signature. ..... 74
Figure 9. Possible rhythmic genesis in Misra Jati Matya Tala. ..... 75
Figure 10. Possible rhythmic genesis in Khanda Jati Matya Tala. ..... 75
Figure 11. Expression of a tihai. ..... 76
Figure 12. Tihai with Western time signature. ..... 76
Figure 13. Tihai with rhythmic genesis. ..... 76
Figure 14. Tihai with rhythmic genesis with Western time signature. ..... 77
Figure 15. Sample worksheet for Indian tala segment. ..... 78
Figure 16. West African bell pattern, “Ewe” variation. ..... 79
Figure 17. Possible distillation of a clave. ..... 80
Figure 18. Possible bass patterns presented in 12/8. ..... 82
Figure 19. West African bell pattern, “Yoruba” and “Congolese” variations are presented in 6/4 and 3/2, respectively. ..... 82
Figure 20. Synthesized African-inspired groove in 12/8. ..... 83
Figure 21. Synthesized African-inspired groove in 3/2. ..... 83
Figure 22. Possible distillation of a 12/8 bell pattern in 4/4 time. ..... 83
Figure 23. Cascara bell pattern in one measure of 4/2 time ..... 84
Figure 24. Son and Rumba 2-3 clave in 4/4 time. ..... 84
Figure 25. Son and Rumba 3-2 clave in 2/2 time ..... 84
Figure 26. Timba and Tumbao bass in 4/4 time ..... 84
Figure 27. Synthesized African-inspired groove in 4/4. ..... 85
Figure 28. Synthesized African-inspired groove in 4/2. ..... 85
Figure 29. 4/4 rhythmic exercise. ..... 85
Figure 30. 12/8 rhythmic exercise. ..... 85
Figure 31. Sample worksheet for African drumming segment, part 1 ..... 86
Figure 32. Sample worksheet for African drumming segment, part 2 ..... 87
Figure 33. Simplified Arabic tonal system. ..... 88
Figure 34. Minor 2nd, neutral 2nd, and major 2nd. ..... 88
Figure 35. Minor 3rd, neutral 3rd, and major 3rd. ..... 89
Figure 36. Minor 6th, neutral 6th, and major 6th. ..... 89
Figure 37. Minor 7th, neutral 7th, and major 7th. ..... 89
Figure 38. Perfect 4th, major 4th, tritone, minor 5th, perfect 5th. ..... 90
Figure 39. Ionian neutral seventh. ..... 92
Figure 40. Mixolydian neutral third. ..... 92
Figure 41. Synthetic scale with supermajor 2nd or subminor third intervals. ..... 92
Figure 42. Sample worksheet for Arabic maqam segment, part 1. ..... 94
Figure 43. Sample worksheet for Arabic maqam segment, part 2. ..... 95

Figure 44. Sample worksheet for Arabic maqam segment, part 3. 96
Figure 45. Koizumi's four foundational tetrachords. 98
Figure 46. Conjunct, disjunct, then conjunct, and disjunct iterations of gagaku melodic fragments. 99
Figure 47. Possibilities of tetrachords with a major third outer shell. 100
Figure 48. Possibilities of tetrachords with a perfect fifth outer shell. 100
Figure 49. Conjunct and disjunct examples using the major third shell. 101
Figure 50. Combined conjunct and disjunct multi-octave example using the perfect fifth shell. 101
Figure 51. Sample worksheet for Japanese gagaku segment, part 1. 103
Figure 52. Sample worksheet for Japanese gagaku segment, part 2. 103

## Chapter One: Introduction

The non-Western classical diaspora comprises untapped resources that can aid teachers in various fields of music education. One such field is aural skills instruction, which includes elements and rudiments of different aural teaching pedagogies (often differing from institution to institution), such as, in the words of Fournier, O'Neill, and Moreno Sala, "the pragmatic approach, the analytic approach, and the sound-first approach."[1] Thus, this thesis seeks to supplement collegiate aural skills instruction programs by investigating the methodology behind some diverse forms of world music and synthesizing these concepts with existing literature and pedagogy of Western aural skills. Chapter One frames the intersection of aural skills and world music concepts.

### Background

Instructors can incorporate world music and conventional Western ideas into collegiate aural skills education. For example, the rhythms of Indian classical music or scales of Indonesian *Gamelan* music can inspire a student to perceive melody and meter in a very different way than they would usually be used to in a Western context.[2] Exploring and understanding how individuals from many cultures hear music allows researchers to posit many different approaches students and educators can take to developing aural perception melodically and rhythmically. Furthermore, non-Western ideas are becoming more frequent in teaching strategies in various professions, as seen from the following quote by Cousin:

> Increasing numbers of universities are generating ways in which they can internationalise their curriculum. Discussions about how this is best done are sometimes associated with a

[1] Guillaume Fournier, Susan O'Neill, and Maria Teresa Moreno Sala, "Strategic Approaches to Learning Sight-Singing at College Level: An Investigation Using Q Methodology," *Psychology of Music* 49, no. 6 (November 1, 2021): 1434.

[2] Elizabeth Haddon, "Bi-Musicality and Dialogical Musicality: Influences of Javanese Gamelan Participation on Western Instrumental Learning," *British Journal of Music Education* 33, no. 2 (07, 2016): 219-35.

> view that dominant ideas tend to be western in values and origin. For instance, Caruana and Spurling's review of the literature on internationalisation concludes at one point that a key challenge for curriculum designers is to consider the dominant influence of the western social and cultural environment. This challenge aspires to capture a colonial bias in our thinking and to encourage the replacement of a 'western template' with an appreciation of 'non-western' world views.[3]

Therefore, this study addresses the possible gems that a non-Western approach can contribute to a Western aural skills instruction curriculum.

This thesis uses a qualitative narrative inquiry approach to collect data that can help shed light on conceptual understandings and perceptions of rhythm and melody in musics that do not belong to the Western classical diaspora.[4] The forthcoming material first outlines the general procedures used in the educational practice of aural skills instruction in universities that adopt the strategies most associated with Western classical music. It can then focus on a pedagogical strategy analogous to the one Gianakon took to incorporate topics related to world music into teaching music theory at the undergraduate level: easing the students into unfamiliar material through acclimatization, resulting in a more profound understanding and appreciation of the foreign music approaches and eventual cerebral acceptance of non-Western concepts that students may incorporate into their aural journey alongside the more traditional Western pedagogies.[5] In addition, Gianakon's text provides valuable insight into the construction of hybrid approaches in education and how scholars can put them into practice. Ultimately, the research regarding honing aural skills concepts in world musics culminates in sample exercises and worksheets that work with preexisting Western aural skills instructional ideas.

---

[3] Glynis Cousin, "Rethinking the Concept of 'Western,'" *Higher Education Research & Development* 30, no. 5 (October 1, 2011): 585.

[4] John W. Creswell and J. David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed. (Los Angeles: Sage Publications, Inc., 2018), 180-182.

[5] Hong Hong Gianakon, "Teaching Undergraduate Music Theory Through World Music" (M.M., University of Missouri - Kansas City, 2018), 16-9, ProQuest Dissertations & Theses Global (2055441219).

This study comprises the following sections. Firstly, a literature review focusing on understanding the status quo of methods and approaches in Western and world music aural skills pedagogy is essential to establishing a firm foundation. The following segment comprises a dissection and analysis of core musical concepts that specific world music best encompasses, identifying possible beneficial outcomes when using world music concepts to augment a typical Western aural skills instruction. Finally, by synthesizing Western and world music concepts, the study can apply the research to constructing sample undergraduate aural skills exercises and worksheets.

Aural skills training may be a less standardized facet of music education than other aspects, such as music theory or history. After all, as Gary S. Karpinski puts it, "arguments about solmization systems burn quietly, like an underground coal fire, sporadically breaking through to the surface with copious amounts of smoke and occasional flames."[6] Furthermore, aural skills teachers from different cultures may have holes in their knowledge that can contribute to the lack of congruence in aural skills instruction. To illustrate this point, in a study by Özgür Eroğlu, he finds that "there is a need for further studies searching solfege teaching in Turkey from different perspectives" and "instructors should be motivated to study on different solfege systems and teaching methods and include these in their teaching."[7] Eroğlu states the following in this regard:

> Considering the results, it is clearly understood that solfege instructors generally have a lack of professional knowledge. Student level and student motivation are indicated as factors that decrease the level of success. Most instructors assume that factors related to themselves do not have a negative impact on achievement. However, it is evident from the results that most of the instructors do not plan their own teaching and do not search for different solfege systems and teaching methods. The majority of them neither develop

[6] Karpinski, Gary S. "A Cognitive Basis for Choosing a Solmization System," *Music Theory Online* 27, no. 2 (2021).

[7] Özgür Eroğlu, "Solfege Teaching in Higher Music Education in Turkey: Instructors' Perspectives," *International Online Journal of Educational Sciences* 13, no. 2 (2021): 353.

> their own materials and method books, nor search for different method books, technological tools and materials for a more effective teaching.[8]

Therefore, instructors hoping to teach aural skills holistically may benefit from augmenting their skills by seeking different ear training approaches; world music may hold great potential.

There are complete aural skills acquisition programs accessible in academic institutions that use jazz and Western classical music as teaching methodologies. In addition, extensive educational planning is available that concerns music from around the world. However, because scholars may not have made nearly as many attempts to incorporate subjects such as jazz, world music, and other seemingly more advanced topics into the obligatory undergraduate aural curriculum, they are typically only taught at the higher elective level. Cleland's observation that "students who do not have a strong background in thinking and listening harmonically need a tool to group notes in a melodic line effectively to express harmonies and to recognize how these harmonies create functional and idiomatic progressions" further suggests that there can never be too many foundational conceptual knowledge to work with when it comes to understanding music.[9] Indeed, using world music concepts alongside traditional Western classical methodologies may solve this lack of unity.

## Statement of the Problem

This study posits expanding fundamental aural skills acquisition courses at the undergraduate level by tapping into the profound foundational perceptions students may gain by applying the ideas inherent in world music. If students do not use these pearls, they may miss out on much the world has to offer since current conventional teaching strategies often encompass

---

[8] Eroğlu, "Solfege Teaching in Higher Music Education," 353.

[9] Kent D. Cleland and Paul Fleet, eds., *The Routledge Companion to Aural Skills Pedagogy: Before, In, and Beyond Higher Education* (New York: Routledge, 2021), 320.

the Western classical approach. Such a curriculum may not fully realize a student's potential and could even be lacking when the student faces the varied career choices he may pursue.

## Statement of the Purpose

In aural skills education, there is a dearth of research about using concepts from world music. Hence, academics may benefit by incorporating the methods of other music cultures into their approaches toward acquiring aural skills. Indeed, this research may help educators augment their aural syllabi by analyzing the psychologies and points of view behind the various processes different cultures take toward aural cognition in music and adapting their time-tested formulas. The study conducts the analysis using a qualitative narrative inquiry methodology, in which the researcher is the essential data interpreter. The study focuses on concepts of rhythm and melody in world music and sheds light on how these theories can be helpful in approaches to general aural skills pedagogy.

## Significance of the Study

The sheer volume of untapped resources in music pedagogy worldwide is apparent. After all, veteran musicians commonly share anecdotes about learning on the job, absorbing knowledge from mentors, navigating situations on the bandstand, and other scenarios that can never unfold in the confines of a classroom. These scenarios may include world music concepts since world music tends to be, by nature, more of a social subject than a scholarly one. Sidsel Karlsen and Lauri Väkevä demonstrate this through their observation in the following section:

> The largest portion of music makers in the United States cannot be found in professional or community bands, choirs, and orchestras. Instead, they are found in basements, pubs, garages, worship teams, computer labs, dance clubs, and recording studios. One can argue that lessons learned in one musical community – for example musical lessons from band, choir, and orchestra – can be transferred to other communities, but this is not necessarily true. Teachers frequently complain about students' inability to transfer knowledge from the general music classroom to the instrumental classroom or from the

> elementary music classroom to the middle school music classroom. If transfer between somewhat like musical idioms is difficult at best, how can we expect students to make the connections between musical systems that to them may have little-to-nothing in common? Transfer has to be taught, and unless you are teaching how to transfer to and from multiple musical cultures it has no lasting meaning or relevance.[10]

Furthermore, owing to how much of what scholars perceive as "World Music" is not taught in conservatories or scientifically analyzed, it becomes apparent that there is a wealth of learning opportunities in exploring world music. Indeed, this project aims to create a music teaching approach rooted in the Western classical tradition while promoting cultural diversity and inclusion. Additionally, the approach seeks to foster curiosity and experimentation, thereby nurturing ongoing musical creativity.

Institutions have begun to offer subjects that examine non-Western musical approaches more frequently in recent years. Some of these courses are even compulsory for all music majors; the benefit of non-Western music pedagogies is becoming increasingly recognized by educational bodies. In alignment with this emerging philosophy of embracing non-Western approaches in music, this thesis aims to enhance the core undergraduate music curriculum further; hence, educators who work at this level may find it beneficial to read through the information in the study. Since the research considers common approaches from Western classical and contemporary points of view, a professor of ear training or solfege can take comfort in the fact that the material does not usurp what they already know. Instead, it can strengthen ideas such as the Movable Do and incorporate ways of perceiving jazz rhythmic improvisation over a rhythmic loop, amongst other things. The advancements that experts are making in ear

[10] Sidsel Karlsen and Lauri Väkevä, eds. *Future Prospects for Music Education: Corroborating Informal Learning Pedagogy* (Newcastle-upon-Tyne: Cambridge Scholars Publisher, 2012), 5.

training through jazz music can serve as an example of how the utilization of various methods can be helpful in the quest to improve the overall capacity of music professionals.[11]

Finally, there may be a lack of depth in musical and cultural understanding of world music among scholars with little or no exposure to cultures other than their own. Classical music purists, for instance, may find that only their style of music makes sense to them despite possessing merely a surface understanding of other cultures, hardly enough to truly appreciate other musics. Nevertheless, according to Dylan van der Schyff, "from the Eastern-enactive perspective, music is not retrieved from a pre-given world 'out there' but rather emerges from our embodied consciousness as it reaches out to, transforms, and is transformed by the ongoing process of empathic inter(en)action with objects, ideas and other minds."[12] In other words, one's potential for musical understanding and discovery is limited by what one musically consumes; exploring the varying musical perspectives that world music can provide can only be beneficial.

It may well be the case, however, that this fast-evolving world is becoming harder to predict. One cannot begin to imagine how the music tastes of humans may change in a matter of years. Gianakon states that "today's musical scene is developing so rapidly that it is almost impossible for educators to come up with an up-to-date music theory curriculum that teaches students everything they need to know to keep up with the fast-changing musical environment."[13] Like Gianakon proposes using world music to teach undergraduate music theory, this thesis applies world music concepts to undergraduate aural skills training. All in all, using ideas from different cultures can have a holistic effect on students and society at large since "an effective

---

[11] Alex Fournier, "Pliability of V7 Resolutions," *Canadian Musician*. Toronto: Norris-Whitney Communications, April 2021, 2507254987, Music Periodicals Database; ProQuest Central.

[12] Dylan van der Schyff, "Music as a Manifestation of Life: Exploring Enactivism and the 'Eastern Perspective' for Music Education," *Frontiers in Psychology* 6, no. 345 (2015): 12.

[13] Gianakon, "Teaching Undergraduate Music Theory," 73.

curriculum not only introduces their students to musical knowledge they need to make them professional musicians in the future; it also teaches students how to teach themselves throughout their life-long journey as musicians."[14] Indeed, the self-propagation of knowledge that these students may achieve can only be a boon for the longevity of musical culture.

## Research Question and Sub Questions

Despite educational practices evolving throughout time with the rest of the world, many educators may cling to long-existing teaching practices despite little to no reason other than tradition and sentimentality. Although the advancements in music education are commendable, aural skills instruction may suffer from a lack of innovation and unity in how educators approach their teaching. Indeed, as Timothy Chenette expresses, "while textbooks have made admirable strides towards including diverse activities from improvisation to keyboard exercises, virtually all [aural syllabi] are still focused primarily on sight reading and dictation."[15] Therefore, there may be a need for aural syllabi to evolve and adapt.

The non-Western world has much to offer regarding musical instruction. In the last several decades, the worldwide academic community, which has become increasingly interconnected thanks to the internet, is considering world music theory and aural perception as potential subjects for serious academic research. The number of academics who can research this music and the availability of the necessary resources are both constantly growing. World music is a resource pedagogues currently underutilize in music education, especially in aural skills training. As a result, this thesis researches numerous non-Western musical techniques to adapt

[14] Gianakon, "Teaching Undergraduate Music Theory," 73.

[15] Timothy Chenette, "What Are the Truly Aural Skills?" *Music Theory Online* 27, no. 2 (June 2021), https://doi.org/10.30535/mto.27.2.2.

these techniques to enhance the teaching of aural skills. After all, much information on world music does not address how to implement its concepts beyond its context. For example, Dan Schnee says, "though there are innumerable articles on Indian music available to woodwind players, few discuss how to apply the more conceptual aspects to practical scale studies in non-Indian music."[16] It is thus apparent that there is a wealth of available musical data that Western musicians do not apply to their craft.

Therefore, this thesis synthesizes and organizes the applicability of world music to aural skills training with the following research questions:

Research Question One: How can the perception of rhythm in music cultures outside Western music benefit the rhythmic understanding of undergraduate music students?

Research Question Two: How can the perception of pitch in music cultures outside Western music help undergraduate music students develop pitch perception?

## Hypotheses

Research Question One may be answered with the following hypothesis:

Hypothesis One: The perception of rhythm in music cultures outside Western music can benefit the rhythmic understanding of undergraduate music students in terms of perceiving subdivisions, groupings, and cycles.

A rich rhythmic involvement transcends the traditional Western understanding of music from the African diaspora.[17] Aside from this, several other cultures, such as Indian classical music, perceive rhythm distinctly from Western classical music. The research expands into these

[16] Dan Schnee, "The Algebra of Indian Music," *Canadian Musician* 41, no. 1 (2019): 29.

[17] Hartenberger and McClelland, eds., *The Cambridge Companion*, 355-377.

sources to incorporate even more rhythmic richness into the aural skills training college curriculum.

Research Question Two may be answered with the following hypothesis:

Hypothesis Two: The perception of pitch in cultures outside Western music can help undergraduate music students develop sensitivity to pitch in terms of scale degree recognition, tuning, and reproduction.

According to Hijleh, "melody seems to be the second most ubiquitous and defining element among the musics of the world."[18] Indeed, melody is the next most important aspect that defines music after the sheer universality of rhythm. Students may benefit from understanding musical cultures that use microtonal pitches or non-Western tunings, which may divide an octave into unfamiliar ratios. For instance, pupils would benefit from listening to the *maqam* of traditional Arabic music to expand their minds' scope through their ears. In *maqam*, adding "in-between" intervals in the case of particular scale degrees may generate ideas that a Western musician may never find if they only practice their native music. There is also merit to examining traditional Japanese music that uses a tuning system that, for the most part, can be approximated as part of the Western system but with the notion "of viewing the tonal structures" of the music with "the concept of a scale with a tetrachordal structure;" that is, scales being composites of melody fragments instead of being strictly major or minor.[19] Thus, learning different melodic tendencies based on different cultures can only improve a musician's pitch perception.

---

[18] Mark Hijleh, *Towards a Global Music Theory: Practical Concepts and Methods for the Analysis of Music Across Human Cultures* (Farnham, United Kingdom: Taylor & Francis Group, 2012), 59, http://ebookcentral.proquest.com/lib/liberty/detail.action?docID=956291.

[19] Alison McQueen Tokita, "Mode and Scale, Modulation and Tuning in Japanese Shamisen Music: The Case of Kiyomoto Narrative," *Ethnomusicology* 40, no. 1 (1996): 30.

## Core Concepts

Numerous teaching methodologies for aural skills exist. These include the classical method, the jazz approach, and others. This phenomenon may result in a lack of congruency among institutions in transmitting these skills since they may have too many options. Indeed, Hung asserts that "sight-singing, recognized as an essential music skill, remains one of the weakest components in music education" and highlights the pros and cons of moveable-do and fixed-do systems of aural instruction.[20] Furthermore, each educational establishment often has its curriculum brand; however, individual instructors frequently alter the subject matter of their classes. Many methods do not have a clear objective or intention, and pupils may become bombarded with information while retaining little. Andrianopoulou argues that the end goal of music theory must be conceptual succinctness for the educator.[21] Her hope is for teachers "to arrive at a more nuanced, critical, and deeper perspective…that will both challenge a simplistic conception and also call for a new understanding and perhaps terminology when speaking about these aspects of developing musicianship, irrespective of the age group and phase of education."[22] Hence, these academics, in turn, can disseminate a way of teaching more consistent music. Scholars must be conversant with the fundamentals of what constitutes an aural skills education to accomplish this goal of maintaining musical continuity.

When first attempting to understand rhythm, it may become apparent that how non-Western peoples hear rhythms may reveal a completely different form of viewing the passage of time in music. Indeed, the study of rhythm may demonstrate to listeners, in the words of

---

[20] Jou-Lu Hung, "An Investigation of the Influence of Fixed-Do and Movable-Do," EdD diss., University of San Francisco, 2012.

[21] Monika Andrianopoulou, *Aural Education: Reconceptualising Ear Training in Higher Music Learning* (New York: Routledge, 2019), https://doi.org/10.4324/9780429289767.

[22] Ibid., 5.

Hartenberger and McClelland, "a greater understanding of the significance of rhythm in all music, and that the diversity of rhythmic usage in music throughout the world is, in fact, a fascinating common thread among cultures and traditions."[23] This sentiment can thus inspire musicians to greater heights.

The thesis investigates non-tonal and microtonal pitch systems in world music. These musical items do not employ the usual tonal systems typical in Western classical music techniques. Furthermore, numerous musical styles from throughout the globe do not conform to the conventional tuning that Western music uses. While the study does not detail the latter concepts, this researcher acknowledges them and their implications.

Readers can start synthesizing their knowledge of other cultures' aural perceptions by building upon the ideas the thesis presents and investigates. They may be able to use the identification of the components of music via a global lens to design a new curriculum for aural skills training at the entry-level college level. Through this experience, they may also understand how practitioners may interpret music. According to Hijleh, aural perception is constantly evolving since it is "precisely because of this fluidity [that] one begins to see that [music] is on the whole a world more oriented to musical synthesis than to musical distinction."[24] Therefore, one achieves maturity in musical understanding by making many distinctions and then finding one's singular understanding through synthesis.

These fundamental ideas that world music concepts inspire may propel the audience to consider things other than what is initially evident concerning aural training. For instance, there is a possibility that an interval may have more to it than its absolute pitch relation: pondering

---

[23] Russell Hartenberger and Ryan McClelland, eds., *The Cambridge Companion to Rhythm* (Cambridge: Cambridge University Press, 2020), 42-3, https://doi.org/10.1017/9781108631730.

[24] Hijleh, *Towards a Global Music Theory*, 211.

why and how harmony evokes feeling in the listener could also lead back to constructing a formula to train recognition of that feeling and link it back to the absolute interval.[25] If the reader keeps ideas such as these in mind while reading this thesis, they may start to pick up on additional helpful information on creating a more holistic aural skills syllabus.

The qualitative data collection method outlined by Creswell and Creswell serves as a guide for the study. The study adopts the "researcher as key instrument" approach as it synthesizes and modifies the material from various sources, including scholarly books, journal articles, theses, dissertations, and audio and video recordings.[26] Furthermore, Clandinin and Connelly's expertise regarding the narrative inquiry methodology highlights the importance of the researcher. Their insights are an inspiration to the research procedure: "An inquirer enters this matrix in the midst and progresses in this same spirit, concluding the inquiry still in the midst of living and telling, reliving and retelling, the stories of the experiences that make up people's lives, both individual and social."[27] Hence, this thesis gathers and analyzes additional information from a pedagogical perspective for teaching aural skills with world music concepts, including the subcategories of rhythm and melody. The study synthesizes and evolves new holistic aural skills exercises that scholars can utilize in college core music instruction by including the world music concept alongside the viable and valuable components of the Western aural teaching technique.

---

[25] Imre Lahdelma and Tuomas Eerola, "Single Chords Convey Distinct Emotional Qualities to Both Naïve and Expert Listeners," *Psychology of Music* 44, no. 1 (January 1, 2016): 37–54, https://doi.org/10.1177/0305735614552006.

[26] Creswell and Creswell, *Research Design*, 5th ed., 257.

[27] D. Jean Clandinin and F. Michael Connelly, *Narrative Inquiry: Experience and Story in Qualitative Research* (San Francisco: Jossey-Bass, 2004), 20.

The first section of the investigation analyzes the benefits and drawbacks of incorporating world music themes in higher education institutions' core curriculum of aural skills training. For example, as Arday, Bellugi, and Thomas discover, "anti-racist education holds the potential to truly reflect the cultural hybridity of our diverse, multi-cultural society through the canons of knowledge that educators celebrate, proffer and embody."[28] It is necessary that music education also teaches the populace a notion of the unified nature of humanity. Considering how vital music is to the human condition, it is almost a duty that music education likewise teaches this idea. During the investigation, this study breaks down music into its parts, namely rhythm and melody, two musical components among the most fundamental aspects of music. This separation is vital since rhythm and melody are the building blocks of more complex musical concepts such as harmony, texture, timbre, and form. This investigation utilizes explicitly world music concepts and viewpoints. For instance, the rhythmic perception in Indian music can provide insight into other methods of feeling and comprehending rhythm. The study also investigates how people in African cultures perceive rhythm in music.

After examining rhythmic notions, the study provides readers with an enhanced comprehension of world music's promise in teaching aural skills in melody. The music educator can better grasp how to apply pitch recognition methods to increase the students' aural understanding and sensitivity by paying attention to alternative tuning systems, differently spaced intervals in scales, tetrachords, and other related topics. Two main approaches constitute this section. First, tuning systems that are approximately like Western ones but with microtonal variation, such as that in Arabic music, may provide insight into fine-tuning one's pitch

[28] Jason Arday, Dina Zoe Belluigi, and Dave Thomas, "Attempting To Break the Chain: Reimaging Inclusive Pedagogy and Decolonising the Curriculum Within the Academy," *Educational Philosophy and Theory* 53, no. 3 (February 23, 2021): 298.

sensitivity. Second, scales with recognizable Western fragments but with radically different treatments from what a Western musician would typically do, such as that in Japanese traditional music, may illuminate non-Western musical behaviors, such as the lack of unmistakable classical cadences but still resulting in musical continuity, and create more unity with the understanding of musical behavior more typical in a Western setting.

The thesis also constructs example worksheets in an undergraduate aural skills training core curriculum incorporating world music concepts. The purpose of this project is to develop an approach to teaching music that is consistent with the Western classical tradition, encourages worldliness and cultural inclusion, significantly boosts the students' aural sensitivities, prepares aspiring musicians for careers in the ever-evolving global music industry, and instills a sense of curiosity and experimentation that can help ensure the continued existence of musical creativity.

The thesis sections are as follows. First, a literature review focusing on understanding the status quo of methods and approaches in Western aural skills pedagogy and world music pedagogy is essential to establishing a firm fundamental. Second, a segment presents possible benefits when using world music concepts to augment a typical Western aural skills instruction, dissecting and analyzing select core musical concepts that specific world music best encompasses. Finally, the study presents a subsequent and concurrent synthesis of Western and world music concepts, where the researcher applies the research to constructing sample undergraduate aural skills exercises.

## Definition of Terms

Aural skills are the ability to "play by ear" and "has historically featured as a fundamental skill of the trained musician and been recognized as something that is deployed in

the variety of roles in which musicians engage."[29] Wright best illustrates the meaning behind aural skills by describing the phenomenon: "The imaging of sound inside the head, sometimes referred to as the "inner ear," could be regarded as an integral part of musical development, experience, and activity, and it is the occurrence and concomitant growth of this kind of aural skill, along with others, that might be regarded as central to achieving success as a music student."[30] Therefore, aural skills at the undergraduate level are the teacher facilitating the development of the student's aural skills without going into depth if the student were to specialize in a discipline that demands more stringent aural standards. This expectation persists because aural skills at this level befit the expectations of a baseline level of aural proficiency for a music college student.

From a Western and Euro-centric perspective, "World Music" refers to music originating in cultures other than those that play Western classical music. The phrase may be erroneous and outdated, particularly in today's continuously modernizing and globalizing society, but this thesis utilizes it for the convenience of comprehension. World music seeks "to enrich learners – whether in orchestra, band, jazz, or other instrumental settings – through a holistic understanding of the music's vitality and function as it exists within a particular culture."[31] Therefore, the conceptions of world music include technical factors, like the perception of phrasing, and cultural components, such as the function that music serves within the community of a specific culture. This thesis considers these more holistic characteristics of world music and incorporates them into developing foundational undergraduate aural skills modules.

---

[29] Colin R. Wright, *Aural and the University Music Undergraduate* (Newcastle upon Tyne, England: Cambridge Scholars Publishing, 2016), 1.

[30] Wright, *Aural*, 1.

[31] Mark Montemayor, William J. Coppola, and Christopher Mena, *World Music Pedagogy, Volume IV: Instrumental Music Education* (Boca Raton, FL: Routledge, 2018), 138.

## Summary

The untapped resources in world music that are not available in the Western classical diaspora and may be of service to educators of aural skills are the primary subject of this thesis. It is possible for civilizations that thrive in places such as Africa, Southeast Asia, India, and the Middle East, amongst others, to have access to these resources. In order to augment college music aural training programs, this thesis aims to investigate the physiological and perceptual basis of a variety of world music genres and to combine those principles with modern Western literature and teaching techniques. After such, students and scholars who investigate and understand how individuals from different cultures create, listen to, and enjoy music may gain insight into various concepts that throw light on these subjects. In order to give students a more well-rounded education, this research develops worksheets that synthesize the core concepts from a variety of world musics. This goal is possible by bridging the gap between conventional Western classical conceptions and the ever-increasingly varied techniques emerging worldwide.

This thesis employs a qualitative narrative inquiry approach to investigate the current aural skills education pedagogical techniques in use by institutions. This thesis suggests hybrid methods of ear training that take inspiration from various concepts associated with world music. Gianakon's methodology significantly impacts the research technique that incorporates elements from world music into the lessons that undergraduate students learn about music theory.[32] This qualitative narrative inquiry aims to correct the imbalance in academic circles, where views that are not Western are usually not accorded the same scholarly weight as those that are Western. In addition, this research aims to normalize non-Western concepts in the context of aural skills

[32] Gianakon, "Teaching Undergraduate Music Theory."

instruction rather than to change the sense that everything that is not Western is exotic or uncommon.

This research comprises five primary areas, laying the groundwork for further growth. The following sections concentrate on the psychological and technical advantages of utilizing world music concepts in order to acquire aural skills, the rhythmic understandings that are intended or result from the study of various world music genres, the melodic perception of practitioners of specific world music cultures, and the synthesis and resultant holistic interpretation of how one marries world music concepts with preexisting Western aural skills methodologies.

Educators must have a broad understanding of music philosophy to continue developing a comprehensive and rigorous curriculum for acquiring aural skills. This need is essential because how society perceives a topic's nature substantially impacts how pupils learn and instructors teach. Investigating and decoding how individuals from different cultures make, experience, and enjoy music may illuminate various themes that provoke thinking. It is becoming more common for educators in various fields, including music theory, to include non-Western concepts and practices in their lesson plans. Therefore, academics need to examine the approach of teaching music by ear and thus widen their repertoire of teaching tactics by integrating subjects from world music. Indeed, non-Western cultures may also benefit all other facets of education because, as one author said, "if we empower students and teachers with greater decision-making power in the content and procedures of learning, we must better prepare them for this challenge and responsibility, suggesting educational changes that reach far beyond music."[33]

Alekseenko and Rakich observe the following:

[33] Karlsen and Väkevä, eds. *Future Prospects*, 125.

> The modern system of music education is characterized by essential innovative changes featuring innovative approaches to the problems of education. The need to update the content and quality of future musicians' professional training has become urgent. Musicians' professional training under modern conditions presupposes the obligatory introduction of innovative pedagogical technologies in the educational process to make it more efficient. It is essential to enrich pedagogical knowledge with innovative technologies in music training which should be selected from a wide range of the pedagogical technologies applied in the system of higher education.[34]

Therefore, it is evident that those who teach music at the undergraduate level need to continue innovating and finding new pedagogical approaches. This necessity is especially true when reviewing the fact that there is a gap in the literature concerning the utilization of world music concepts in teaching undergraduate aural skills training.

[34] Nataliya Alekseenko and Daniela Rakich, "The Use of Innovative Pedagogical Technologies in Music Education," *Les Ulis* vol. 87 (2020): 1.

# Chapter Two: Literature Review

This chapter reviews the existing literature related to the research topic of teaching aural skills in undergraduate music using world music concepts. The literature review serves as a critical foundation for understanding the current state of knowledge, identifying gaps, and establishing the significance of the research. By examining a wide range of scholarly works, this chapter aims to provide a comprehensive overview of the theories, concepts, and empirical studies that have contributed to understanding aural skills cognition in Western and world music scenarios.

## Introduction

The literature review begins by exploring the development of aural skills pedagogy, providing a succinct picture of its status quo. This perspective gives insights into the key milestones, seminal studies, and theoretical frameworks that have shaped the field. This goal is attainable by studying Gary S. Karpinski's pedagogical methods through his books *Aural Skills Acquisition: The Development of Listening, Reading, and Performing Skills in College-Level Musicians* and *Manual for Ear Training and Sight Singing.* By understanding the historical context, academics can better appreciate the current state of knowledge and identify areas that require further investigation.

Next, the literature review explores the foundations that underpin pedagogy using world music concepts. Drawing upon various theoretical frameworks, it aims to establish a conceptual scaffolding to guide the research. It seeks to identify the key concepts and constructs relevant to the research objectives by critically analyzing and synthesizing the existing theories. Resources include books by Schipper and a thesis by Gianakon that examines using world music concepts in education.

Following the theoretical exploration, the focus shifts to the empirical studies conducted in the field. This section reviews the empirical research on specific facets and certain world music styles. The thesis can identify the applicable knowledge in the existing literature by examining these studies' methodologies, findings, and limitations. This section comprises rhythm (Indian and African) and melody (Arabic and Japanese) as perceived by different world musics. The subsequent analysis can aid in refining the research questions and consequently help contribute to the current body of knowledge.

Finally, this literature review concludes with a summary of the essential findings and a discussion of their implications for the research. By synthesizing the existing literature, the review aims to establish a solid foundation for the research and highlight the unique contribution that this study may make to the field.

## Aural Skills Pedagogy in Western Music

*Aural Skills Acquisition: The Development of Listening, Reading, and Performing Skills in College-Level Musicians* is a seminal work authored by Gary S. Karpinski, a renowned expert in music education and aural skills training. This comprehensive book delves into acquiring essential musical abilities such as listening, sight-reading, and performing, explicitly focusing on college-level musicians. He emphasizes the significance of developing aural skills as a foundational aspect of musicianship, highlighting its interconnection with other musical competencies. Indeed, Karpinski goes as far as to declare: "This book is about thinking *in* music. Music listeners who understand what they hear are thinking in music. Music readers who understand and auralize what they read are thinking in music."[35] Indeed, Karpinski's work

[35] Gary S. Karpinski, *Aural Skills Acquisition: The Development of Listening Reading and Performing Skills in College-Level Musicians* (New York: Oxford University Press, 2000), 4.

revolves around aural skills, which refer to the capacity to perceive and interpret musical sounds without notation.

The book's content is structured to guide readers through various stages of aural skill development, providing insights into the cognitive processes involved and practical exercises to enhance learning. Karpinski introduces the concept of audiation, the ability to mentally hear and comprehend music, as the basis for developing strong aural skills. Karpinski incorporates educational techniques and pedagogical strategies throughout the text to facilitate efficient learning and reinforce understanding.

Alongside *Aural Skills Acquisition*, Karpinski's *Manual for Ear Training and Sight Singing* is a companion book for teachers to draw further inspiration. It contains a treasure trove of content. He organizes seventy-eight chapters into a thoughtfully developed course of study that aims to guide students through a two-year sequence of mostly tonal aural skills training. In the text, Karpinski provides crucial definitions for standard musical terms that may have a different meaning in a world music context. These include pulse: "The pulse is a regularly recurring feeling of stress in music;" steps: "Steps come in two sizes: the whole step (…) and the half step;" and many others.[36]

Karpinski offers a well-rounded approach to fostering musical expertise by presenting a blend of theoretical discussions, empirical research, and practical applications. These seminal works have become fundamental resources for music educators, students, and researchers seeking to understand aural skills acquisition and its role in nurturing proficient musicians. Karpinski's insights have influenced music education and contributed significantly to the broader understanding of how humans perceive and comprehend sound in a musical context. He rightly

[36] Gary S. Karpinski, *Manual for Ear Training and Sight Singing* (New York: W. W. Norton, 2007), 1-24.

points out that "there is indeed a gap between the disciplines of music cognition and aural skills training;" perhaps world music concepts may bridge this gap.[37]

## World Music as a Pedagogical Tool

Scholars have increasingly considered world music as a pedagogical tool, as evidenced by the perspective provided by Hong Hong Gianakon's master's thesis in music theory, "Teaching Undergraduate Music Theory Through World Music." Gianakon suggests teaching music theory in a way that stimulates students' cultural awareness by exposing them to music from a variety of countries and cultures. The thesis introduces students to fundamental musical concepts through the lens of world music, including tempo, meter, pitch, scales, and many others. It provides samples of music from a diverse array of cultural traditions. Consequently, the goal is for students to develop an appreciation for the musical traditions of other cultures while also becoming aware of the uniqueness of Western musical traditions.

Gianakon identifies specific issues with the current state of incorporating world music concepts into tertiary education. She cites the "narrow coverage of topics and musical styles" as a problem, owing perhaps to the fact that "many music schools do not have ethnomusicologists serving as faculty to offer world music courses or to help (incorporate) world music topics in to the existing theory curriculum."[38] Hence, Gianakon hopes to present this thesis as a guide to a more holistic musical perspective: the foundational material lays the groundwork for students to continue in-depth music theory study, during which they can further investigate these topics within the framework of the Western musical heritage with a more profound perspective of music. She has the following goal: "The proposed curriculum aims at broadening students'

---

[37] Karpinski, *Aural Skills Acquisition*, 4.

[38] Gianakon, "Teaching Undergraduate Music Theory."

musical views, stimulating their creativity, training them to think critically, and refining their comprehensive music analytical skills."[39]

*Facing The Music: Shaping Music Education From A Global Perspective* is a thought-provoking book by Huib Schippers, an influential music educator and researcher. The book offers a comprehensive exploration of music education from a global standpoint, emphasizing the importance of cultural diversity and the need to adapt traditional music education models to suit the complexities of the modern world. Schippers begins by acknowledging the wide variety of musical traditions around the globe and advocates for an inclusive approach to music education that embraces this diversity. He encourages educators to move beyond the confines of Eurocentric music education and incorporate various world music practices into their teaching methodologies. Indeed, despite the possible "perversion of authentic representations of traditional music in cultural context," Schippers fully supports using world music concepts in teaching; he finds that they often create an "'authentic' musical experience."[40] The book delves into cultural diversity as a central theme, highlighting the challenges and opportunities it presents in music education. Schippers argues that understanding cultural context is essential for effective music teaching and learning, emphasizing the need to respect and appreciate different musical traditions.

Throughout the book, Schippers draws on his extensive research and experiences in music education across different cultures. He provides numerous case studies and examples of successful music education practices from various regions, illustrating how other communities approach music teaching and learning. Furthermore, Schippers explores the impact of

---

[39] Gianakon, "Teaching Undergraduate Music Theory," 73.

[40] Huib Schippers, *Facing the Music: Shaping Music Education From a Global Perspective* (Oxford ; New York: Oxford University Press, 2010), 3.

technological advancements on music education and how educators can harness digital media to support music learning and creativity in a globalized world.

*Facing The Music* is a compelling resource for educators, policymakers, and enthusiasts, encouraging a shift towards more culturally diverse and globally informed music education practices. By recognizing and embracing the richness of musical traditions worldwide, Huib Schippers advocates for a more inclusive and relevant approach to shaping the future of music education on a global scale. The future of the possibility of using world music concepts to augment the delivery of music education further is ever-evolving. One must always bear a forward-thinking mindset whenever considering the development of any area of education, and this book, as well as some other sources in the review, is a crucial reminder to educators and scholars to always embrace interconnectivity and globalization.

Huib Schippers and Catherine Grant co-edit *Sustainable Futures for Music Cultures: An Ecological Perspective*. This book examines the connections between music cultures and the environment through an edited collection of writings. It offers the results from nine carefully chosen case studies and proposes new conceptual frameworks for comprehending sustainability challenges in music. Though ecological concerns are not central to this thesis, *Sustainable Futures* has a segment entitled “systems of learning” in every chapter that provides insight into how world music’s pedagogical concepts can benefit humanity. For example, James Burns highlights how the idea of community learning as solidified in the tradition of Southern Ewe Dance-Drumming helps students internalize musical information in the following section:

> There is often a brief period at the start of each music event where a group of beginners and less talented musicians will be given a chance to play. This opening period of music serves as the main practice time for the prospective drummers. When they are ready, support drummers will be given the chance to start learning the *kidi* response drum. In most ensembles there will be two or three *kidi* players, so a talented youngster can play on one drum while he observes the playing of the other musicians. If they do not

> immediately grasp a new drum language conversation (ʊugbe), one of the other response drummers will vocalize the part using mnemonic syllables. Young drummers who can quickly absorb the repertoire will be given more opportunities to play the *kidi* drum at music events.[41]

This information offers the reader a glimpse into the potential that utilizing world music concepts in pedagogy can offer.

The individual case studies cover a variety of musical genres, including Korean *samulnori* (percussion quartet), Hindustani music, *Amami shima-uta* (island songs) from Japan, and more.[42] Consequently, the book primarily examines music through the prism of distinct genres, significantly contributing to the critical study of global cultural practices, cultural preservation and documentation, and ethnomusicological approaches to learning. The book offers a wealth of information to challenge cultural leaders regarding the future viability of cultural practices. Furthermore, it challenges scholars to hone their pedagogical concepts to ensure the sustainability of world musics and their cultures.

## World Music – Rhythmic Concepts

This thesis examines the implications of the cognition of rhythm in Indian classical music and Sub-Saharan African drumming. Indian *tala* focuses on intricate cyclic rhythms *layakari* (complex rhythmic improvisation and manipulation of the *tala* cycle), showcasing the profound mathematical and artistic sophistication of Indian classical music. In contrast, Sub-Saharan African drumming emphasizes polyrhythms, call and response, and dance connections, reflecting the vibrant and communal nature of the music. Deciphering and appreciating the rhythmic

[41] Huib Schippers and Catherine Grant, eds, *Sustainable Futures for Music Cultures: An Ecological Perspective* (New York, NY: Oxford University Press, 2016), 51.

[42] Ibid.

concepts in these traditions enriches the understanding of the Western classical music approach to aural skills acquisition.

## Indian Classical Music: *Tala*

The wealth of information in the *Garland Encyclopedia of World Music Volume 5: South Asia: The Indian Subcontinent* is valuable to understanding the intricacies of *tala*. In particular, the chapters on "Hindustani Tala" and "Karnatak Tala" are especially relevant. The word *tala* has two primary meanings in modern Indian music. The first refers to the North and South Indian systems of rhythm, and the second is a specific metric cycle; the tala system of meter and rhythm governs all music involving drums, whether folk, popular, or classical. *Tala* is a cycle of beats with a fixed number, typically 3 to 108, divided into smaller rhythmic units. Each *tala* has a foundational rhythmic pattern called the *theka*, which serves as a reference point for performers. *Tala* cycles can have odd and even numbers of beats, allowing for complex and asymmetrical rhythms and symmetrical ones. Improvisation and variations, known as *layakari*, enable skilled musicians to embellish the *tala* cycles and showcase their rhythmic creativity.[43]

There are different levels of interaction among drummers in Indian music, from the passive marking of a metric cycle to soloistic interludes and musical tugs of war for rhythmic supremacy. Hence, the perspective of and command over rhythm that Indian musicians possess may be of value for Western musicians to study. Also, as Kippen says, "writings on music from Vedic times (c. 1500-600 B.C.) commonly expressed time through circular imagery – the wheel of the chariot, the sun, the eye, the cycle" may help scholars visualize the rhythmic groupings of

[43] "Talas," Hindustani Classical Music, last modified July 21, 2023, http://www.hindustaniclassical.com/talas.php.

*tala* and how they can come full circle in metrical precision.[44] This perception of rhythm may differ from Western musicians' viewpoints and may be valuable to investigate.

*Tala* and the Western conception of meter are similar but have key differences that can underscore the usage of both concepts concurrently in pedagogy. Western meter traditionally has a more uniform structure, but rhythm Indian classical music can be more than that:

> The Sanskrit word *tala* covers the whole subject of musical meter in Indian music. A *tala* is a metrical framework, or structure of beats, within which pieces of music are composed and performed. In South India, as in the northern area, modern talas are cyclic; that is, a piece of music has the same repeating metrical structure from beginning to end. In this way, South Indian *talas* are analogous to meters in Western music. There are important differences between *talas* and meters, however. *Talas* may be much longer. One *Karnatak tala* is twenty-nine beats long, and in performance each cycle takes up to forty-five seconds, much longer than any Western meter. Another difference concerns accentual structure. In Western 3/4 time, every measure of this meter has the same downbeat accent: one-two-three – a strong beat followed by two weak beats. South Indian *talas* have no inherently strong or weak beats; instead, accents are the result of the shape of phrases.[45]

Thus, these concepts may be applicable globally: in more rhythmically active Western music, such groupings of beats may find parallels in the *talas* of Indian classical music.

Martin Clayton's *Time in Indian Music: Rhythm, Metre, and Form in North Indian Rāg Performance* explores North Indian classical music's temporal theory and practice, offering insights into Indian music and cross-cultural rhythm and meter studies. He expresses that "it seems clear that certain misapprehensions have been allowed to spread (amongst Westerners) about Indian music" and hopes to lay rest to these inconsistencies through the forthcoming academic rigor.[46] Clayton examines the disputes in music theory around meter and rhythm

---

[44] James R. Kippen, *Hindustani Tala*, edited by Arnold, Alison Routledge (Publisher), 1999, 136, https://search.alexanderstreet.com/view/work/bibliographic_entity%7Creference_article%7C1000227051.

[45] David Paul Nelson, *Karnatak Tala*, edited by Arnold, Alison Routledge (Publisher), 1999, 164, https://search.alexanderstreet.com/view/work/bibliographic_entity%7Creference_article%7C1000227059.

[46] Martin Clayton, *Time in Indian Music: Rhythm, Metre, and Form in North Indian Rāg Performance*. (New York: Oxford University Press, 2008), 5.

concerning the views of various academics and the findings of his research into Indian classical music. By reconciling abstract meter with fundamental metric properties, Clayton seeks to construct a theory of musical meter that applies across cultural boundaries.

Definitions for rhythmic concepts such as meter and *tala* are common points of contention among scholars. Clayton offers his opinion on this conflict in the following:

> It appears overall that North Indian *tal* functions in many ways like metre in Western music, creating a periodic, hierarchic framework for rhythmic design. Perhaps the simplest way to state the relationship between *tal* and metre is to say that metre is an important aspect of *tal* (i.e. that *tal* includes metre), but that *tal* is also a broader concept, involving dimensions not encountered in other metric systems. It is reasonable therefore to describe *tal* as a kind of metric system. If, however, we wish to make cross-cultural comparisons we must take care to compare like with like – much of the theoretical and conceptual paraphernalia of *tal* are best compared only with similar constructions where these have developed in other cultures.[47]

Indeed, with Clayton's understanding of *tala* as a "cyclically repeating temporal structure," educators can develop a clearer idea of how to sequence a module that takes advantage of the abstract rhythmical ideas of Indian classical music, thereby augmenting the more straightforward and smaller structures that often exist in many Western rhythmic study guides.

*Tala* is an essential aspect of Indian classical music, providing a rhythmic foundation for vocal and instrumental performances. It highlights the profound mathematical and artistic sophistication of Indian music that arguably is absent in the rhythmic studies of Western classical music. The concept of cycles found in *tala* can be an invaluable tool for Western classical musicians attempting to gain more insight into rhythmic perspective.

## Rhythm in Sub-Saharan Africa

The cyclical nature of African rhythm can play a role in augmenting a Western musician's rhythmic sense. Willie Anku's "Circles and Time: A Theory of Structural

[47] Clayton, *Time in Indian Music*, 201.

Organization of Rhythm in African Music" posits that African music is "rigidly controlled by a *recurrent rhythm* often associated with the role of the *bell* pattern."[48] It is possible that this guiding structural idea of the cyclical *bell* pattern predominates cognitively and regulates how the music appears structurally, even when not explicitly externalizing with the music. The performance events are thus structured around this structural grid, allowing other musical components to enter and exit the performance with little restriction. Rhythm in Sub-Saharan Africa is a vibrant and diverse musical aspect deeply rooted in the continent's rich cultural heritage. Polyrhythms are distinctive features of African rhythm, where multiple contrasting rhythms sound simultaneously.

Anku contends that the background *ostinato* and the master drum conceptions make up the foundation of the African drum ensemble.[49] The background *ostinato* comprises concentric rhythms, each with a unique orientation to the regulating beat of the time cycle. This behavior produces the phenomenon of rhythmic circles, which underlie most of the music in Sub-Saharan Africa. Anku also presents the phenomena of Staggered Subsets and Supersets, irregular occurrences of rhythm concurrently with the main rhythm, which results in cycles within cycles.[50] The interaction between sets and subsets produces shifting relationships. Furthermore, cycles have an essential philosophical significance in the perception of the African reality of time: it is, as Anku notes, "a microcosm of (a) philosophy of a life's journey."[51] This article

---

[48] Willie Anku, "Circles and Time: A Theory of Structural Organization of Rhythm in African Music," *Music Theory Online* 6 (2000): 1.

[49] Ibid., 2.

[50] Ibid., 5.

[51] Ibid., 6.

suggests a theoretical framework for understanding rhythm through a sub-Saharan African perspective and demonstrates the cyclical viewpoint of the genre's master practitioners.

Ekwueme presents his understanding of time in African music through his text "Structural Levels of Rhythm and Form in African Music: With Particular Reference to the West Coast." Ekwueme first references Heinrich Schenker's controversial theories regarding the existence of three primary structural levels in all tonal music: the background, middle-ground, and foreground.[52] Schenker demonstrates that the background material develops in diverse ways, such as through intervallic or chordal relationships, register transfers, and other means of prolongation, to yield a middle-ground structure.

Ekwueme finds various structural depths in African music that parallel Schenker's observations. He notes, "The background of the bulk of most African musical rhythm is a duple statement or pulsation, in the long span, in binary form. This duple statement – or a dual, symmetrical balance – may be slightly altered at various levels without significantly changing the structure of the music."[53] Hence, African music is a complex and dynamic musical form that involves constants, variables, and other elements. Constants refer to features that remain constant throughout the piece, while variables include changes in the tune, accompaniment, and emotional expressions. Essential elements, such as verbal utterings, are critical for determining the structure and nature of the music.

Ekwueme posits that duple and triple rhythms in the middle-ground structure comprise West African musical rhythm. There are various levels of the combination of duple and triple

---

[52] Laz E.N. Ekwueme, "Structural Levels of Rhythm and Form in African Music: With Particular Reference to the West Coast," *African Music : Journal of the International Library of African Music* 5, no. 4 (November 1975), 27.

[53] Ibid., 28.

time. Through the lyrical observations, he also presents the following insight into how one can understand improvisation in African music:

> The personal contribution of each performer in an African musical ensemble, his improvised variations on rhythm patterns, the spontaneous comments, verbal or otherwise, of singers and dancers, are all foreground material which decorate the music. These are always introduced in conscious understanding of the structural materials of the middle-ground and background levels which underlie the whole music.[54]

Despite not explicitly referencing African music's cyclical or spiral-like nature, Ekwueme successfully shows the subtleties of rhythm and its theoretical framework that allows African music to exist in its current form and flourish. The spiral-like manner in which African rhythmic perception manifests may be crucial in contrasting the linear approach to rhythm that many prevailing Western curricula adopt.

Rhythm in Sub-Saharan Africa is a diverse and complex musical element characterized by polyrhythms, percussion-centric expression, call and response, and syncopation, ultimately resulting in a manifestation of cyclical rhythm that exists concurrently on different planes. Furthermore, the communal ties associated with African music play a central role in various traditional and contemporary music forms, serving as a means of expression and social cohesion. It is essential to note that these technical aspects must add up to reflect the philosophy of man since "ewe drummers see the bifurcated nature of polyrhythm as a representation of the human condition."[55] These essential aspects of African music serve as valuable resources in shedding additional light on the rhythmic perspective of Sub-Saharan African rhythm.

---

[54] Ekwueme, "Structural Levels of Rhythm and Form," 32.

[55] George Howlett, "West African Grooves: Kora Harps and Ewe Polyrhythms," Rāga Junglism, last modified July 21, 2023, https://ragajunglism.org/teaching/guitar_resources/west-african-rhythms.

## World Music – Melodic Concepts

The subsequent literature review segment eschews more general concepts in favor of specialization. This thesis focuses on the melodic ideas of traditional Arabic *maqam* and Japanese court music, or *gagaku*, highlighting some of their most pertinent and applicable key features and expounding on them. Arabic *maqam* contains microtones that do not exist in traditional Western classical music, and at the same time, *gagaku* has a tetrachordal approach that starkly contrasts the tonal music more prevalent in the West. These musics may augment Western classical music's approach to aural skills acquisition.

### Arabic *Maqam*

Arabic *maqam* is a modal music system prevalent in the Middle East and North Africa. A key feature of Arabic *maqam* is its modal structure: *maqam* refers to specific melodic modes or scales, each with its unique combination of intervals and characteristic notes.[56] There are numerous *maqamat*, and each one evokes distinct emotions and moods. This modal concept is not entirely foreign to Western music. Still, a second characteristic of Arabic *maqam* is that it utilizes microtonal intervals more diminutive than the semitones in Western music. These microtones allow for the expression of subtle nuances and ornamentations in the melodies. They are the central focus of the thesis when adapting Arabic musical concepts to an aural skills curriculum.

The "The Eastern Arab System of Melodic Modes in Theory and Practice: A Case Study of Maqam Bayyati" chapter in the *Garland Encyclopedia of World Music: Volume 6: The Middle East* expresses that Eastern Arab music mainly features monophonic or heterophonic melodies

[56] "The Arabic Maqam," Maqam World, last modified July 21, 2023, http://maqamworld.com/en/maqam.php.

governed by melodic modes known as *maqam*. Musicians learn these modes by studying existing compositions and improvisations and listening to fellow musicians. However, in the Arabic musical sense, the concept of mode, or *maqam*, is significantly more complex than that of a collection of pitches, which may be the typical Western understanding. Through rigorous study and practice, Arabic musicians obtain a philosophical knowledge of Arabic classical music:

> Musicians commonly praise a more sophisticated piece by saying that it is full of 'work' (shughl), perhaps best understood to mean a combination of aesthetic artistry and modal craftsmanship. Enthusiasm for a highly sophisticated piece is often expressed by calling it a 'school' (madrasa); this indicates that the piece is full of modal knowledge and that there is much one can learn from it.[57]

The Arab tonal system, like the Western pitch collection, is based chiefly on twelve pitches. However, it has a defining characteristic: the quarter-step determining intervals, such as the half-flat and half-sharp. One author explains it: "The third and seventh notes, however, fall between the Western flat and the corresponding natural note. Thus *sika* falls between E and E-flat; *awj* falls between B-flat and B."[58] This distinction of intervals between Western semitones may prove helpful in developing aural accuracy for students of Western classical music.

Individual modes' complexity and dynamic nature go beyond their simple theoretical definitions in the context of Middle Eastern music. For example, practical considerations include avoiding octave duplications of notes, utilizing specific non-tempered intonations, following common paths within the mode's scale, incorporating additional tetrachords, characteristic accidentals, and standard modulations to other modes. This practical understanding contrasts Western classical music, generating even more pedagogical potential.

---

[57] *Garland Encyclopedia of World Music Volume 6: The Middle East*, edited by Danielson, Virginia, Scott Marcus and Dwight Reynolds Routledge (Publisher), 2001, 61.

[58] *Garland Volume 6*, edited by Danielson et al., 62.

The article "Maqam Analysis: A Primer" by Sami Abu Shumays aims to provide an accessible framework for analyzing music in the *Maqam* tradition. It addresses the limitations of the conventional view of *maqam*, which mainly describes scales, by introducing new concepts and ideas. Shumays discusses the concept of *jins*: "*Maqamat* are scales built from conjunct or disjunct tetrachords, known as *ajnas* (singular: *jins*, meaning in Arabic' kind,' 'type,' or 'gender' (…) and that *maqamat* are organized into family groupings with others sharing the same lower (or root) *jins*."[59] He introduces the idea of "*jins* baggage," which includes neighboring notes that play a role in tonicization, arguing that *jins* should be understood not just as scales but as specific sets of interval relationships around a tonic.

The paper demonstrates how theorists can apply abstract descriptions of *maqam* from previous theories to actual musical examples and the necessary modifications for that application. Indeed, the maqam system is a network of pathways generating diverse melodic structures. Notably, aesthetics, individual creativity, intonation, and melodic vocabulary in the maqam system may help develop novel educational techniques in aural skills acquisition.

Finally, the book *Inside Arabic Music: Arabic Maqam Performance and Theory in the 20th Century Middle East* by Johnny Farraj and Sami Abu Shumays is a comprehensive text delving into the intricate world of Arabic music, offering insights into its various aspects and elements. It thoroughly explores Arabic music, from melodic and rhythmic elements to emotional expression and improvisational techniques.

[59] Sami Abu Shumays, "*Maqam* Analysis: A Primer," *Music Theory Spectrum* 35, no. 2 (2013): 235, https://doi.org/10.1525/mts.2013.35.2.235.

Farraj and Shumays analyze the Arabic maqam system in music, describing it as "a scale or modal structure with a rich tradition of orally transmitted melodic pathways."[60] The intonation of Arabic maqam scales is a defining feature of Arabic music, shaped by cultural preferences rather than strict mathematical rules. Farraj and Shumays reject the idea that scales are solely determined by mathematical ratios, highlighting the influence of cultural choices. They trace the evolution of European scales from just intonation to equal temperament, emphasizing the role of artistic decisions. Moreover, the authors argue that musical scales are cultural conventions in Arabic music and globally. Arabic scales, rooted in the Pythagorean system, incorporate both harmonic ratios and arbitrary intervals. Indeed, Arabic music's tuning system is more intricate than Western's 12-tone equal temperament, featuring intervals that vary within a semitone, even to quartertones. Though, in the modern day, the 24-tone scale aids notation in Arabic *maqams*, the actual intonation in Arabic music varies based on region, time, and individual performance.

Thus, Arabic music is often labeled "microtonal" from a Western perspective due to intervals smaller than semitones. However, this oversimplification overlooks the fact that Arabic music developed its intervals independently. Despite the numerous oversights, the intricate intonation and variations remain vital aspects of the Arabic music tradition. Ultimately, Farraj and Shumays observe that the evolution of any music has numerous factors, and one cannot scientifically define any artistic phenomena too rigorously:

> It is worth noting that all of the changes in scales and intonation described in this chapter have been cultural changes, resulting in intonation differences that have nonetheless proven acceptable to the ears of audiences and musicians. We wish to emphasize again that intonation is a cultural product, inseparable from all of the other cultural dynamics influencing musical practice.[61]

---

[60] Johnny Farraj and Sami Abu Shumays, *Inside Arabic Music: Arabic Maqam Performance and Theory in the 20th Century Middle East* (New York: Oxford University Press, 2019), 161.

[61] Farraj and Shumays, *Inside Arabic Music*, 178.

Also important is the ethereal concept of *maqam* in Arabic music, focusing on the structure of *maqam* scales and their relationships. Farraj and Shumays employ metaphors like the scale as a chain to explain the arrangement of intervals and notes in maqam scales. They note: "Traditionally, each *maqam* is based on a scale, a set of notes arranged in a well-defined order and tonal intervals. *Maqam* scales are usually heptatonic (made of 7 notes that repeat at the octave), although they may extend beyond 8 notes in a few cases. In addition, a few *maqam* scales do not achieve octave equivalence at the 8th note."[62] Hence, the authors provide more fundamental defining factors regarding the *maqam*; some of these concepts are intriguing and may serve well in expanding aural skills drills in a Western classical music context.

Arabic *maqam* is a fascinating and diverse musical tradition that contributes to the rich tapestry of global music. Furthermore, it progressively is gaining traction in the works of many Western musicians who seek to fuse their Western harmonic know-how with the melodic artistry of *maqam*. As cultural exchange and globalization continue to shape the musical landscape, understanding the relationship between this tradition and that of Western classical music becomes increasingly valuable in fostering cross-cultural appreciation and creativity in aural skills pedagogy.

### *Gagaku* Scales

*Gagaku*, the traditional court music of Japan, features a unique and well-defined system of scales known as *Mikagura*. *Gagaku* has three primary *Mikagura* scales, each associated with specific ritual occasions and deities: the pentatonic *Ryosen* scale, the solemn and reverent

[62] Farraj and Shumays, *Inside Arabic Music*, 286.

*Etenraku* scale that shares similarities with the natural minor scale, and, featuring a hexatonic structure, the most musically flexible *Komagaku* that is often associated with celebratory music.[63]

In the *Garland Encyclopedia of World Music: Volume 7: East Asia: China, Japan, And Korea*, Uehara Rokusirô and Koizumi Fumio provide valuable insights into the construction of *Gagaku* scales in the chapter entitled "Theory and Notation in Japan." Prestige genres, such as *gagaku,* developed complex ideas underpinning melody perception in much of traditional Japanese music. Originally imported from China, *gagaku* found many metaphysical theories that drew inspiration from Chinese philosophies. Western music theory influenced Japanese music during the Meiji period; however, it led to experimentation with modal approaches. The authors propose influential theories identifying pentatonic scales with and without a semitone, introducing the concept of tetrachords, which formed the basis for subsequent modal ideas. These theories, as one author said, "(depend) on the position of the intermediate tone," granting four possible tetrachords.[64] Furthermore, "'modulation' from one tetrachord to another can occur in one of three ways: first, the nuclear tones remain the same, but the intermediate tone changes; or, second, the entire tetrachord is transposed; or, third, the nuclear tones and the position of the intermediate tone all change."[65] Many permutation options exist, and these ideas may influence a Western musician.

Furthermore, Yosihiko Tokumaru, a Japanese musicologist and scholar, has made notable contributions to studying Japanese music, particularly in the context of *syamisen* music, a traditional music style featuring the shamisen, a three-stringed musical instrument. One of the

---

[63] "Home Page," Gagaku, last modified July 21, 2023, https://www.gagaku.net/index.ENG.html.

[64] Koizumi and Nogawa, *Theory and Notation in Japan*, edited by Provine, Robert C., Yosihiko Tokumaru and Lawrence J. Witzleben Routledge (Publisher), 2001, 605.

[65] Ibid., 605.

significant aspects of Tokumaru's work is his challenge to the conventional understanding of the centrality of the octave in music, especially in traditional Japanese music; he "proposed a new analytic theory in which he disregards conventional misconceptions about the centrality of the octave (itself a Western imposition); instead, he places greater emphasis on melodic movements derived from the existence and concatenation of so-called units."[66] Indeed, these various non-Western approaches to modes show the potential of melodic expansion applicable to Western music through the concepts of *gagaku*.

János Kárpáti's "Tonality in Japanese Court Music" further showcases the intricacies of how music can be tonal or modal. The text discusses the coexistence and evolution of tonality and modality in music across different cultures. It emphasizes that tonality, based on major and minor scales, is primarily associated with European music, while modal principles dominate Asian musical cultures. Kárpáti explains:

> Music on the tonal principle, on the other hand, places most of the emphasis on notes of an absolute pitch and how they relate to one another, neglecting the structural differences that follow from the modes. This also means that tonality as a principle decreases the number of modes, and since the mode is a correlation that presupposes the existence of other modes, the mode that is outstanding in the tonality, for example the major and the minor in the dual European principle of tonality sheds its modal quality and appears as *Tongeschlecht.*[67]

Hence, Kárpáti believes that *gagaku's* diversity and sheer number of modes may exist because its modal nature trumps the requisite simplicity of pitch possibilities in otherwise tonal music.

There have been influences and exchanges between these systems over time. For example, in European music, tonality emphasizes the relationship between pitch notes, while modal music focuses on the variation in scale expressed in the mode. Despite the development of

---

[66] Koizumi and Nogawa, *Theory and Notation in Japan*, 606.

[67] János Kárpáti, "Tonality in Japanese Court Music," *Studia Musicologica Academiae Scientiarum Hungaricae* 25, no. 1/4 (1983): 172.

tonality in Europe, occasional returns to modality are apparent in recent European music. Indeed, even in the Japanese Gagaku tradition, Kárpáti shows various modes with modal and tonal attributes manifesting over time. Nevertheless, over time, Kárpáti shows that the Japanese system would tend towards a tonal structure, with major and minor scales dominating. He observes that "the modal principle is gradually giving way to the tonal principle, since the richer possibilities of the modes are replaced by only two types of scale and absolute pitch has become an important, determining factor."[68] This shift allows for practicality and accessibility in Japanese music.

The text highlights the rich interplay and transformation of tonality and modality across different musical cultures, contributing to the global diverse and unique musical expressions. Intriguingly, modality and tonality are not mutually exclusive concepts since "the modal shades are more or less driven into the background and two types, or one might say two basic *Tongeschlechte* come (to) the fore: one resembling the major and one the minor."[69] Perhaps this realization can lend credence to utilizing concepts from other musics other than Western classical music in Western music pedagogy.

The tetrachordal approach that underscores *gagaku's* melodic construction is essential to this study. Tetrachords are four-note segments that form the building blocks of the *Mikagura* scales. By combining different tetrachords in various sequences, musicians create the distinct melodic structures of the *Mikagura* scales. This tetrachordal approach allows for a systematic and organized method of constructing melodies within the confines of the *Mikagura* scales. It provides a framework for composers and musicians to create cohesive and aesthetically pleasing

[68] Kárpáti, "Tonality in Japanese Court Music," 176.

[69] Ibid., 181.

musical phrases while maintaining the traditional character of *gagaku*. Additionally, the tetrachordal approach in *gagaku* contributes to its distinct and captivating sound, encompassing many characteristics that a Western classical approach may rarely find. Its application to aural skills acquisition in an aural skills program may thus be invaluable.

## Summary

The chapter provides an overview of the possibilities of teaching aural skills in undergraduate music through the lens of world music concepts. The literature review identifies various aspects of aural skills cognition, encompassing both Western and world music scenarios. By examining existing research, the chapter lays a critical foundation for the study, shedding light on the current knowledge state while identifying areas requiring further investigation.

The literature review begins by focusing on the development of aural skills pedagogy, tracing its historical evolution, and discussing key milestones that have shaped the field. Central to this exploration are the works of Gary S. Karpinski, a prominent authority in music education and aural skills training. With his emphasis on audiation, the ability to mentally hear and comprehend music, and the incorporation of educational techniques in his works, Karpinski hopes that "musicians should be able to use both long-held and newly learned aural skills in a variety of settings."[70] These sentiments remain crucial in present-day music education planning.

The next significant part of the literature review examines the theoretical underpinnings of integrating world music concepts in undergraduate music education. Here, the perspective of Huib Schippers, a distinguished music educator and researcher, takes center stage. His book, *Facing The Music: Shaping Music Education From A Global Perspective*, highlights the potential of world music concepts in broadening students' musical views, fostering creativity,

[70] Karpinski, *Aural Skills Acquisition*, 223.

and critical thinking, thus presenting "deep implications for thinking, designing, and realizing music education across the board."[71] These are notions that this study seeks to validate.

Turning the lens onto rhythmic perspective and complexity, the literature review centers on Indian classical music's *tala* system and Sub-Saharan African drumming. This exploration reveals the profound mathematical and artistic sophistication of Indian music, showcasing the potential value of incorporating its rhythmic concepts into aural skills training.[72] Sub-Saharan African drumming, on the other hand, stands out for its vibrant and diverse rhythm, characterized by polyrhythms, call-and-response patterns, and syncopation. The cyclical nature of African rhythm and its communal ties play a central role in traditional and contemporary music, offering valuable resources for understanding rhythm from a different cultural perspective.

The review then delves into specific world music traditions, examining the melodic concepts in Arabic *maqam* and Japanese *gagaku*. Arabic *maqam*, a modal music system prevalent in the Middle East and North Africa, stands out for its unique combination of intervals and microtones not present in Western classical music. On the other hand, *gagaku*, the traditional court music of Japan, features the *mikagura* scales, a system of unique scales that play a crucial role in defining the music's character. The tetrachordal approach in gagaku's melodic construction offers a structured method of creating melodies, contributing to the music's distinct sound.[73] These explorations underscore the potential value of integrating such concepts into aural skills pedagogy, exposing students to diverse melodic structures and ornamentations.

---

[71] Schippers, *Facing the Music*, 167.

[72] Clayton, *Time in Indian Music*.

[73] Koizumi and Nogawa, *Theory and Notation in Japan*.

The literature review establishes a solid and diverse foundation for the research on teaching aural skills using world music concepts. By exploring various musical traditions, theoretical frameworks, and empirical studies, the chapter emphasizes the value of integrating world music perspectives to enhance undergraduate music education. This integration promises to make aural skills pedagogy more inclusive, culturally diverse, and globally informed, fostering cross-cultural appreciation and enriching students' musical experiences. Ultimately, the incorporation of world music concepts into aural skills education has the potential to create well-rounded musicians who can understand and appreciate the vast richness of musical traditions worldwide.

# Chapter Three: Methodology

## Introduction

This chapter introduces the methodology for the qualitative narrative inquiry project on using world music concepts to teach undergraduate aural skills acquisition. The collected data comprises aesthetic and pedagogical concepts in Indian *tala*, African drumming, Arabic *maqam*, Japanese *gagaku*, and prevailing Western aural skills acquisition teaching methods. This study aims to, instead of adding knowledge to an existing field, serve as a gateway to a novel method of aural skills acquisition education, and Clandinin and Connelly support this notion in the following: "The contribution of a narrative inquiry is more often intended to be the creation of a new sense of meaning and significance with respect to the research topic than it is to yield a set of knowledge claims that might incrementally add to knowledge in the field."[74] The chapter aims to substantiate the research methodology succinctly.

## Research Design

This study utilizes a qualitative narrative inquiry research design. The researcher opted for a qualitative approach because he prefers a creative writing style rather than a technical one. A quantitative approach, which relies heavily on data and numbers, may not be suitable for the exploratory character of augmenting existing Western aural skills acquisition techniques with world music concepts. Indeed, Creswell and Creswell say qualitative approaches "allow more creative, literary-style writing, a form that individuals may like to use."[75] Hence, the qualitative approach is a clear choice for this research.

---

[74] Clandinin and Connelly, *Narrative Inquiry*, 42.

[75] Creswell and Creswell, *Research Design*, 20.

Consequently, the researcher opted for a narrative inquiry approach within the qualitative method. Clandinin and Connelly pioneered using the phrase "narrative inquiry" in a 1990 article published in *Educational Researcher*.[76] Subsequently, Clandinin and Connelly released their book under the same title. The writers explicitly express that their ideas are based on John Dewey's notion of experiential education, saying the following: "Experience happens narratively. Narrative inquiry is a form of narrative experience. Therefore, educational experience should be studied narratively."[77] Hence, the narrative approach emphasizes the accounts of the individuals involved, the researcher in this case.

Defining narrative inquiry might be challenging due to its divergence from traditional research designs. Creswell & Creswell provide a concise overview of the narrative approach, which centers on studying individuals' lives and frequently incorporates firsthand participant accounts.[78] Hence, it is apparent that the researcher frequently transforms this knowledge into a narrative timeline by retelling. This study distills subtopics of different world musics and treats them as participants, thus incorporating their stories and concepts into the overarching narrative of aural skills acquisition.

Notably, acknowledging the researcher as the key instrument may be beneficial for the study, as Creswell and Creswell observe:

> Qualitative researchers collect data themselves through examining documents, observing behavior, or interviewing participants. They may use a protocol—an instrument for recording data—but the researchers are the ones who actually gather the information and interpret it. They do not tend to use or rely on questionnaires or instruments developed by other researchers.[79]

---

[76] Margaret S. Barrett and Sandra L. Stauffer, eds., *Narrative Soundings: An Anthology of Narrative Inquiry in Music Education* (Dordrecht: Springer, 2012).

[77] Clandinin and Connelly, Narrative Inquiry, 2.

[78] Creswell and Creswell, *Research Design*, 13.

[79] Ibid., 257.

In light of this, even though the information in this chapter may be helpful as a guide for any future researcher to follow to repeat the stages of this project, one must acknowledge that the researcher's background is influential towards the investigation results. In their commentary, Creswell and Creswell discuss how the function of the researcher might be of utmost importance in this kind of study:

> *Past experiences.* Include statements about past experiences with the research problem or with the participants or setting that help the reader understand the connection between the researchers and the study. These experiences may involve participation in the setting, past educational or work experiences, or culture, ethnicity, race, SES, or other demographics that tie the researchers directly to the study.
>
> *How past experiences shape interpretations.* Be explicit, then, about how these experiences may potentially shape the interpretations the researchers make during the study. For example, the experiences may cause researchers to lean toward certain themes, to actively look for evidence to support their positions, and to create favorable or unfavorable conclusions about the sites or participants.[80]

Thus, it is pertinent to note this researcher's musical journey thus far: a pianist who learned classical music from a young age, a jazz composer who has had training at a conservatory, and a serious dabbler in many other styles of world percussion, including the North Indian Tabla, the African Djembe, and the Arabic Riq, amongst others.

Instead of relying on questionnaires or instruments that come from other sources, this researcher examines documents such as pieces of music, pedagogical texts, and the like, and observes behavior: that of his own in response to the various aural instruction and world music educational phenomena that he has experienced up to this point in his journey through the world of music. Thus, this research technique can address the research questions about the perception of rhythm and pitch in cultures that are not Western music. The method is valuable in

[80] Creswell and Creswell, *Research Design*, 5th ed., 260.

extrapolating data to aid undergraduate music students' development of aural skills and basic knowledge.

Narrative inquiry is popular among music and education scholars, especially those striving to break new ground in a field without much prior research. For example, through narrative inquiry, Barrett reflects on how music can affect lives.[81] Yuan and Lee also express concern about regulating emotions while teaching.[82] Finally, to combine music and education, Wong uses narrative inquiry in his dissertation, pondering his development as a piano teacher after being exposed to many different philosophies and psychologies throughout his life.[83]

The limitations of the research design are evident by the restrictions imposed by the researcher's narrative, the results being subservient to the experiences of the researcher and participants. Therefore, future projects that build upon the notions set forth by this one may provide their unique takes on the topic, owing to how the narrative must shift from person to person.

## Participants and Setting

The participant in this study is the researcher, with the setting being the researcher's background, which this section further defines. Hence, there is no need to define sampling or further recruitment strategies. The researcher holds performance diplomas in classical piano, classical percussion, drum set, and electric bass, possesses advanced degrees in jazz composition

---

[81] Margaret S. Barrett, "Sounding Lives in and through Music." *Journal of Early Childhood Research: ECR.* 7, no. 2 (2009): 115–34, https://doi.org/10.1177/1476718X09102645.

[82] Rui Yuan and Icy Lee, "'I Need to Be Strong and Competent:' A Narrative Inquiry of a Student-Teacher's Emotions and Identities in Teaching Practicum," *Teachers and Teaching* 22 (May 25, 2016): 1–23, https://doi.org/10.1080/13540602.2016.1185819.

[83] Shuenda Wong, "A Narrative Study: Professional Development of a Piano Teacher through Various Music Education Philosophies and Psychologies in Different Sociocultural Contexts" (PhD diss., Liberty University, 2024).

and performance, and has taken lessons with practitioners of the North Indian Tabla along with other world percussion instruments. The faux participants in this study are the subtopics: Western aural skills acquisition conventions, Indian *tala*, African drumming, Arabic *maqam*, and Japanese *gagaku*. The researcher, recognizing his skill in music theory, aural, and synthesis, immerses himself in the subtopics and gleans valuable information from the data, building a narrative for them and thus synthesizing information related to education, culture, music theory, music cognition, and others. This study acknowledges the documents that allow the researcher to generate these faux participants throughout the thesis where applicable, particularly in Chapter Four, where the study presents the results. A later segment of this chapter shows, in more detail, how the researcher studies these documents to extrapolate data and, consequently, results.

## Researcher Positionality

My motivation for the study stems from a desire, throughout my academic career, to receive more instructional training about world music concepts. I often recall thinking outside the box to find ways to include non-obligatory topics in my education. For example, I approached the school administration with a request to enroll in world percussion private lessons instead of my primary drum set lessons in the hope of utilizing the influence of world music to augment my drumming skills.

In my undergraduate career as a jazz composition and professional music dual major at the Berklee College of Music, I actively sought out classes incorporating non-standard musical concepts as electives. Indeed, my desire to pursue professional music as the second major stems from the reason that professional music is a self-designed major, wherein as long as the student can substantiate his choices of classes, the faculty will approve the classes and allow the conferring of the degree. I would choose higher-level aural elective classes that teach modal

recognition but with modes inspired not by Western music but by world music sources such as the Spanish Phrygian scale from flamenco music. Another example would be drum set classes called "instrumental labs" focusing on specific music such as African drumming, Spanish *buleria*, or Brazilian *samba*.[84]

Hence, this framework encourages the organic genesis of pedagogical ideas that combine my Western aural skills background with the concepts of different world musics, all while keeping in mind my underlying realization that typical Western aural skills acquisition training did not satiate my curiosity towards more complex and exciting musics than what one typically sees in Western undergraduate music education.

## Philosophical Assumptions

Creswell and Poth define philosophical assumptions in *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*.[85] They posit that ontology concerns the fundamental nature of existence and the concept of reality as experienced by each individual.[86] This researcher recognizes that his perception and subliminal understanding of these musical concepts constitute the primary interpretative framework of this study. Indeed, having his presumptions shape the results is a calculated choice this researcher made for this project with the knowledge that such a move would affect the results in a specific way.

Epistemology is the study of knowledge, and in this case, it relates to examining the subjective themes and concepts that arise from studying the researcher's narrative since there are

[84] Berklee College of Music, "Studying Percussion at Berklee," last modified July 22, 2024, https://college.berklee.edu/studying-percussion-berklee.

[85] John W. Creswell and Cheryl N. Poth, *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. (4th Ed. Thousand Oaks, CA: Sage Publications, 2018).

[86] Ibid.

no other participants.[87] The researcher assumes that the knowledge he can glean from this study skews toward his perception, but different perspectives can benefit from the insight. There can never be too much insight when it comes to knowledge.

Finally, axiological assumptions pertain to the moral issues that may emerge from the study.[88] While this researcher does not condone immorality, the procedures of this study will affect nobody because it takes existing documents and data and constructs narratives for them. Therefore, axiological concerns do not exist in this context.

## Data Collection Plan

### Researcher-Based Protocols

This study employs a researcher-based protocol as its central tool for data collection. Clandinin and Connelly say that, in narrative inquiry, researchers employ the term "field texts" for data, and these include: "Teacher stories; autobiographical writing; journal writing; field notes; letters; conversation; research interviews; family stories; documents; photographs, memory boxes, and other personal-family-social artifacts; and life experience."[89] Hence, this researcher banks on his life experience and examines the literature, identifying the current norms for teaching aural skills to undergraduate students. Karpinski's *Aural Skills Acquisition* will provide this necessary knowledge on a more comprehensive undergraduate aural skills curriculum. Additionally, the research will refer to the ear training curriculum offered at the Berklee College of Music. This resource will allow this research to broaden the perspective to include a jazz-based ear training teaching style, another crucial approach universities take to ear

---

[87] Creswell and Poth, *Qualitative Inquiry*.

.

[88] Ibid.

[89] Clandinin and Connelly, *Narrative Inquiry*, 110.

training (in addition to the Western classical school of thought). After that, the next step will be to curate the aspects of certain world musics that can relate to specific topics in aural skills acquisition education. Indian *tala*, African drumming, Arabic *maqam*, and Japanese *gagaku* principles and concepts will inform this data collection.

## Transcription

Transcription is present in this project but is only limited to what the researcher chooses to include. For example, the researcher may transcribe a musical groove, but because it is a cultural and musical phenomenon and not an interview, the resultant transcription must be accurate to the study's intent. Therefore, the possible mistakes of utterances or inconsistent information from interviews that McMullin details in this approach will not be an issue.[90]

## Saturation

Saturation may be of concern because there is only one participant in this study. Guest, Namey, and Chen define saturation as "the point in data collection and analysis when new incoming data produces little or no new information to address the research question."[91] However, the nature of this study is that the point of having the researcher as the only participant is to leverage this researcher's expertise and lived experiences to plan a holistic curriculum that can benefit students such as him in the future. Hence, it may be the case that including more participants in the research, particularly those unsuited to the topic, may blur the boundaries of the research. Furthermore, the research hopes to serve as an inspiration for the vast topic of using

---

[90] Caitlin McMullin, "Transcription and Qualitative Methods: Implications for Third Sector Research," Voluntas: International Journal of Voluntary and Nonprofit Organizations 34, no. 1 (February 2023): 141, https://doi.org/10.1007/s11266-021-00400-3.

[91] Greg Guest, Emily Namey and Mario Chen, "A Simple Method to Assess and Report Thematic Saturation in Qualitative Research," PLOS One 15, no. 5 (May 2020): 2, https://doi.org/10.1371/journal.pone.0232076.

world music concepts in aural skills acquisition and does not profess any deep specialization. Hence, perhaps more minds are better suited to future projects that may stem from or take inspiration from this one.

## Summary

The study does not claim that any of the inquiries into the specific world musics will be comprehensive; on the contrary, the musics of the world have such a rich history and depth that this project can only aspire to scrape the surface of them. In summary, the purpose of the data collection is not to serve as an encyclopaedic compendium of the selected musics; instead, it intends to serve as a gateway to shed light on the road that future projects may take that can similarly draw inspiration from notions related to world music to enhance the experience of current curricula. The research will represent the forthcoming data by generating sample worksheets and exercises inspired by world music concepts that may nest inside current Western aural skills acquisition curricula.

## Procedures

The procedural process of this study is straightforward. IRB approval is unnecessary, so consent and assent forms will be out of the picture. Since this study focuses on the researcher as the key instrument and leverages this researcher's lived experiences, no people training is required. Indeed, the data collection involves concisely grasping the present status quo of undergraduate aural skills pedagogy and the selected world musics. Thereafter, the upcoming data analysis section will be monumentally long compared to other projects of this scope.

## Data Analysis

The following section showcases the data analysis procedure. Because this study involves the participant, the researcher, and faux participants of different facets of aural and world music education, the analysis is practically part of a thought process instead of extrapolation from tables and graphs. Hence, the researcher has elected to include data analysis in the main body of the thesis instead of an appendix as he dissects and synthesizes the data he has collected on the current status quo of aural skills acquisition curricula and various topics of world music. Furthermore, the study will adhere to Saldana's coding guidelines of utilizing more abstract ideas to synthesize more concrete ones as the primary reference for this project.[92] The following section shows the data the study analyzes and the researcher's approach to synthesizing the data.

### Aural Skills in Current Western Curricula

The study examines Karpinski's *Aural Skills Acquisition* to aid in data analysis on the current status quo of acquiring aural skills in music education. He presents a commendable list of sources in the introductory portion that inform his text:

[92] Johnny Saldana, *The Coding Manual for Qualitative Researchers*, 3rd ed. (London: Sage, 2016), 12-13.

> This book also draws on centuries of wisdom from music theorists of the past. Thus, where appropriate, readers will find ideas about aural skills pedagogy drawn from, amplified through, or clarified by theoretical principles in the works of such theorists as Guido of Arezzo, Gioseffo Zarlino, Franchinus Gaffurius, C. P. E. Bach, Jean-Philippe Rameau, Arnold Schoenberg, and Heinrich Schenker. Certain approaches in this book are based on some of the best and most provocative recent work in tonal music theory. Thus, readers will find approaches to aural training based on theoretical models such as hypermeter and recent research in Schenkerian theory. This serves the dual purpose of building strong bonds between theory and aural skills on the one hand and preparing students for future study of these disciplines on the other. This book also draws on the writings of various pedagogues in aural skills, music theory, other disciplines within music, and teaching in general. Much of the territory covered here has been traversed at one time or another by one or more of these writers, so their approaches and findings are examined here.[93]

There is no mention of global music in the text, although there is unquestionably a Herculean effort to bring together the work of this famous roster of musicians. Remarkably, the composers and music theorists on this list cover such a wide range of periods in the history of Western music; nonetheless, the scope of their achievements only pertains to Western ideas.

There is a hierarchy of perceptions in Karpinski's understanding of rhythm, for instance, that go from large to small, and all of these perceptions represent distinct degrees of pulse. Using this method, Karpinski assumes the linearity of the music, particularly when he expands the explanation to include hypermetrical notions, which imply an overarching hierarchy of form.[94] Furthermore, because pulse, in this definition, implies equal division of a piece of music, where the audience might clap their hands, for instance, regardless of the rhythmic complexity of the line – mixed meter concepts are mainly absent. Indeed, Karpinski views "asymmetrical, variable, or mixed" meters as "more complex," signaling beginner learners' perceived unattainability of these topics.[95]

---

[93] Karpinski, *Aural Skills Acquisition*, 5.

[94] Ibid., 19-29.

[95] Ibid., 28.

Karpinski also recognizes that his approach to developing pitch recognition "(applies) almost exclusively to tonal music, and – not surprisingly, considering the preliminary nature of the skills being addressed – to largely diatonic music as well."[96] This method suggests that the fine-tuning of pitches is not as crucial as it would be since tonal music is the focus here. It is possible, for instance, for a student to sing a major third slightly out of tune but think that they have finished the exercise perfectly. This behavior exists because there is no differentiation between microtones. Perhaps such laxness is because undergraduate-required courses may be more forgiving of tiny irregularities. In other words, a teacher may label a pitch that world music concepts may recognize as a valid melodic option as a mistake, eliminating the potential for musically developing that scenario.

Furthermore, since the majority of the exercises are within the framework of diatonic music, which is music that has a tonal center and a hierarchy of notes that gravitate toward the tonic, students may not be able to normalize the sound of other types of music, such as modal music and atonal music. Many people regard these subjects as modern and maybe even strange, even though they are present in the Western classical universe. Though some curricula at the undergraduate level introduce modal and atonal concepts into their aural skills acquisition syllabi, educators may not contextualize the material well since modal and atonal music is not part of most music students' repertoire.

The Berklee College of Music provides one such example of this scenario. At the school, students must demonstrate mastery of several fundamental aspects of music in the core curriculum before continuing their education in their chosen field. It may be beneficial for the pedagogy of ear training, which is one of the introductory courses, to consider perspectives that

[96] Karpinski, *Aural Skills Acquisition*, 32.

are not Western. Figure 1 below illustrates that rhythmic exercises, regardless of how difficult they may be, are nevertheless given as uncontextualized in the last exercises in *Ear Training 4*, the final book in the series.

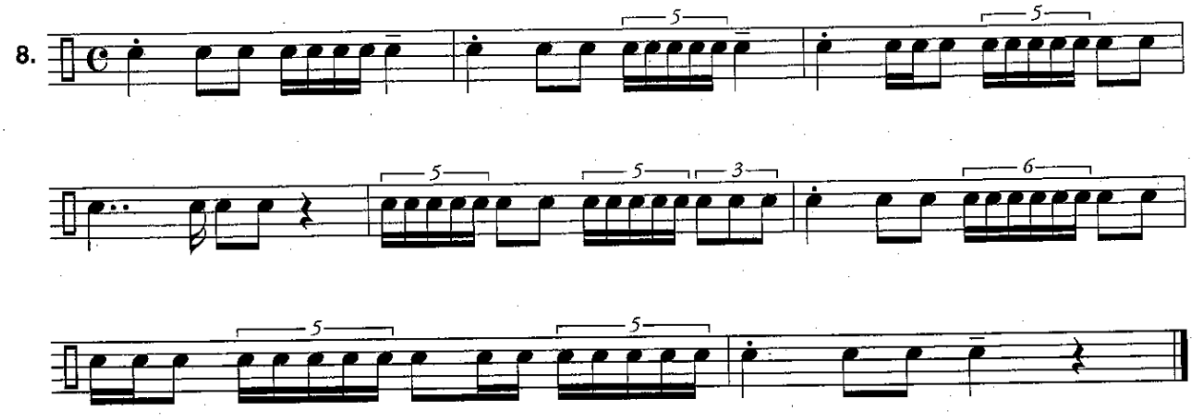



*Figure 1. Advanced Rhythmic Exercise. deOgburn et al., Ear Training 4 Workbook, 111.*

Because music cognition and perception are crucial to the quality of aural skills training, it is necessary to comprehend any cultural or philosophical importance that lies behind even apparently cerebral themes like mixed meter. Similarly, the activities of modal identification are devoid of context in the ear training curriculum at the Berklee College of Music.[97] Again, the authors mainly present musical modes as formulas without cultural significance, as Figure 2 below shows.

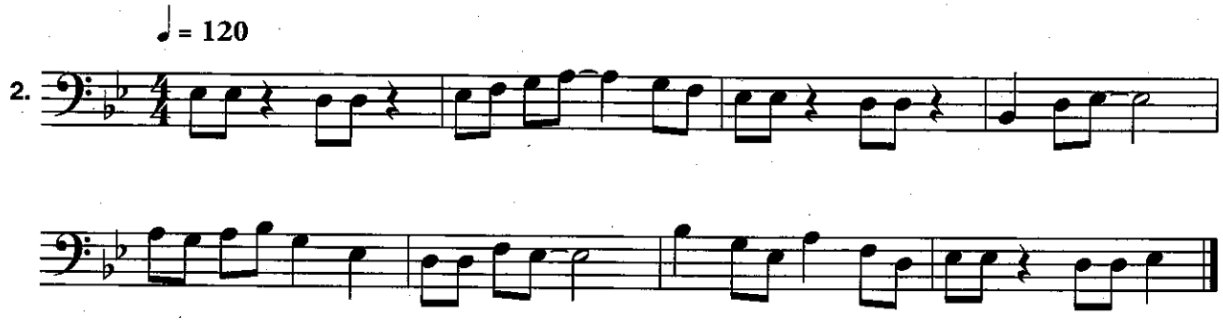



*Figure 2. Lydian Mode Melodic Exercise. deOgburn et al., Ear Training 3 Workbook, 72.*

[97] Scott deOgburn et al., *Ear Training 3 Workbook* (Massachusetts: Berklee College of Music, 2006).

When one looks at some of the most widely used approaches to teaching aural abilities, it becomes clear that there are essential ideas that world music principles may aid. Specifically, not incorporating certain styles of music restricts pitch perception to the twelve tones that exist in Western music. It also primarily concerns tonal theory, which states that the hierarchy of pitches and inferred cadence causes the ear to assume particular melodic tendencies. A further characteristic of rhythmic perception is that it is linear, meaning that the path from beginning to end is underlying. In addition, the formation of rhythm is dependent on a hierarchical pulse and the subdivision of that pulse. The process of hearing rhythms in groups is still a relatively uncharted region. In addition, a typical jazz ear training syllabus does not contextualize the exercises, possibly by leveraging world music notions, but presents them as basic exercises from a workbook. This phenomenon exists despite the curriculum addressing more current topics such as mixed meter and modes.

## Rhythmic Concepts

It is now time to consider data analysis on how some types of music from around the globe might augment undergraduate students' aural abilities in rhythm. The Western concept of meter will be elaborated upon by the rhythmic ideas used in Indian classical music. Also, Western musicians may find interesting results by juxtaposing their linear sense of time against the cyclical nature of African drumming.

### Indian Tala: Groupings Influencing Meter

The concept of *tala* is challenging to define by Western standards. There are similarities between *tala* and meter, such as the regularity of the beat and the concept of a downbeat. Still, tala takes these rules to the extreme; Nelson says: "One Karnatak *tala* is twenty-nine beats long, and in performance each cycle takes up to forty-five seconds, much longer than any Western

meter."[98] This study entails determining the thought process behind these elaborate rhythms and incorporating those notions into Western aural skills rhythmic training to ensure pupils reap the same advantages. This investigation into the rhythmic notions of Indian music can only scratch the surface of this enormous subject matter. Nevertheless, this excursion has the potential to pave the way for students to cultivate a more substantial rhythmic interest in their musical endeavors.

It is imperative first to establish a foundational understanding of the elements of Indian music's rhythm. In *Time In Indian Music*, Clayton describes the layers of rhythm in Indian music, defining the fundamental level Western musicians would refer to as meter as *tala,* while the more intricate rhythms that would vary upon the meter are equivalent to the Indian concept of *lay*.[99] This project's scope includes replacing meter with tala, which generates a substantially different collection of basic beats than what would generally be provided by conventional Western aural skills training. In the following explanation, Clayton differentiates between the many ways in which meter might emerge:

> Indian rhythm is often described as 'additive' (in implicit or explicit contrast with 'divisive' rhythm in Western music). Curt Sachs distinguished divisive rhythm, in which time is divided into equal parts (also called 'qualitative'), from additive rhythm, made by adding unequal time spans (also called 'quantitative'). He saw Indian rhythm as additive, because of the addition of groups of different lengths in many *tal* structures.[100]

In other words, instead of dividing a whole note by four to achieve a meter of 4/4 and then repeating that process four times to get a four-bar phrase, Indian music may add 3, 5, 2, and 6 to achieve 16, which, if taken as quarter notes, Western musicians may understand as four bars of 4/4.

---

[98] Nelson, *Karnatak Tala*, 165.

[99] Clayton, *Time in Indian Music*, 33-4.

[100] Ibid, 37.

The complexity is apparent, yet the concepts still parallel what a Western music student can reconcile with their existing knowledge. In *Aural Skills Acquisition*, Karpinski acknowledges the "more difficult aspects of meter and hypermeter – the concepts of ambiguity or metric and hypermetric dissonance, for example – that extend well beyond the introductory scope discussed thus far."[101] Moreover, the relatively basic concept of *tala*, albeit with a complex application, simplifies some of the more advanced topics of Western rhythm theory and presents them in a way that the student may find more palatable. For example, some *tala* may be so intricate as to resemble advanced Western rhythmic concepts:

Figure 3. Expression of *Sankeerna Jati Dhruva Tala.*

Figure 3 shows the rhythmic groupings of *Sankeerna Jati Dhruva Tala*, a *tala* with twenty-nine beats. Indeed, the twenty-nine-beat Karnatak *tala* has inherent similarities with the concept of hypermeter, where smaller cells of rhythm comprise an overarching form. Integrating Indian rhythmic concepts may thus be surprisingly compatible with more advanced Western rhythmic instruction, and the study will discuss these concepts further in Chapter Four as it presents the research results.

**African Drumming: Cycles Versus Linearity**

Often, when a Drum Set player ventures into the fray of what Western music culture calls "world music," African drumming and grooves are some of the most examined patterns. Musicians, however, often find it challenging to reproduce the nuances of African drumming

[101] Karpinski, *Aural Skills Acquisition*, 135.

organically. Indeed, there must be an underlying reason – likely cultural or cognitive – that this seemingly simple task may become this confusing.

Willie Anku sheds some light on this topic through his description of how African music manifests in the following section:

> Whether performed individually or shared as a collective experience, the music is nonetheless rigidly controlled by a *recurrent rhythm* often associated with the role of the *bell* pattern typical of West and Central African drumming. This controlling structural concept is however not always externalized along with the music. (…) the bell rhythm (…) translates as a *time cycle* because African music is perceived essentially as a circular concept rather than linear. Events of the performance (…) are all organized around this structural matrix, making it possible for performers to go in and out of the performance without much inhibition.[102]

A key difference is therefore apparent: African musicians tend to hear music in cycles, while Western musicians have typically followed a linear route that leads to a destination, which may be the piece's conclusion.

Therefore, the narrative inquiry synthesizes these two cognitive approaches to feeling time to render music-making more organic. The idea of central rhythmic anchors will be vital in devising exercises of this nature. Anku's description of "the background *ostinato*" and "the *master drum*" is beneficial. They are, respectively, "consisting of concentric circular rhythms, each with its peculiar orientation to the regulative beat of the time cycle and thus revealing staggered entry relationships astride the regulative beat" and "('projecting') a succession of intriguing, logically ordered rhythmic manipulations which are concurrently regulated by the common timing principle of the time cycle."[103] In other words, these two rhythmic factors – the *ostinato* and *master drum* – are recurring and grounding, thus creating a base on which spontaneity and musicianship can flourish. After all, this elevated musicianship must be the goal

[102] Anku, "Circles and Time," 1.

[103] Ibid., 2.

of all artistic pursuits. The study devotes time to fleshing out these concepts in Chapter Four, giving examples of these recurring patterns.

Furthermore, in *Facing the Music*, Schippers observes that African music pedagogues "(choose) a method of transmission that strongly leans toward aural" and notes that it is conducive for instinctive music learners because "they do not have to translate rhythms into conscious understanding first and into hand movements after; they are integrated."[104] Such encouragement of organic music-making can benefit formal music training, where the overly-scrutinized technicality of music may affect a student's ability to be carefree in their musicianship.

## Melodic Concepts

It is now time to analyze the data and extrapolate how certain world musics might enlighten subjects in Western aural's melody-related abilities. Western artists looking for fresh melodic ideas will likely be intrigued by the pitches of Arabic *maqam*, which are not part of the 12-tone equal temperament system. It is also possible to bridge the gap between tonal and modal aural training by using the tetrachordal character of Japanese *gagaku* scales and their combination of modal and tonal techniques.

### Arabic *Maqam*: Fine-tuning and Musical Freedom

Musical tuning encompasses vast ground, which this thesis will not attempt to cover. Musicians must still acknowledge the historical context that led to the development of the present Western tuning standard of 12-tone equal temperament. Unsurprisingly, Arabic music has its own tuning development, sometimes severely oversimplified by the proclamation that

[104] Schippers, *Facing the Music*, 146.

Arabic music is "microtonal." This dismissive attitude would underestimate the depth of culture and craftsmanship that has been present throughout the history of the music. This simplification is also apparent in the notations of Arabic music that many academics and performers employ. Shumays provides more explanation of his reduced notation:

> In my transcriptions I will be using the fairly standard accidental symbols for the so-called "quarter-tone" notes: (…) This does not mean that I am claiming that Arabic music uses an equal-tempered 24-tone schema out of which scales are built: to the contrary, not only was such a schema demonstrated false at the 1932 international conference of Arabic Music held in Cairo (…), but it has been demonstrated that the intonation of the so-called "quarter-tones" differs from scale to scale, being higher in some scales than in others, and that the apparently "normal" notes (E-flat, F-sharp) also differ in intonation from scale to scale, so that the musical reality is one of many gradations of pitch, each of which is learned precisely by ear by practitioners of the tradition.[105]

Hence, this study draws inspiration from perhaps the most commonly accepted interpretation of the Arabic music tonal system.

Shumays describes that system this way: "Six of these notes correspond to the notes C D F G A and c of the Western scale, [but] the third and seventh notes, however, fall between the Western flat and the corresponding natural note…sika falls between E and E-flat; awj falls between B-flat and B."[106] My methodology will focus on aural exercises that juxtapose the standard Western tunings of E-flat/E and B-flat/B with these faux "neutral" intervals and aim to enhance Western music students' pitch sensitivity. The goal is for students to be more attuned to pitch's subtleties and simultaneously more accepting of entire spectrums of pitch as valid musical sounds. Not only will this exposure better attune students to many sorts of world musics, but it will also grant them greater sensitivity in the execution of Western musics with quarter

[105] Shumays, "*Maqam* Analysis," 236.

[106] *Garland Encyclopedia of World Music Volume 6*, edited by Danielson et al., 62.

tonal tendencies, such as the blues, which involves a flexibility of execution between the third and flat-third degrees.

In the end, the purpose of using Arabic musical notions in conjunction with Western ones is not to investigate in-depth microtonal tunings or alternative tunings; the objective is to train a student's ear instead to recognize subtle differences in pitch, which will allow them to be even more selective in their musical selections. The students need to have a comprehensive understanding of the complexities that are present in music. They should take this knowledge into their professional and musical lives to benefit them when the time is right. For example, they might one day need to perform works with alternate tunings, of which Barbour provides an extensive history and explanation.[107] Alternatively, they might present a fusion of Western music with some form of world music with a different tuning. It is also possible for a forward-thinking classical musician to explore avant-garde notions such as neutral intervals.

**Japanese *Gagaku*: Tetrachordal Implications**

The melodies of *gagaku* may not seem modern to a Western ear, yet scholars may gain much from studying the construction of *gagaku* scales and melodies. *Gagaku* is an old art form that may represent one of the missing connections between modal and tonal music, at least from a non-Western viewpoint. The notions from *gagaku* are likely the most esoteric of all the world musics selected for this research. However, they may also be more primordial and fundamental than those from other world musics. According to Kárpáti, there are two scales: the *rio* and the *ritsu*.[108] His research shows that the *rio* scale shares similarities with the Western major

[107] J. Murray Barbour, *Tuning and Temperament: A Historical Survey*, East Lansing: Michigan State College Press (1951).

[108] Kárpáti, "Tonality in Japanese Court Music," 176.

pentatonic scale, while the *ritsu* scale has a new taste with no Western equivalent. He finds that, through refining, "the five modal possibilities of the pentatonic system have decreased to two, [that of the overarching *rio* and *ritsu* classes], which actually points to a kind of 'dual' system alien to the truly modal approach."[109] Kárpáti also makes an exciting connection: "The modal principle is gradually giving way to the tonal principle, since the richer possibilities of the modes are replaced by only two types of scale and absolute pitch has become an important, determining factor."[110] It is thus apparent that upon closer inspection, the *gagaku* system reveals many underlying implications for the evolution of music.

These observations have implications far beyond the scope of this study. However, it is still crucial to note the intertwining evolution of music through the organic developments of *Gagaku* scales. Indeed, it was through the influence of Western comparative musicology that Koizumi developed a method to codify the Japanese scales. Using the interval of a fourth, Koizumi broke scales up into fragments, calling them tetrachords "despite the fact that it had only one intermediate tone."[111] Hence, Koizumi found these three-note cells permutable to forming the scales of *gagaku*.

The narrative inquiry will illuminate how manipulating these tetrachords creates many possibilities of modal color and how tetrachordal cells can function as the midpoint between intervals and scales, thus increasing beginner or intermediate students' sensitivity to modes. Karpinski considers "pitch collection" assessment skills to be advanced such that "if the training is introduced too early in the learning sequence, some listeners will have neither the general

---

[109] Kárpáti, "Tonality in Japanese Court Music," 176.

[110] Ibid.

[111] Koizumi and Nogawa, *Theory and Notation in Japan*, 604-5.

exposure nor the specific tools necessary for making such judgments" since, upon testing, "the responses are likely to be little more than guesses."[112] Since most undergraduate music students will likely learn about major and minor modes exclusively, this method inspired by *Gagaku* tetrachords may prove helpful, especially since students may be able to draw parallels with scale fragments such as the first three notes of the minor pentatonic scale or even intervallic relationships.

## Coding and Data Synthesis

The subsequent section delineates the coding strategies employed in the investigation that led to the eventual data synthesis. Johnny Saldana's approach to qualitative investigation, which involves a simplified "codes-to-theory model," directed the procedure.[113] Saldana shows a chart that proposes a progression from the natural to the abstract and from the particular to the general, suggesting following this sequence for data analysis: data, code, category, themes and concepts, and assertions and theory.[114] The following section will relate this process to the steps that birthed the results of this study.

The researcher first immersed himself in the different topics of aural acquisition training in undergraduate education, Indian *tala*, African drumming, Arabic *maqam*, and Japanese *gagaku*. This immersion resulted in a wealth of data about the topics, which the study details in the above segment in this chapter concerning data analysis. He then manually coded the extrapolated data, categorizing and combining the data into different topics, and investigated the emerging themes before relating all these results. The study achieved coding with computer

---

[112] Karpinski, *Aural Skills Acquisition*, 141.

[113] Saldana, *The Coding Manual*, 12.

[114] Ibid., 12-13.

software such as Microsoft Word and Finale, which stored the data in text and musical notation format. Indeed, the study utilized manual coding instead of an automated program for data analysis because, in involving the researcher in the coding process manually, it became more apparent how the data could manifest different themes and groupings amongst themselves. Hence, this approach can combine Saldana's "category" and "themes and concepts" segments of the chart.[115]

Finally, Saldana's "assertion and theory" phase is congruent with the subsequent data synthesis the researcher undertook. The researcher elected to synthesize his findings into examples of exercises and worksheets under "rhythm" and "melody," which have subcategories of rhythmic and melodic aspects. Chapter Four presents these in greater detail. Therefore, this segment will omit the finer explanations. At this point, it was apparent that the narratives the researcher had constructed for the faux participants of aural acquisition training in undergraduate education, Indian *tala*, African drumming, Arabic *maqam*, and Japanese *gagaku* had evolved and created their storylines. These storylines intertwined and were highly compatible with the concepts of this study's narrative inquiry design.

Hence, it became clear that the resultant themes were well-suited to answer the hypotheses. Hypothesis one – the perception of rhythm in music cultures outside Western music can benefit the rhythmic understanding of undergraduate music students in terms of perceiving subdivisions, groupings, and cycles – was substantiated by the themes of Indian *tala* and its propensity to feel rhythm in groupings and African drumming generating the possibility to feel grooves cyclically. Consequently, hypothesis two – the perception of pitch in cultures outside Western music can help undergraduate music students develop sensitivity to pitch in terms of

[115] Saldana, *The Coding Manual*, 12-13.

scale degree recognition, tuning, and reproduction – was supported by the themes of Arabic *maqam* and its encouragement of microtonal sensitivity and Japanese *gagaku* and its inspiration of hearing and subsequently thinking about music in tetrachordal cells.

## Summary

Chapter Three discusses this study's methodology, a qualitative narrative inquiry. This method focuses mainly on the researcher immersing himself in topics about the study and synthesizing the resultant data to apply world music principles to teaching aural skills to undergraduate students. Upon consideration of Creswell and Creswell's descriptors, this researcher would select the qualitative approach as the preferred method, where the "interpretation in qualitative research involves several procedures: summarizing the overall findings, comparing the findings to the literature, discussing a personal view of the findings, and stating limitations and future research."[116] Furthermore, the primary emphasis of this study is a personal examination of rhythm and pitch perception in the several music traditions chosen to parallel concepts in Western aural skills pedagogy: Indian *tala*, African drumming, Arabic *maqam*, and Japanese *gagaku*. Therefore, because of these experiential topics, this researcher chose the narrative inquiry methodology since, according to Clandinin and Connelly, "narrative inquiry is a way of understanding experience."[117] This method may, thus, be superior in this study when compared to quantitative research approaches.

As part of the data analysis process, the researcher posits that Western aural skills programs may have deficiencies since they primarily emphasize Western jazz and classical music traditions. Indeed, though comprehensive and in-depth, these curricula eschew the wealth

---

[116] Creswell and Creswell, *Research Design*, 5th ed., 273.

[117] Clandinin and Connelly, Narrative Inquiry, 20.

of musical possibilities that exist throughout not only geography – in musics of the world – but also history – for example, in alternate tuning systems that have lost their popularity over time. Thus, discussing these deficiencies and juxtaposing them with non-Western musical notions is necessary. This study aims to enhance students' awareness and appreciation of the multicultural variety in music. Furthermore, this researcher's history as a pianist with classical training, a jazz composer, and a world percussionist informs the interpretive lens throughout the study. This approach highlights the researcher as an essential tool in qualitative research, resulting in choosing the narrative inquiry methodology for this study.

Going ahead, the insights from this chapter will pave the way for upcoming chapters, which will be devoted to applying these principles related to world music to improve the effectiveness of aural skills instruction delivered to undergraduate students. This project aims to widen the horizons of music education and stimulate further inquiries into the transformational potential of global musical traditions within academic contexts. It may accomplish this goal by bridging the pedagogical gaps that Chapter Three identifies.

# Chapter Four: Results

## Introduction

The research thus far focuses on digesting particular world musics' essences as they exist in their native culture and then contextualizing them into a Western European classical viewpoint. In other words, how native practitioners viscerally understand their elements of music must translate into a form definable by the Western standpoint. For example, the study must include transcriptions of orally transmitted rhythm into Western notation, approximate or otherwise. The project presents simplified distillations of rhythms and pitches of select world musics to enhance an undergraduate aural skill acquisition syllabus. Indeed, the study acknowledges many cultural, musical, or otherwise nuances that the notation may not encapsulate. Despite this conundrum, Killick's viewpoint summarizes this issue in the following statement:

> The answer, at least from today's perspective, must surely be that, since both musical sound structures and analytical agendas vary so widely, the notation should be able to convey any information about sound that could conceivably be relevant to an analysis—which probably means any information about sound whatsoever. Since that could easily result in an unmanageable mass of detail, the notation should also be able to exclude any information that is not relevant to the analysis at hand. To convey the selected information efficiently to readers who specialize in different kinds of music and analysis, or even to those who don't specialize in music at all, the notation should be consistent as to how it conveys any given kind of information, and should be no more difficult to learn than the above requirements dictate. Having defined these desiderata, our hypothetical forebears could then have reflected on how short staff notation falls by all these criteria, and could have set about devising a new visual code to meet their requirements without being limited to the symbols that music printers already had available.[118]

The notation does not masquerade as a factual reference to these world musics, instead striving to highlight the most crucial elements of the world music to aid in acquiring aural skills.

---

[118] Andrew Killick, "Global Notation as a Tool for Cross-Cultural and Comparative Music Analysis," *Analytical Approaches to World Music* 8 (December 1, 2020): 236.

However, the role of notation in this study is crucial because the concepts of world music must link back to Western music, where notation is essential in academic pursuits.

The forthcoming results cannot be an end to the means; the study intends for these exercises to be foundations for future projects. Moreover, many of these ideas are not purely from the current world music the study presents at that time. Instead, the research generates these exercises because of what these world musics may inspire. For example, the study defines quartertones in its exercises, but Arabic *maqam* is not microtonal by choice; it is an organic evolution of its environment's culture and creative practices. Therefore, the project makes assumptions of this nature: while it may not be in the interest of Arabic musicians to specifically train microtonal hearing, in the Western aural skills training context, it may be.

This chapter has two sections with two subsections each: Rhythmic Integrations comprises using Indian *tala* and African drumming concepts, and Melodic Integrations comprises using Arabic *maqam* and Japanese *gagaku* concepts. These forthcoming exercises also assume that students already have a firm grasp of rhythmic and melodic concepts, a level that is likely to be around the final stages of the requisite aural skills acquisition curriculum for undergraduate music majors. For example, to utilize the worksheets, the students must be able to manipulate rhythmic cells, comfortably improvising with them, creating rhythms with them, sightreading them, and perhaps most importantly, understanding the permutations and possibilities of rhythms in a grid. Figure 4 below shows this.

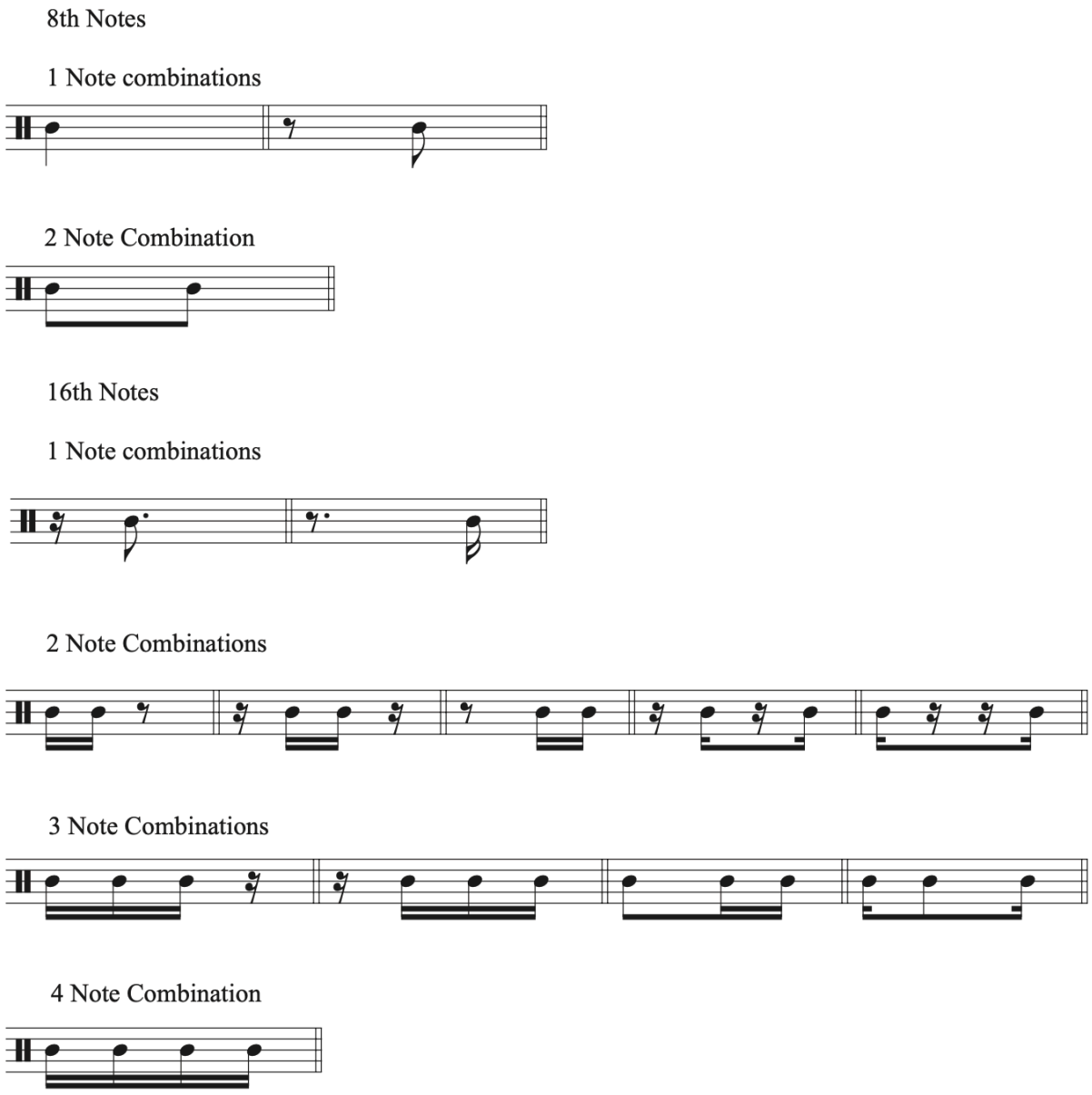



*Figure 4. Rhythmic cells in 16th note subdivisions.*

Similarly, students who wish to glean the most from the melodic exercises must have a solid theoretical understanding and a decent aural sensitivity of intervals and scales, including modes. For instance, students must be comfortable identifying and singing all the intervals within a diatonic collection and the seven major modes. Hence, an educator applying the following exercises must critically consider the baseline expertise of students to integrate world music concepts most effectively.

## Results: Rhythmic Integrations

### Parallels between Indian *Tala* and Western Meter

The complexities of Indian *tala* are immense, and the results do not address all of them. What is pertinent to the subject of this study is the understanding that *tala* can be another way to think of what the Western diaspora knows as meter. According to the Singapore Indian Fine Arts Society (SIFAS), "each *tala* is a rhythmic cycle of beats or *aksharas*, comprised of 3 types of units – *Laghu*, *Dhrutam* and *Anudhrutam*," where "the number of beats in a *laghu* varies according to the *jati*," a *dhrutam* has two beats, and an *anudhrutam* has one beat.[119] There can be, thus, many possibilities of different *tala* depending on the permutations of the *laghu*, *dhrutam*, and *anudhrutam*.

In Western music, 4/4 and 3/4 time signatures are common occurrences. Also, many musical phrases are in bars of four. Hence, 4/4 and 3/4 time signatures in four-bar phrases yield sixteen and twelve beat cycles, respectively. Hence, a sixteen-beat *tala* (*Misra Jati Matya Tala*) and a twelve-beat *tala* (*Khanda Jati Matya Tala*) may best reflect parallels between Indian *tala* and common forms of Western meter.

Figure 5 below shows the strong beats, or accents, of *Misra Jati Matya Tala* in a culturally accurate feel. It has a *laghu* of seven beats because of the *Misra Jati* that comprises it, an *anudhrutam*, which is always two beats, and another *laghu* of seven.

*Figure 5. Expression of Misra Jati Matya Tala.*

[119] SIFAS, "Soul of Thani," last modified July 2, 2024, https://www.sifas.org/soul-of-thani.html.

Figure 6 below shows the same *Misra Jati Matya Tala* with the Western frame of four bars of 4/4 time.

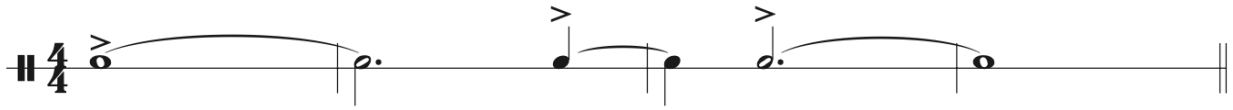


*Figure 6. Misra Jati Matya Tala with Western time signature.*

It is important to note that, despite the bar lines demarcating the downbeats of the music, as Figure 8 displays, the practitioner of Indian classical music perceives the downbeats not at the beginning of the bar but where the accents are, as per Figure 7.

Hence, this collection of 16 beats can exist in multiple ways: an entire collection of 16 with accents at the first, eighth, and tenth beats, a bar of 7/4 followed by 2/4, then another 7/4, or the approach I highlight in Figure 6, with four bars of 4/4 time. The study adopts this approach because, in certain styles of music like jazz, rhythmic manipulation is contingent on the underlying downbeats of each bar. In other words, when improvising with rhythmic groupings, musicians perceive the underlying pulse, especially the ones of each bar. Indian *tala* is an alternative way to practice these rhythmic permutations because, by assuming the Indian music's perspective, students can find a duality of interpretation in rhythms superimposed over meters. It is this understanding that instructors must impress upon the students so that they may glean the benefits of this exercise.

Similarly, Figure 7 below showcases *Khanda Jati Matya Tala* with its original intention. It has a five-beat long *laghu*, an *anudhrutam,* and another five-beat *laghu*.

*Figure 7. Expression of Khanda Jati Matya Tala.*

Figure 7, like Figure 5, does not highlight downbeats. With the addition of the Western time signature, it becomes more apparent to Western musicians what the intention of the rhythm is. Figure 8 below shows this.

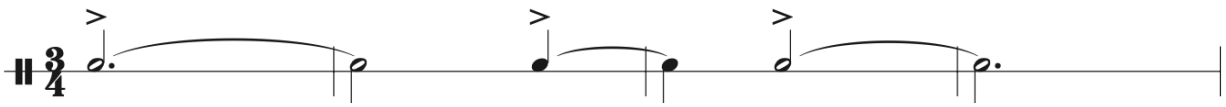


*Figure 8. Khanda Jati Matya Tala with Western time signature.*

In this case, *Khandi Jati Matya Tala* manifests as four bars of 3/4 time instead of some other permutation, for instance, three bars of 4/4 time. This decision is because the research extrapolates that much Western music has rhythms in four-bar phrases, such as in the case of hypermeter, where four bars may group to form an overarching measure that itself propagates. Educators need to convey the essence of the exercise to their students: while perceiving the downbeats demarcated by the 3/4 time signature, the student must attempt to feel the *tala's* superimposed downbeats concurrently. In a collection of twelve, these *tala* downbeats occur on beats one, six, and eight.

A possible classroom exercise can be to put the metronome on quarter note beats and have the students count through the groupings, restarting on one every time a new accent occurs, perhaps clapping their hands or stomping their feet on the downbeats to emphasize its weight. For example, instead of counting one-two-three-four four times, the student can, in the case of *Misra Jati Matya Tala*, count: one(stomp)-two-three-four-five-six-seven one(stomp)-two one(stomp)-two-three-four-five-six-seven. This exaggerated behavior can help learners internalize the nature of this *tala.*

Students must take it further because the *tala* is the foundation for other rhythms. Using rhythmic cells, perhaps like those in Figure 4, the student can experiment with how the rhythms

can fit within the framework of their *tala* of choice. Figure 9 below shows a possible rhythmic combination that nests inside *Misra Jati Matya Tala*.

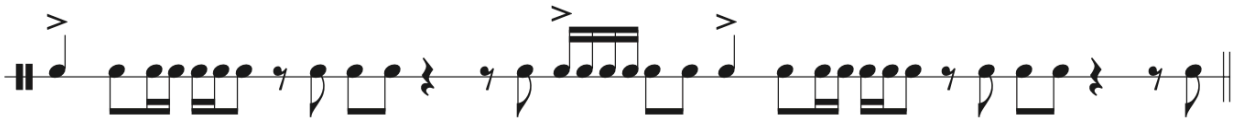


*Figure 9. Possible rhythmic genesis in Misra Jati Matya Tala.*

Note that the accents (represented by upward-facing stems) are essential to highlight this tala's seven-beat, two-beat, and seven-beat nature. The example that Figure 10 below shows takes this a step further by superimposing quarter note triplets into the rhythm. This more advanced rhythm manipulation may suit students who wish to challenge themselves.

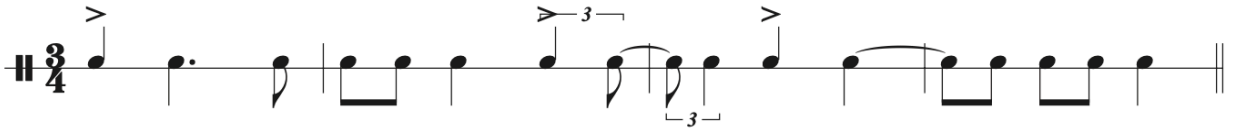



*Figure 10. Possible rhythmic genesis in Khanda Jati Matya Tala.*

Another concept from Indian classical music that fits within the *tala* framework is that of *tihai.* Lipiczky defines the *tihai* as "a pattern of a certain length played three times" wherein "the last beat of the third playing coincides with the first beat of the *tala* (*sam*) or with the beginning of the *gat* [acting] as a kind of rhythmic 'cadential' formula linking the *tan* with the *gat*."[120] Therefore, it is apparent that there are exponentially more *tihai* variations than *tala* variations since the flavor of the *tihai* changes based on the *tala* on which one superimposes it, even if it is the same *tihai* formula over the same number of beats.

This study examines a *tihai* over sixteen beats. Figure 11 shows this *tihai* in its distilled form, with six beat groupings. In this case, the last "beat" of each *tihai* cell lasts two beats.

[120] Thom Lipiczky, "Tihai Formulas and the Fusion of 'Composition' and 'Improvisation' in North Indian Music," *The Musical Quarterly* 71, no. 2 (1985): 159.

Figure 11 below shows this with half notes in its first two instances. Hence, the *sam* – the downbeat – occurs on beat five of the third six-beat grouping. Figure 11 below shows it with a quarter note, but such phenomena vary because of the possible differences in length of the last beat of each rhythmic cell in different *tihais*.

*Figure 11. Expression of a tihai.*

Unlike the *tala*, the *tihai* conclusively ends on the beat instead of being a cycle. Thus, *tihai* and *tala* differ because the *tihai* can function cadentially to specify music sections, whereas the *tala* is a foundational cycle. Figure 12 below presents the same *tihai* beat groupings with a Western time signature to understand better where the beats fall.

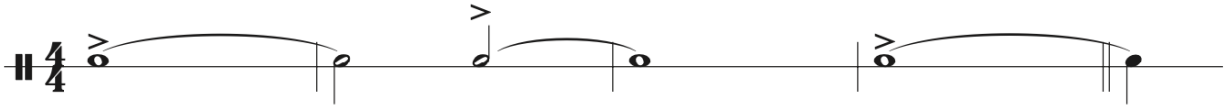


*Figure 12. Tihai with Western time signature.*

The student can use rhythmic cells to populate the internal space of the *tihai* accents, like with the *tala* exercises. The educator can use the same concepts from the *tala* training to lead this attempt. Again, the only difference is the cadential nature of the *tihai* instead of the cyclical nature of the *tala*. Figure 13 below shows the resultant populated *tihai.*

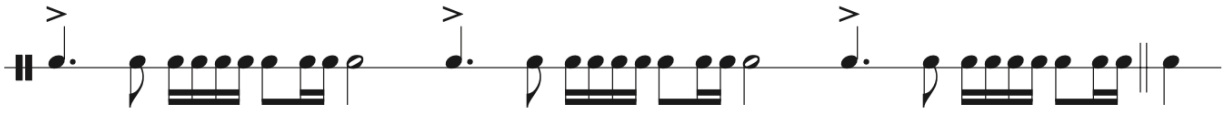


*Figure 13. Tihai with rhythmic genesis.*

Finally, figure 14 below shows the same *tihai* in the framework of a 4/4 time signature to illustrate better the cadential nature of the rhythm working towards the downbeat over four bars of 4/4 time.

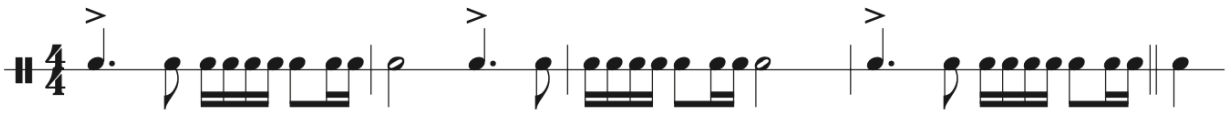


*Figure 14. Tihai with rhythmic genesis with Western time signature.*

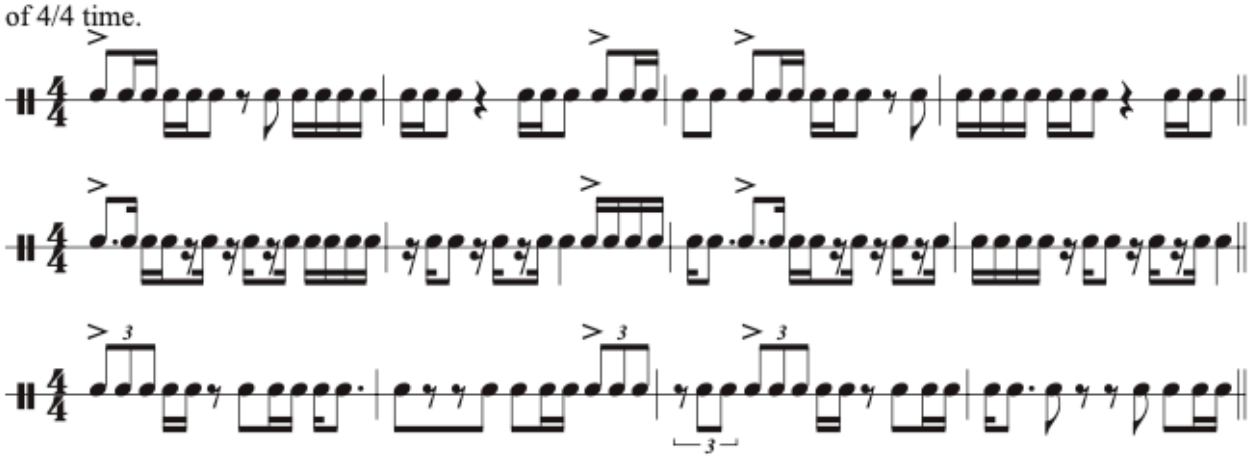
In this case, the *tihai* is in *tintal*, a *tala* sixteen beats long comprising four strong groupings of four beats. In essence, *tintal* is analogous to the Western 4/4, so the Western time signature aligns with the original rhythmic intention of the *tihai*.

Including these concepts in an aural skills acquisition curriculum may encourage students to perceive rhythms against different possibilities of downbeats. Ultimately, this training may help students unlock abilities to feel polyrhythms, play over the bar line, and quickly navigate complex changing time signatures. Moreover, there are still many facets of Indian music that can benefit Western learners, such as Hoffman, Pelto, and White's *takadimi* system, which teaches rhythm skills using Indian *bols* or syllables.[121] There is also a rich melodic Indian music theory that educators may find helpful in augmenting their Western music teaching as well.

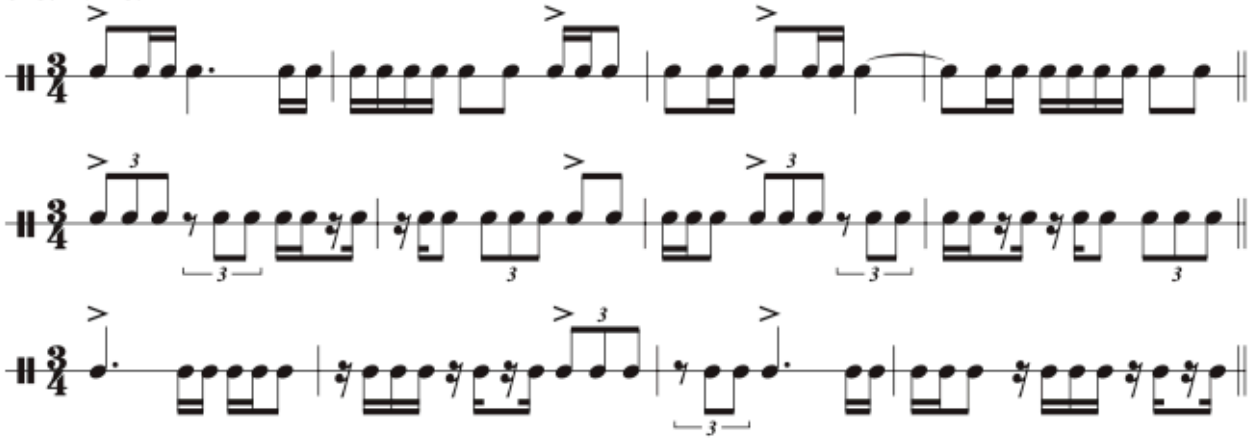
However, these concepts lie beyond the scope of this thesis. Since the study hopes to serve as a gateway and inspiration for other academics to explore various world music aspects related to Western music aural acquisition skills training, there are many concepts that the study will not address at the risk of making this project too unwieldy. In conclusion, Figure 15 below shows an example of how a worksheet might look like, where students can try performing or vocalizing these rhythms.

[121] Richard Hoffman,, William Pelto, and John W. White, "Takadimi: A Beat-Oriented System of Rhythm Pedagogy," *Journal of Music Theory Pedagogy*, vol. 10 (1996): 7 - 30.

The following examples are in a tala with beat groupings of 7-2-7. These are superimposed over 4 bars of 4/4 time.



The following examples are in a tala with beat groupings of 5-2-5. These are superimposed over 4 bars of 3/4 time.



The following examples are of a tihai with beat groupings of 3 times of 6, where in the last beat of the tihai lands on the 5th beat of each of these groups. These are superimposed over 4 bars of 4/4 time so that the sam lands on the downbeat of the imaginary 5th bar (new phrase) of 4/4 time.

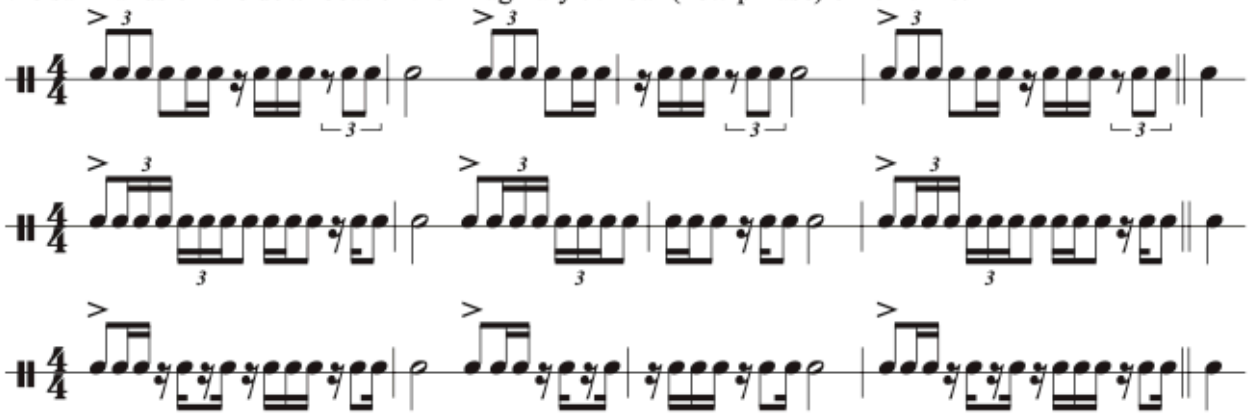


*Figure 15. Sample worksheet for Indian tala segment.*

Hence, it is evident that there are near-limitless combinations of rhythms that can fit into the multitude of *tala* and *tihai*. This segment shows possibilities and endeavors to illuminate how to utilize these concepts alongside an educator or student's creativity and musical tastes.

## Communal Rhythms and Improvisation with African Drumming Concepts

The vast size of the African continent and the resulting heterogeneity of its people may result in African drumming being a vast subject that eludes generalization. Thus, for this study, distillation of its core precepts is mandatory. Perhaps Paulding sums up the central driving force of African music best in the following section:

> One of the single most important instruments in many west African drum ensembles is the bell. Responsible for helping drummers, dancers, and other instrumentalists maintain steady tempo, the unique timbre of the bell articulates the timeline, defined as "a constant point of reference by which the phrase structure of a song as well as the linear metrical organisation of phrases are guided". Closely related to the concept of *clave* in Afro-Latin music, bell patterns provide a window into the musical analysis of west African drumming, offering insight into theoretical topics such as meter, feel, and phrasing. [122]

Hence, the bell pattern is the first element to consider. Figure 16 below shows a typical African bell pattern.

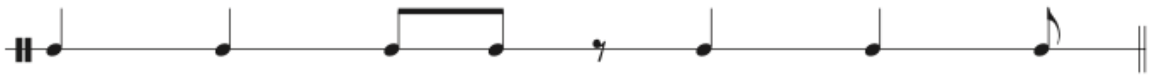


*Figure 16. West African bell pattern, "Ewe" variation.*

Furthermore, this study also examines several descendant concepts of African drumming. Paulding also mentions the concept of *clave* in Afro-Latin music; Figure 17 below presents a refinement of one possible iteration of an inherent *clave* nestled inside the African bell pattern.

[122] Ben Paulding, "Meter, Feel, and Phrasing in West African Bell Patterns: The Example of Asante Kete from Ghana," *African Music : Journal of the International Library of African Music* 10, no. 3 (November 1, 2017): 62.

*Figure 17. Possible distillation of a clave.*

*Clave* does not formally exist in the pure traditional African musical tradition, so the *clave* in Figure 17 above from the African bell pattern is a projection. Nevertheless, although *clave* is a notion of Afro-Latin (or Afro-Cuban) music, it is nonetheless descended from African drumming. Nodal illustrates this point by describing how onlookers would observe the African influence gradually inundating Cuban music in the following section:

> Most of the Cuban orchestras in the nineteenth century played a type of music that revealed a great deal of African influence. It was not uncommon, therefore, to find unfavorable comments in the newspapers of the time about this slow process of the Africanization of Cuban music and dance. In 1836, for example, writer Esteban Pichardo discussed the Cuban counterdance (or contradanza), which was highly fashionable at the time and which was danced as much "in the capital's most solemn ceremonies as in the most indecent changui [a type of popular dance] of the most outlying places on the island." And, he adds, "They [the dancers] perform voluptuously, with all the grace and rhythmic sense that is characteristic of Africans."[123]

Furthermore, in his thesis on "the syntax of 'clave,'" Lehmann notes that *clave* has an intricate relationship with African drumming and its descendants. He observes the following:

> The notion of clave as a structural phenomenon in the organization of primarily the temporal dimension of such music already has also received some attention by academic scholarship in recent years, and in rare cases scholars have extended their analyses to related idioms such as jazz, or point to this notion's historical and structural connections to Caribbean music at large. And while occasional references indicate an awareness of a nexus between features of African music and its New World extensions – in particular concerning the notion of timelines or phrasing referents – Africanist scholars have yet to significantly connect their work to the diaspora in the Americas.[124]

[123] Roberto Nodal, "The Social Evolution of the Afro-Cuban Drum," *The Black Perspective in Music* 11, no. 2 (1983): 158.

[124] Bertram Lehmann, "The Syntax of 'Clave' – Perception and Analysis of Meter in Cuban and African Music," 2002, 11.

In other words, *clave* is metaphorically "a structural phenomenon" in styles that intertwine with African music. Lehmann also states that, where African drumming is concerned, "the sheer diversity of African traditions on the continent and their extensions in the Americas makes familiarity with more than a few unlikely, even among specialists."[125] Consequently, the study's distillation of African drumming concepts is and can only be a product of the plethora of musics of African descent – direct or otherwise – that has thus far molded this researcher's musicianship.

Furthermore, another significant concept in African music that can inform acquiring greater aural sensitivity is the metric ambiguity of the music in this tradition. Temperly observes the following:

> Another pattern which deserves special attention is the "standard pattern" of Ewe drum ensemble music(…). The pattern is hardly a metrically stable one relative to the 12/8 meter normally associated with it, or indeed relative to any other regular meter. In fact, as Pressing has shown, the standard pattern is almost maximally ambiguous, as it samples several different meters (12/8, 6/4, and 3/2) and different phases of those meters almost equally.[126]

Hence, the patterns begin to have differing time signatures from this point onwards. For the grooves with twelve units of time with the Western eighth note triplet as a subdivision of the base unit of time, musicians can perceive them in 12/8, 6/4, or 3/2 time. Beats with sixteen units of time with Western sixteenth notes as the base unit of time's subdivision can be in two bars of 4/4 time, a measure of 4/2 time, or two measures of 2/2 time. As this segment continues, the study will acknowledge the time signature in the present example as one of some possible choices. Ultimately, the goal may be for students to achieve the ability to perceive time in

---

[125] Lehmann, "The Syntax of 'Clave,'" 4.

[126] David Temperley, "Meter and Grouping in African Music: A View from Music Theory," *Ethnomusicology* 44 (December 1, 2000): 81, https://doi.org/10.2307/852655.

multiple meters concurrently such that grooves may cease to be less metrical and more organic, flowing freely and spiraling in cycles.

Another element from Afro-Cuban music that this research distills is that of a kind of "bass" frequency. The *tumbao* is a fundamental pattern played on a bass instrument; Figure 18 below presents two possible refinements of a bass pattern that may resemble the *tumbao*. The rhythms are in 12/8, though they can also be in 6/4 or 3/2.

*Figure 18. Possible bass patterns presented in 12/8.*

These different layers of rhythms are merely a few examples of what the educator can generate while taking inspiration from African drumming concepts. With more options come more opportunities for variation when undertaking rhythmic exercises; in addition to the African bell pattern from before, Figure 19 below presents two more possibilities, this time in 6/4 and 3/2 instead of 12/8., though any of these three options are interchangeable.

*Figure 19. West African bell pattern, "Yoruba" and "Congolese" variations are presented in 6/4 and 3/2, respectively.*

These variations can substitute for the "Ewe" variation in Figure 16 above, and the effect of the bell pattern may still be present. Furthermore, labeling the patterns with different time signatures instills a different sense of meter in Western musicians and can help develop their rhythmic sensitivities. The study posits that these bell patterns are the treble, or "high" part of an African drum groove. Consequently, the "middle" part of the groove can be the *clave* that Figure 17 shows. This focus on having multiple parts – high, middle, and low – is characteristic of West African drumming, and its potential for evolution can be immense, as evident from the complexity of its descendant Afro-Cuban or Afro-Latin grooves.

Students can construct African drum grooves in three layers with all these syntaxes in place and understood. By assigning each layer to a student and then performing it together as a group, the students may experience the cyclical nature of African drumming. Figures 20 and 21 below show two possible examples of communal grooves that educators or students may synthesize using concepts from African drumming.

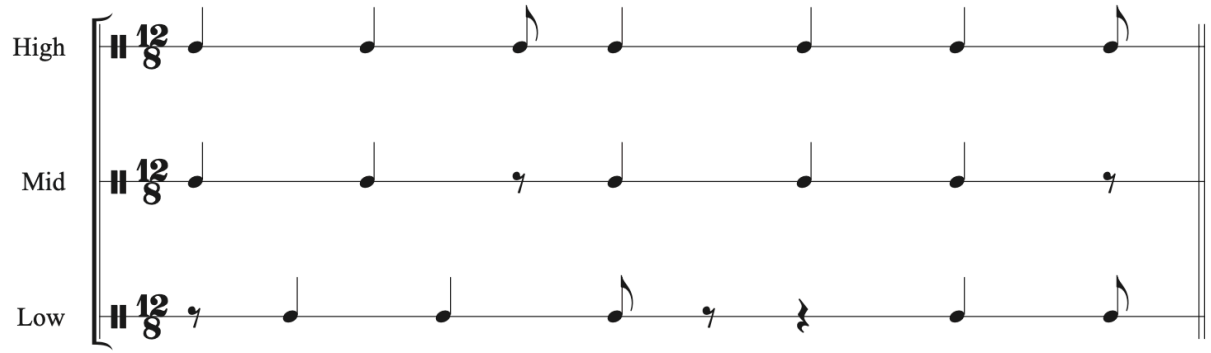



*Figure 20. Synthesized African-inspired groove in 12/8.*

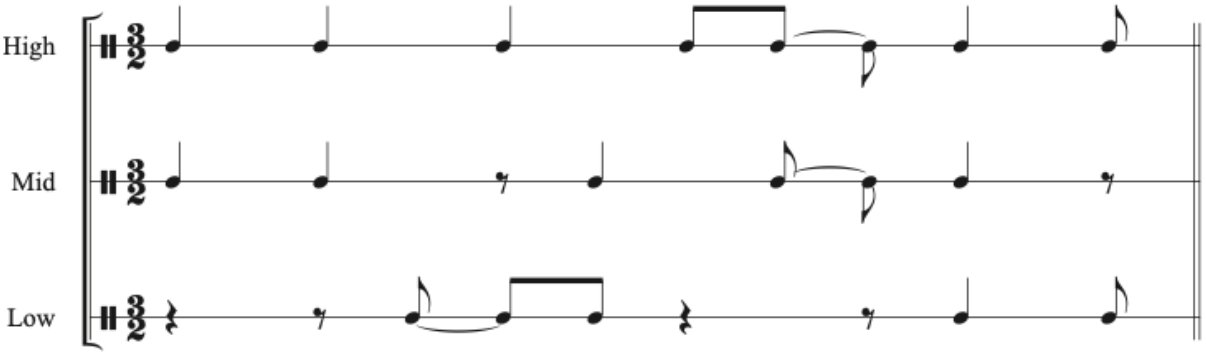



*Figure 21. Synthesized African-inspired groove in 3/2.*

Of course, since the study reverse-engineered the *clave* into 12/8 – or 6/4, or 3/2 – through Afro-Cuban music that descended from African music, it can also take the patterns in Afro-Cuban music that are in 4/4, 4/2, or 2/2 for even more variations. Figure 22 below identifies a forward-engineered 12/8 bell pattern into 4/4 time.

*Figure 22. Possible distillation of a 12/8 bell pattern in 4/4 time.*

Figure 23 below shows a typical Afro-Cuban pattern with sixteenth-note subdivisions, the *cascara*. This iteration can also be an option for a synthetic groove's "high" part, which is in one measure of 4/2 time.

*Figure 23. Cascara bell pattern in one measure of 4/2 time*

For the "middle" frequency of the synthetic 4/4 grooves, simply using the *son* and *rumba clave* patterns may be the best option for staying true to the notion of African drumming concepts inspiring the exercise. Figure 24 below presents these two *clave* patterns in 2-3 form and 4/4 time.

*Figure 24. Son and Rumba 2-3 clave in 4/4 time.*

Teachers and students can also reverse these *clave* patterns such that the first and second bars switch position, resulting in the 3-2 pattern Figure 25 below shows, this time in 2/2 time.

*Figure 25. Son and Rumba 3-2 clave in 2/2 time*

Finally, the *tumbao* bass can exist in its original form here in 4/4 time, as seen in Figure 26 below, which also showcases another bass pattern possibility.

*Figure 26. Timba and Tumbao bass in 4/4 time*

Standard practice in Afro-Cuban rhythms dictates that when the *clave* swaps, so do the bell and bass patterns. Nonetheless, the educator and student can still find many possibilities in

combining these elements to create synthetic African-inspired grooves; Figures 27 and 28 below present two such prospects, one in 4/4 and the other in 4/2.

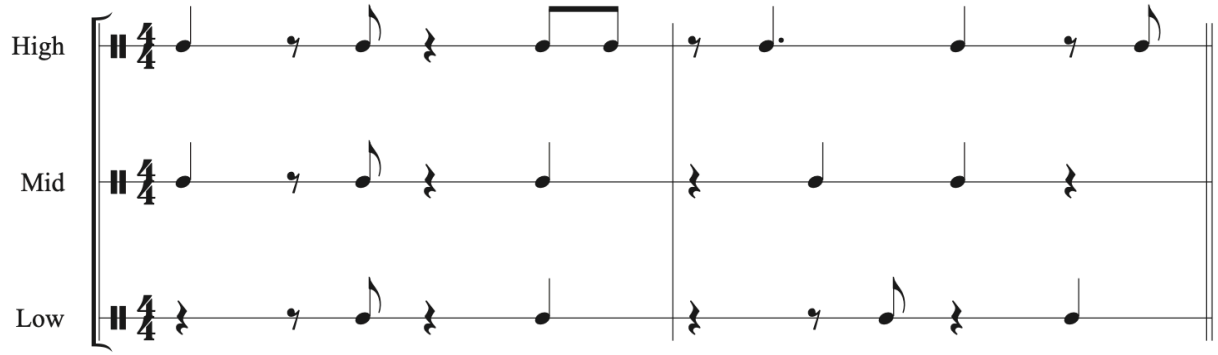



*Figure 27. Synthesized African-inspired groove in 4/4.*

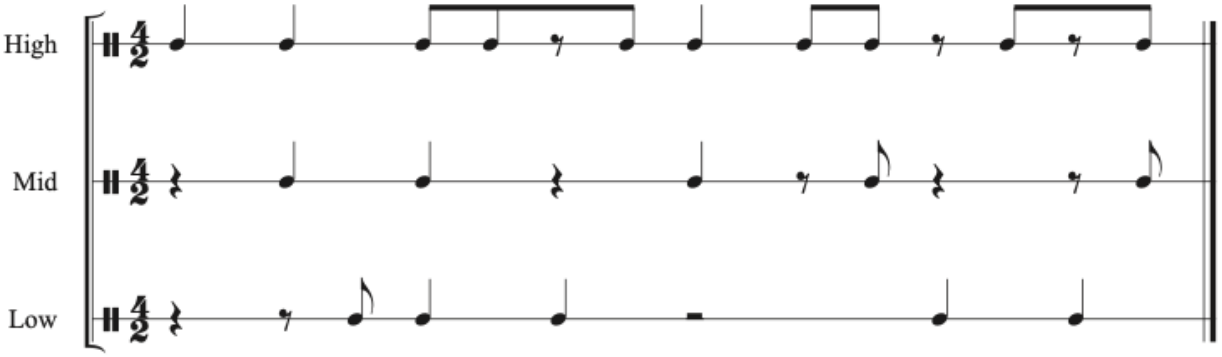



*Figure 28. Synthesized African-inspired groove in 4/2.*

Finally, to take it a step further into internalizing the cyclical nature of these grooves, students can take turns layering rhythmic exercises or etudes over the grooves. Some students, such as those of a jazz background, may improvise over the grooves. Below, Figures 29 and 30 show possible rhythmic exercises to superimpose over the groove in 4/4 and 12/8, respectively.

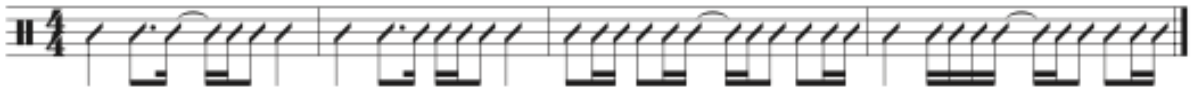


*Figure 29. 4/4 rhythmic exercise.*

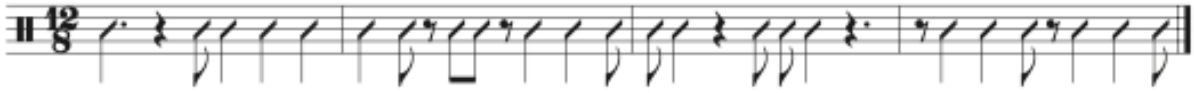


*Figure 30. 12/8 rhythmic exercise.*

Figures 29 and 30 above exemplify what a student might read or improvise when performing rhythms over the grooves.

In closing, the study presents a sample worksheet with instructions addressing grooving in 12/8, 6/4, or 3/2 times. Students rely on internalization and improvisation to use African drumming concepts to strengthen aural skills. Therefore, the following exercises in Figures 31 and 32 below leave much rhythmic genesis to the student, per its instructions.

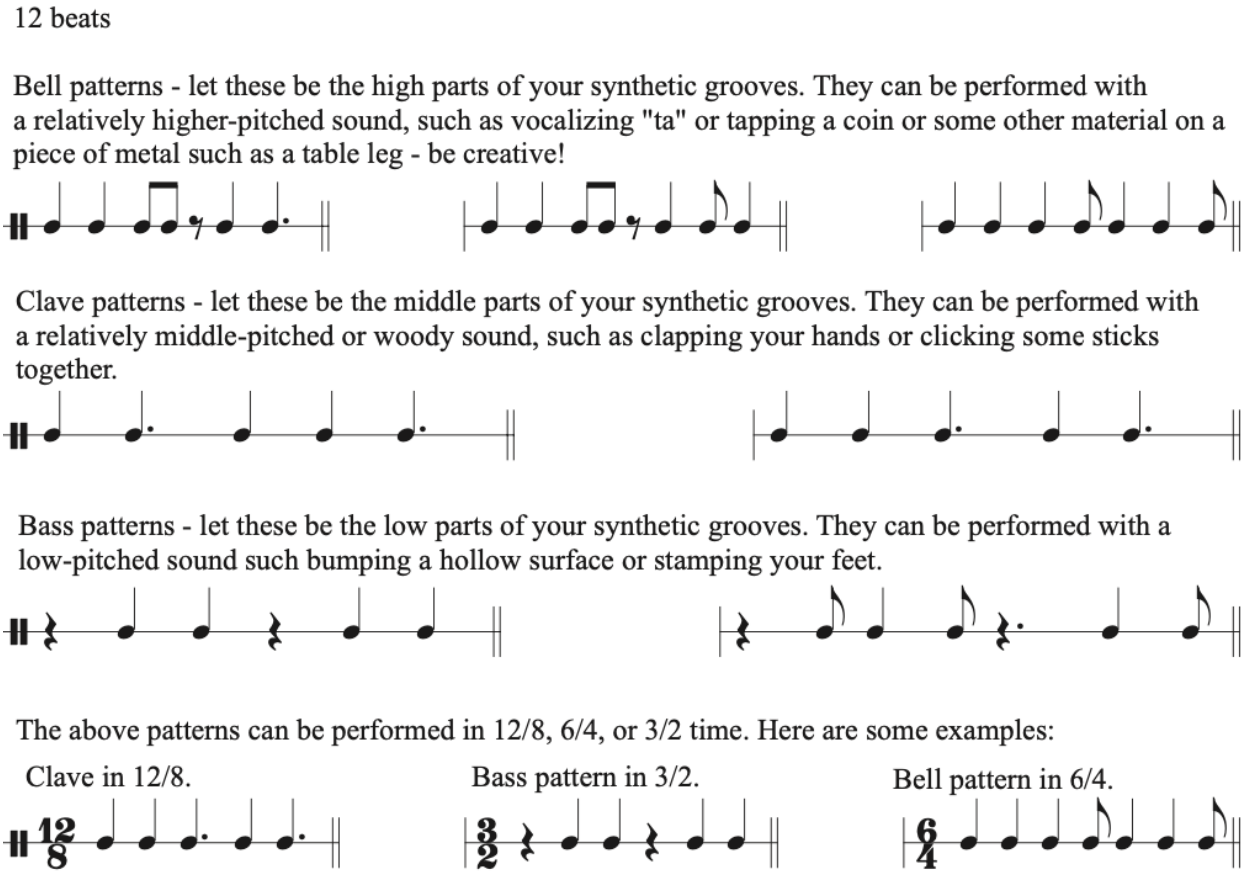
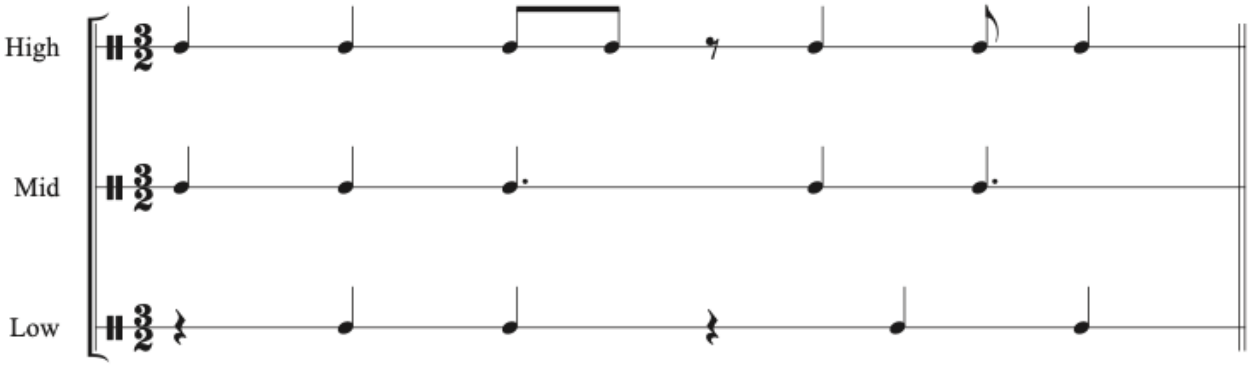



*Figure 31. Sample worksheet for African drumming segment, part 1.*

Here is an example using the second bell pattern, the first clave pattern, and the first bass pattern.

Practice playing through this as a class, with one third of the class taking each section and following the instructions regarding choosing appropriate timbres for high, medium, and low sounds.

This example is in 3/2, but try writing it out in 6/4 or 12/8 as well and note how the different underlying pulses make you feel!




Using the above example as a guide, make up your own synthetic grooves, remembering to use the different time signatures as a base.

Following steps:

1) Perform them for a minute or two, letting yourselves free into the trance-like rhythms.

2) Take turns improvising over them. Choose one person to improvise over the patterns - you can use drum sticks, an instrument if the student has it with them, a piano in the room, or anything else you can think of. Be creative!

*Figure 32. Sample worksheet for African drumming segment, part 2.*

Thus, teachers and students can combine the permutations in this chapter segment to create many variations, thus utilizing African drumming concepts to improve their rhythmic perception.

## Results: Melodic Integrations

### Intervallic Ear Training with Arabic *Maqam*

The dominant tuning system utilized in Arabic *maqam* has undergone such evolution throughout the times that its current complexity is a far cry from its predecessors. According to Danielson et al., the involvement of the global music community inevitably causes changes in the perception of Arabic *maqam*:

> The second half of the twentieth century saw a rise in institutionalized music education throughout much of the Arab Middle East. As discussed above, in the music theory taught at these institutions each maqām is presented as a specific scale, which is then analyzed in terms of tonic pitch and intervallic and tetrachordal structure. Students are not explicitly taught about nontempered tunings, accidentals, or specific paths for the melodic unfolding of each maqām.[127]

In other words, world music tuning systems are vast, and no global standard exists. However, pedagogical pursuits necessitate the simplification of such systems. Indeed, the results approximate all pitch information for this study to 12-tone equal temperament since it is the most widespread tuning system in Western academia.

Furthermore, since microtones exist in *maqam*, the study further divides 12-tone equal temperament into 24-tone equal temperament to accommodate these additional tones. With these considerations, the modern Arabic tonal system is mainly similar to the Western one, except for the third and seventh degrees of the scale. These degrees sound between the major and minor intervals of 12-tone equal temperament. Therefore, considering the 24-tone equal temperament tuning, the examples in this study represent these tones as the exact midpoint between the major and minor intervals, rendering them exact quartertones. Figure 33 below displays the quarter flat symbol present throughout this segment.

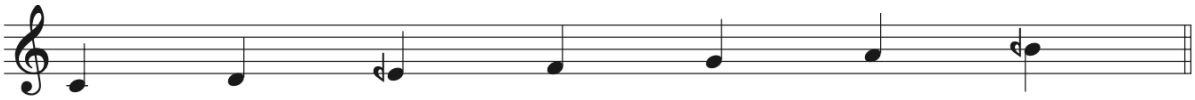


*Figure 33. Simplified Arabic tonal system.*

Hence, the educator finds new interval possibilities with these two new pitches. Figure 34 below shows the intervals of a second.

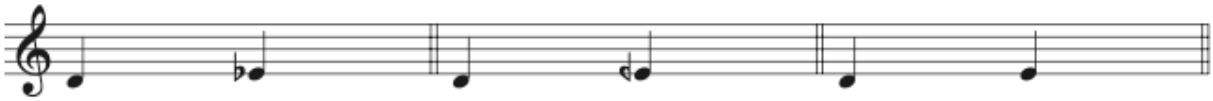


*Figure 34. Minor 2nd, neutral 2nd, and major 2nd.*

[127] *Garland Encyclopedia of World Music Volume 6*, edited by Danielson et al., 72.

In the case of intervals that can be minor or major, such as the seconds, thirds, sixths, and sevenths, as well as their compound variations, the intermediary pitch results in the formation of a neutral interval. Hence, the neutral second is a genesis of the second to third, third to fourth, sixth to seventh, or seventh to eighth (octave) degrees of the Arabic tonal system shown in Figure 33 above.

Figure 34 above shows the seconds between the second and third degrees of the tonal center. For clarity, this study shows all these structures with middle C as the tonal center, but starting an interval, scale, or any other pattern from any pitch is possible. Below, Figures 35, 36, and 37 display the possible third, sixth, and seventh intervals.

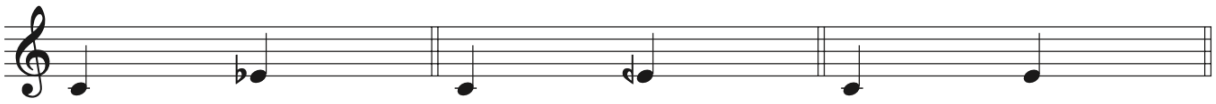


*Figure 35. Minor 3rd, neutral 3rd, and major 3rd.*

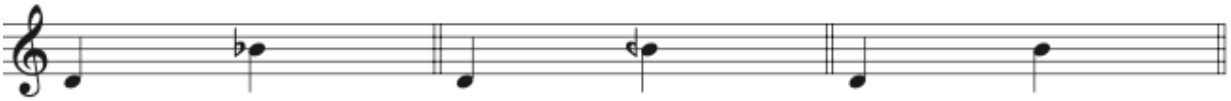


*Figure 36. Minor 6th, neutral 6th, and major 6th.*

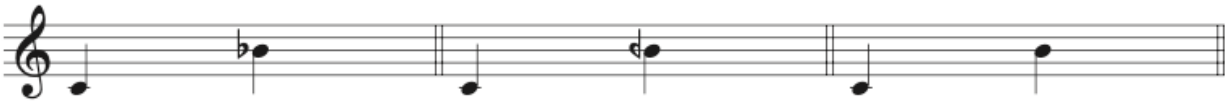


*Figure 37. Minor 7th, neutral 7th, and major 7th.*

Scholars can derive these three resultant neutral intervals from the Arabic tonal system in the same manner as the second interval: the neutral third manifests from the first to third, third to fifth, fifth to seventh, or seventh to ninth (compound second) degrees. The neutral sixth comes about from the second to seventh, third to eight (compound first), fifth to tenth (compound third), and seventh to twelfth (compound fifth) degrees. Finally, the neutral seventh transpires through the first to seventh, third to ninth (compound second), fourth to tenth (compound third), and seventh to thirteenth (compound sixth) intervals.

Besides neutral intervals, the Arabic tonal system can also yield intermediary intervals between perfect intervals: the major fourth and the minor fifth. Figure 38 below illustrates these intervals alongside the more conventional perfect fourth, tritone, and perfect fifth intervals.

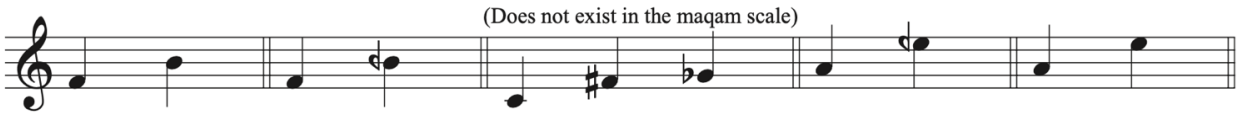



*Figure 38. Perfect 4th, major 4th, tritone, minor 5th, perfect 5th.*

The major fourth results from the third to sixth and fourth to seventh degrees, while the minor fifth comes from the sixth to tenth (compound third) and seventh to eleventh (compound fourth) degrees of the Arabic tonal system.

The application can begin after digesting all this theory. Because Western music students (and teachers) usually do not use the notes in the middle of semitones, acclimatization must first occur. To avoid hearing these microtonal intervals as out of tune, practitioners must undergo exercises that allow the ear to adapt to these flavors. A straightforward approach is to play the intervals next to each other. For example, the teacher can play the three intervals of a third, the minor, neutral, and major third, starting from the same root, then change the order until the listener becomes more comfortable with identifying the differences.

Of course, many Western instruments cannot play quarter tones. Hence, educators must be creative with their methods of delivery. If they happen to play an instrument that can consistently produce quartertones, such as the violin, or by utilizing a slide on the guitar, then the teacher can simply perform the intervals on that instrument. Otherwise, educators must use digital means to produce the sound. With the appropriate technical know-how, it is possible to generate tones of any frequency using DAW (Digital Audio Workstation) software, and educators can use a variety of free or premium software to achieve this. Alternatively, if the Arabic segment of an undergraduate aural skills acquisition syllabus becomes a permanent

fixture, then syllabus planners can provide audio tracks to teachers as part of the package that the curriculum entails.

Hence, the teacher can begin delivering the intervallic training with these methods. After students are comfortable with hearing intervals, in this case, the major, minor, and neutral third, juxtaposed against each other, the teacher can start changing the root, thus resetting the tonal center for every new iteration. Finally, the teacher can change the range drastically, going from bass to high treble frequencies to confuse – but really, attune – the student's ears. The same can happen for the second, sixth, and seventh intervals.

However, it is essential to note that many of these intervals may not be relevant out of the *maqam* tonal context. Hence, especially for the intervals that begin to get rather large and do not start from the tonal center, which is C in the example, the teacher can deliver the intervallic ear training with a tonal center C drone. This behavior is crucial for the fourth and fifth intervals, which may feel more unfamiliar than the scalar seconds or the chord-suggesting thirds and sixths. With a tonal center drone, the teacher may deliver fourth and fifth intervals together because of their proximity and considering how the tritone has equal resolution tendencies towards either side. If students find it challenging to hear the major fourths or minor fifths, teachers can deliver the exercises with perfect fourths, major fourths, and tritones in one group, while tritones, minor fifths, and perfect fifths make up the other, all with the C drone contextualizing the exercises.

After that, the teachers can invite students to apply these concepts to more musical contexts. For example, the added complexity of quartertones allows for many permutations of synthetic tonal systems. A good starting point may be replacing the flat third or seventh in the usual major modes, as Figures 38 and 39 show below.

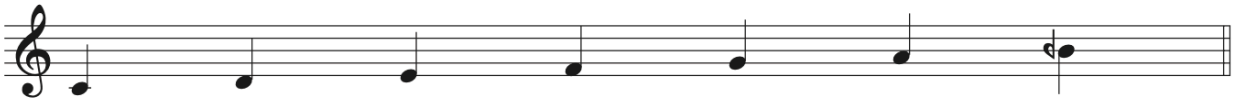


*Figure 39. Ionian neutral seventh.*

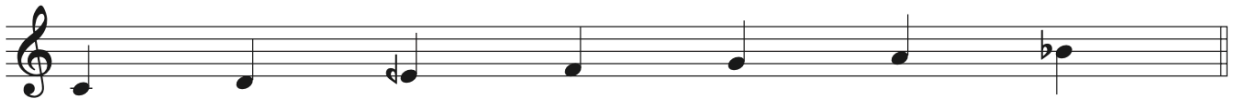


*Figure 40. Mixolydian neutral third.*

More complex examples can even manifest through practitioners' creative applications. For example, a supermajor second or subminor third interval may exist in the synthetic scale that Figure 40 shows below.

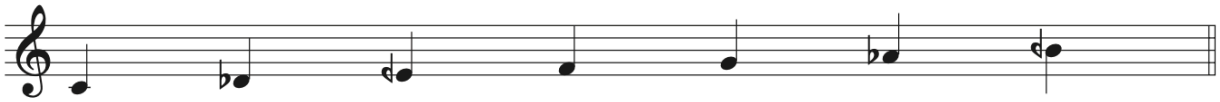


*Figure 41. Synthetic scale with supermajor 2nd or subminor third intervals.*

There is a five-quartertones wide interval between this scale's second and third degrees and sixth and seventh degrees. Depending on the context of the music, this interval may be either a supermajor second or subminor third.

However, upon examining the scales that using *maqam* pitches yields, the educator may discover a problem: how to vocalize these syllables. Saxophonist Reno Yeh proposes his method of singing quarter tone pitches on the common Movable Do solfege system, where he proposes that the "uk" vowel represents quarter sharps and the "ək" vowel represents quarter flats, wherein the "uk" syllable sounds like an "uk" and "ək syllable sounds like an "erk," since "the syllables [he chose] are inspired by the phonetic elements of the Italian language and its dialects, the Taiwanese Zhuyin phonetic system for Mandarin Chinese, and the International Phonetic Alphabet (IPA)."[128] While thorough, Yeh's construction of this system is an amateur attempt at

[128] "Yehnian Solfège," Reno's Music Notes, last modified July 18, 2024, https://renoyeh.wixsite.com/notes/post/yehnian-solfège-solfeggio-yehniano-葉氏唱名.

creating a methodology since he is, in his words, "neither a professional theorist nor a pedagogist."[129] Hence, his procedure may serve as an inspiration for academics to create a more congruent and widespread system in the future, but in the meantime, this researcher recommends to vocalize the *maqam* tonal system as follows: do, re, mək, fa, sol, la, and tək. In any case, to implement these *maqam*-inspired exercises into undergraduate aural skills acquisition training, educators may choose a system to help the students sing and thus identify intervals.

The educator must recognize the potential for creative aural exercises in the genesis of these synthetic scales using Arabic *maqam* tonal theories. For example, teachers can challenge students to identify the differences between the synthetic modes and scales that students are more familiar with, like the major modes. The educator can achieve this by utilizing hearing examples and dictation, juxtaposing synthetic modes against modes that students are more familiar with, and challenging the listeners to identify the differences. Hence, it is evident that it may prove more valuable for exercises in quarter tonal hearing to hark back to creative musicianship; teachers may not necessarily need to test students on the absolute pitches but instead offer more open-ended assignments such as composing in synthetic modes or even describing the cognitive or emotional effects of hearing such sounds that do not exist in traditional Western classical music.

It is now time to put the theorizing in this segment into practice. Figures 42, 43, and 44 below represent segments of a sample worksheet detailing how an educator can use the *maqam* tonal system to deliver exercises.

[129] "Yehnian Solfège."

Sing the maqam scale, stopping and pausing on the third and seventh degrees to internalize the pitch. The teacher plays along with either an instrument capable of producing quarter flats (such as a synthesizer or violin) or will use a pre-generated audio track.

Use the movable Do syllables, substituting the third degree with mək and the seventh degree with tək (pronounced "erk"). Against the tonic, the third and seventh degree produce a neutral third and neutral seventh respectively.

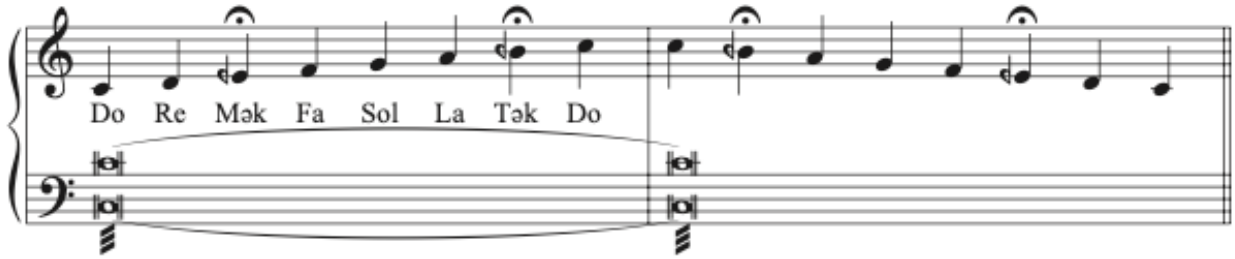



*Figure 42. Sample worksheet for Arabic maqam segment, part 1.*

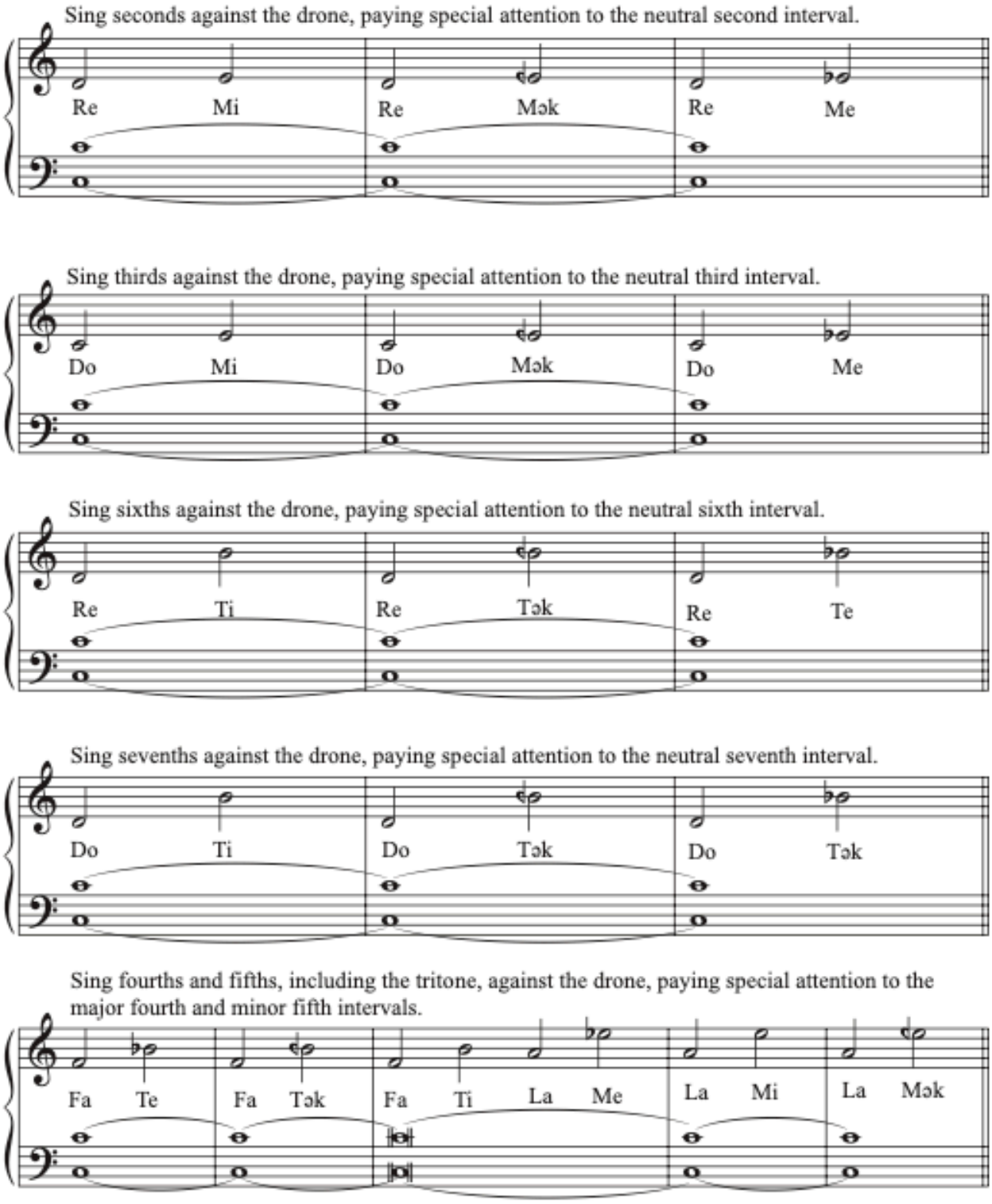



*Figure 43. Sample worksheet for Arabic maqam segment, part 2.*

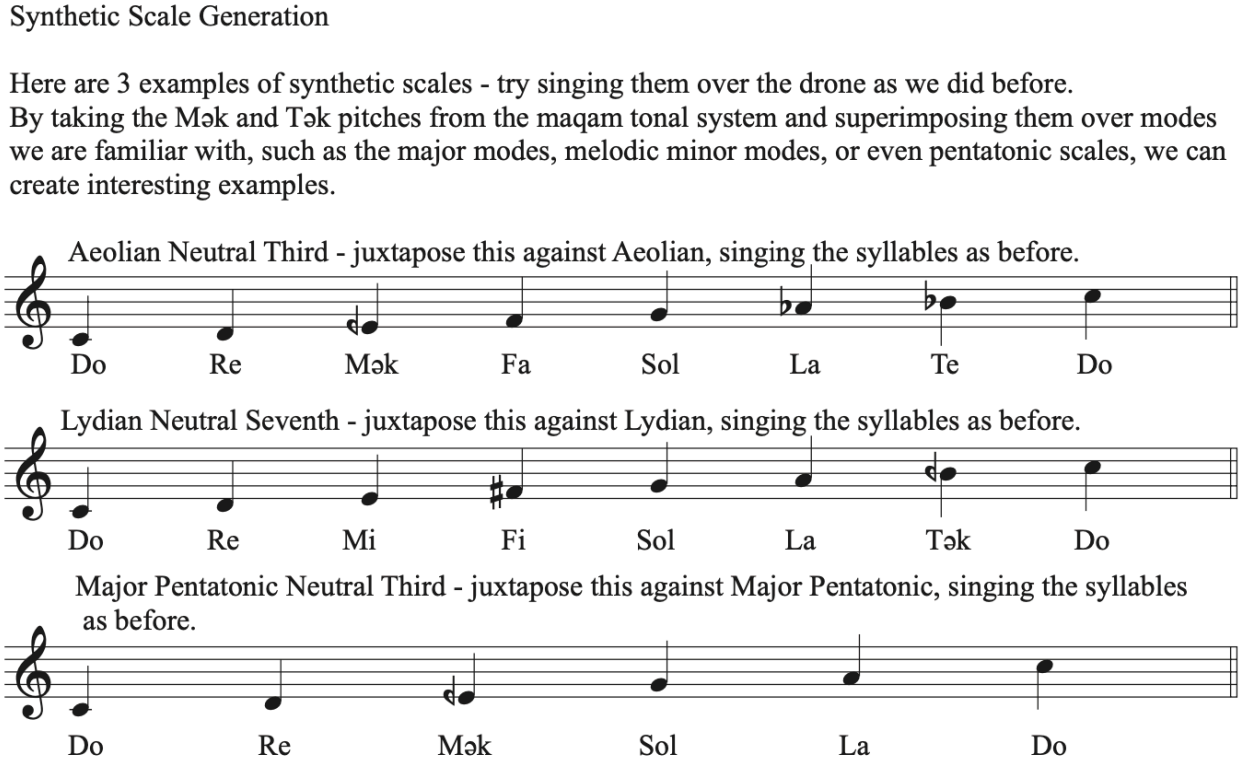



*Figure 44. Sample worksheet for Arabic maqam segment, part 3.*

Hence, it is evident that it may prove more valuable for exercises in quarter tonal hearing to hark back to creative musicianship; teachers may not necessarily need to test students on the absolute pitches but instead offer more open-ended assignments such as composing in synthetic modes or even describing the cognitive or emotional effects of hearing such sounds that do not exist in traditional Western classical music.

## Japanese *Gagaku*: Recognizing Tetrachordal Cells and Mode Creation

Japanese *gagaku* has a rich and varied history, with scholars describing some branches of this music as prestigious while others were "less aristocratic."[130] As a result, these labels may have influenced many academics, causing their theories on *gagaku* to be inconsistent and esoteric. Koizumi and Nogawa observe the following:

> Like theory in general, the sophistication (and even the existence) of modal theories varied from genre to genre before the Meizi period. In prestigious genres associated with the court, for example, scholars developed highly elaborate theories that were codified and transmitted in written form over the centuries. In other less aristocratic genres, however, performers devoted little attention to theoretical writings, preferring instead informal verbalization rooted in contemporaneous performing practice.[131]

Furthermore, some archaic theories would even forgo music theory, instead taking inspiration from the natural or spiritual realm; one such early theory had "cosmological associations."[132] Therefore, finding a unifying theory regarding the tuning, tonal/modal tendencies, rhythm, and other aspects of *gagaku* can be challenging. This study takes inspiration from Koizumi's contemporary theory of taking "the fourth as a unit of melodic analysis."[133] Indeed, it appears that Koizumi's tetrachordal theory has stood the test of time:

> Koizumi's tetrachordal theory, now widely accepted by Japanese scholars, has formed the basis of many subsequent modal theories. For example, analyzing the folk songs of southern Japan, Kakinoki Gorô isolates units spanning a third and fifth in addition to the original tetrachord (Kakinoki 1982). Sibata Minao also developed Koizumi's theory of tetrachords, emphasizing the dynamic scalar nature of constituent tones.[134]

---

[130] Koizumi and Nogawa, *Theory and Notation in Japan*, 601.

[131] Ibid.

[132] Ibid.

[133] Ibid., 605.

[134] Ibid.

Koizumi's theory of tetrachordal cells in fourths holds much merit because they predict or explain the formation of *gagaku* scales and melodies. Hence, this theory can be the basis for constructing aural exercises that may benefit the undergraduate aural student.

Koizumi's theory posits that tetrachords of fourths build the music in *gagaku*. These tetrachords contain three notes each and are historically accurate to Japanese music, being traceable back to early *gagaku*. Figure 45 below shows the four tetrachords.

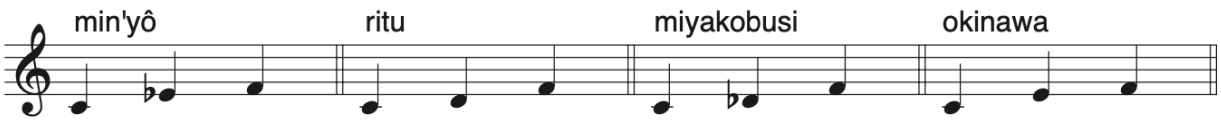



*Figure 45. Koizumi's four foundational tetrachords.*

The tetrachords of *min'yô*, *ritu*, *miyakobusi*, and *okinawa* are all bound in a perfect fourth, with the middle interval being, from the root, a minor third, major second, minor second, and major third interval, respectively. Students and educators may be less familiar with these tetrachords since they are notably different music units from intervals, chords, or scales. Despite tetrachords existing in the literature and pedagogy of Western music theory, syllabi usually do not afford them as much foundational weight as intervals and scales. Hence, the study posits that Koizumi's four *gagaku* tetrachords can be a practical starting point for the music student to start recognizing cells of music larger than intervals but smaller than scales. The educator can present these tetrachords in the same way one might teach intervals: juxtapose them against each other, first with the same root (tonal center), then with different roots.

However, it is vital to recall that Koizumi's tetrachords are not melodies but building blocks of scales and melodies found in *gagaku* music. A practitioner may create scales that reflect the gagaku idiom by linking the tetrachords together in a conjunct or disjunct way. Figure 46 shows this below.

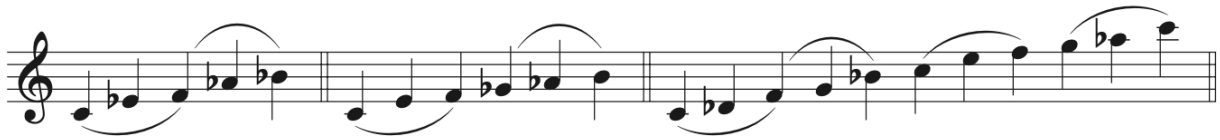


*Figure 46. Conjunct, disjunct, then conjunct, and disjunct iterations of gagaku melodic fragments.*

By utilizing these theories, it is evident that practitioners can create varying types of scales. The first scale in Figure 46 above is pentatonic, and to draw a parallel with Western music, it is the third mode of the major pentatonic scale. The second scale is hexatonic, somewhat resembling an augmented or whole-tone scale, with its steps in seconds and leaps in thirds. The third one has intriguing properties: by combining the conjunct, where the first note of the next tetrachord is the last note of the previous tetrachord, and disjunct, where the next tetrachord starts on a note that is a relatively small interval above the last note of the previous tetrachord, practitioners can discover results such as a multi-octave scale. In this case, the scale is a pentatonic scale in both octaves, making it a ten-note compound scale, but there are other possible variations that the study shows later.

The musical decisions made possible by *gagaku* properties may be worth exploring, and teachers can encourage students to use these concepts to construct their own scales. Like the previous example in the *maqam* segment, such exercises can appeal more to creativity instead of technicality, with possible assignments being compositions and other melodic geneses. For example, teachers can encourage students to generate their synthetic scales by combining different *gagaku* tetrachords. Further work is possible with the resultant scales, such as writing modally in that scale by generating melodic cells and then using compositional techniques like canon or retrograde to create melodies or investigating the chords that result from the collection of those pitches. The study presents further examples at the end of the section.

Since *gagaku* scales, in the distillation in this study, do not utilize quarter tones as the *maqam* does, Movable Do solfege is sufficient in singing the resultant scales and melodies. It is especially crucial to use the correct syllable for the sharp or flat present in the scale to preserve the intention of the altered note. For example, even though C, D-sharp, and G may sound like a minor third, singing the pitches as Do, Ri, and Sol cements the sound of the augmented second instead of the minor third in students' ears. Using the Fixed Do solfege system may not be as effective since practitioners sing the sharp and flat alterations with the same syllable, and the educator's goal must be to encourage students' ears and minds to associate the syllables with the pitch. Also, because the concern is primarily with hearing different modalities and their distinct flavors, the tonal center drone must sound like it does in the *maqam* exercises.

Furthermore, one can find inspiration to create even more musical ideas through *gagaku* concepts. With the tetrachordal notion as a foundation, it is possible to create more tetrachords but with different encircling intervals. Figure 47 below shows tetrachordal possibilities with an outer shell of a major third, and Figure 48 shows the same below, but with the interval of a perfect fifth as the shell.

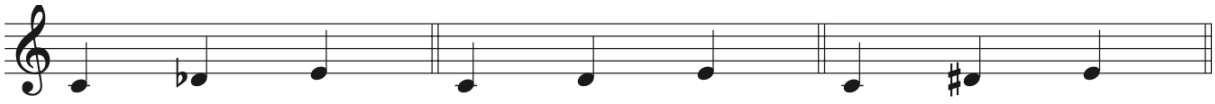


*Figure 47. Possibilities of tetrachords with a major third outer shell.*

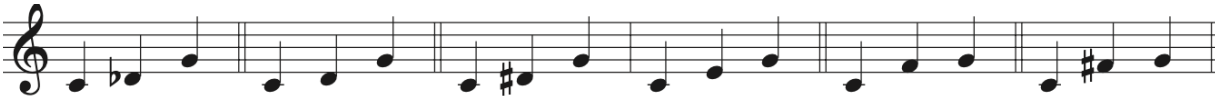


*Figure 48. Possibilities of tetrachords with a perfect fifth outer shell.*

With the major third shell, there exists three possibilities: an intermediary minor second, major second, or augmented second. The perfect fifth shell yields six possibilities: the minor second, major second, augmented second/minor third, major third, perfect fourth, and augmented fourth.

Using the same ideas of conjunct, disjunct, and both conjunct and disjunct, the student can find many ways to piece together synthetic scales. Figure 49 below shows some conjunct and disjunct examples utilizing the major third shell, and Figure 50 below shows the same using the perfect fifth shell.

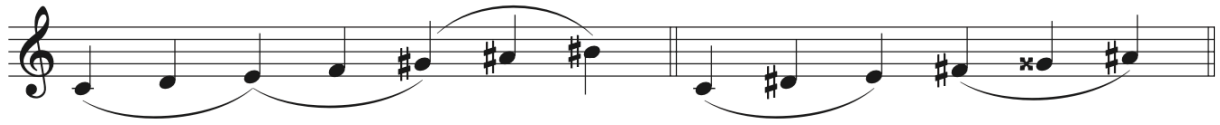
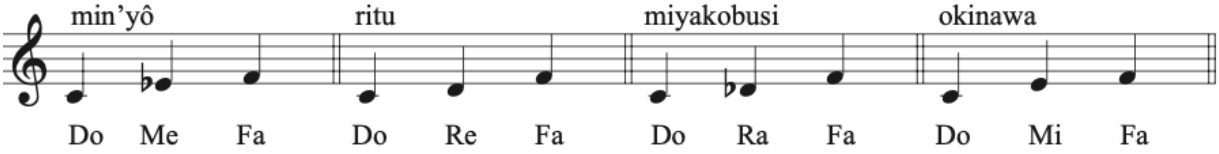


*Figure 49. Conjunct and disjunct examples using the major third shell.*

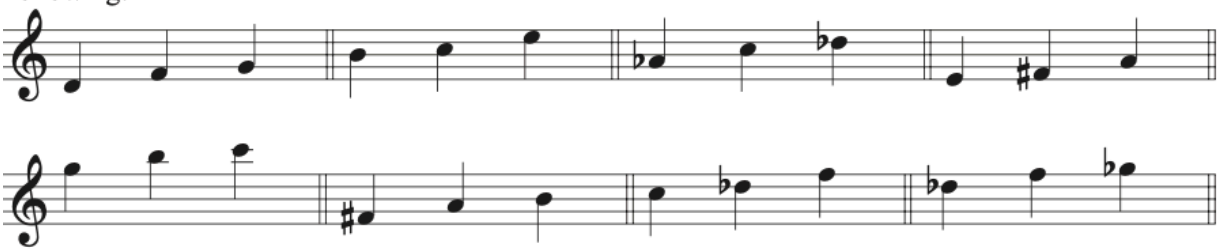
*Figure 50. Combined conjunct and disjunct multi-octave example using the perfect fifth shell.*

Educators can encourage students to use these cells to create synthetic modes and compositions, framing them in the context of assignments. The same way the traditional *gagaku* tetrachords can generate material also applies to these synthetic tetrachords with different outer interval shells. Additionally, students may even experiment with matching shells of different outer intervals and can thus glean much knowledge and aural material to challenge their ears, effectively utilizing the concepts present in *gagaku* to augment their own aural skills training. This section concludes with a sample worksheet, providing examples that put into practice some of the ideas it presents. Figures 51 and 52 below show this.

Consider these 4 gagaku tetrachords - we will practice singing them with movable do solfege.
These tetrachords have an outer shell of a perfect 4th.



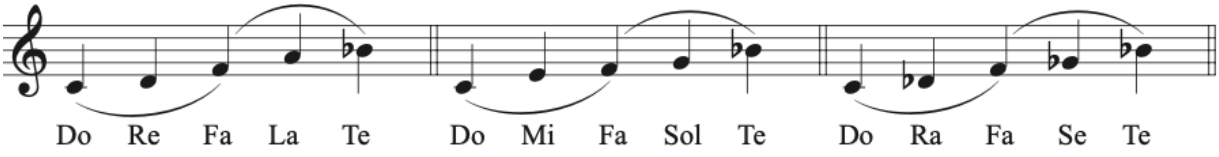

Dictation: the four tetrachords will now be jumbled up and the student must identify whether the tetrachord is min'yô, ritu, miyakobusi, or okinawa. The roots will change. The teacher plays the following:



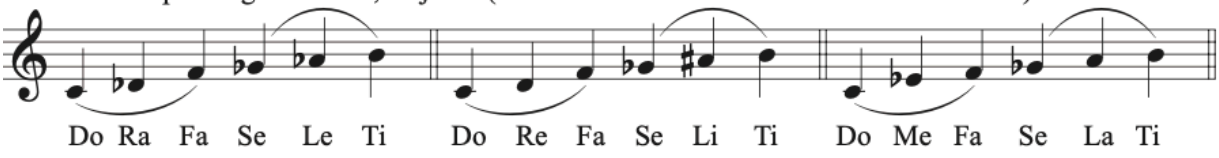
We can now practice creating synthetic scales using the tetrachords. Note that the tetrachords can be conjunct (where the last note of the first tetrachord is the same note as the root of the next tetrachord), disjunct (where the first note of the next tetrachord is a half step or step above the previous tetrachord's last note), or a combination of both.

Here are some examples:

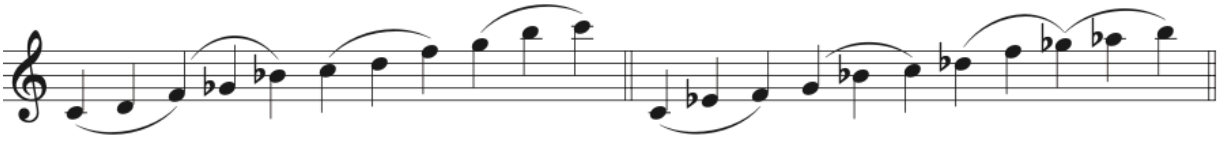
Tetrachords spanning an octave, conjunct (octave not included in the tetrachords - pentatonic)




Tetrachords spanning an octave, disjunct (octave included in the tetrachords - hexatonic)




Tetrachords spanning more than an octave, using both conjunct and disjunct - many possibilities!



Multi-octave penta-pentatonic scale
(5 notes in first octave, 5 notes in second)

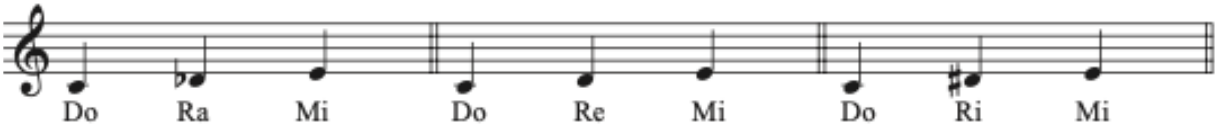
Multi-octave penta-hexatonic scale
(5 notes in first octave, six notes in second)

Assignment: create your own synthetic scales and present them in class with Movable Do solfege.

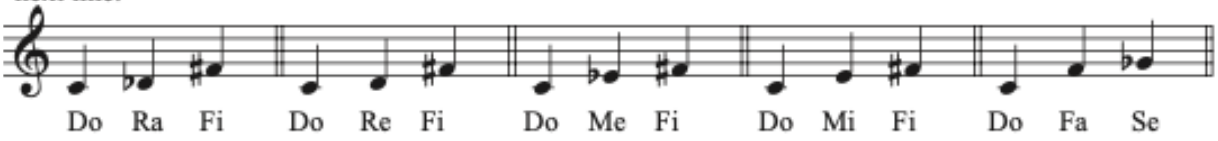
*Figure 51. Sample worksheet for Japanese gagaku segment, part 1.*

Using the foundational concepts before, let's create tetrachords with outer shells that are not a perfect 4th.

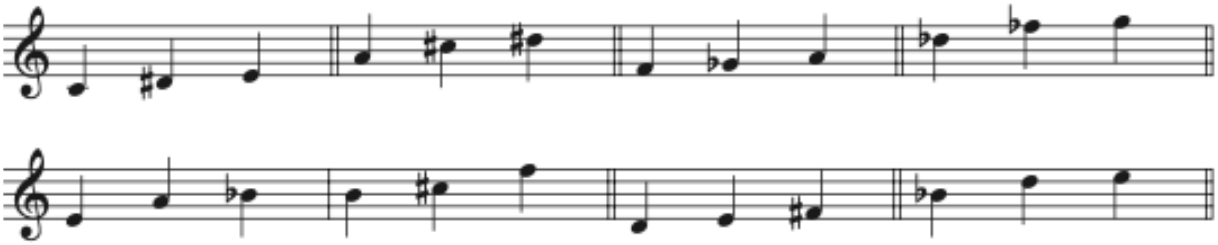
For example, outer shells of a major 3rd:




Or, outer shells of an augmented 4th. Note that we can get creative with the solfege to change our perception of which scale degree the pitch lends on. This is evidenced in the last example on the next line.

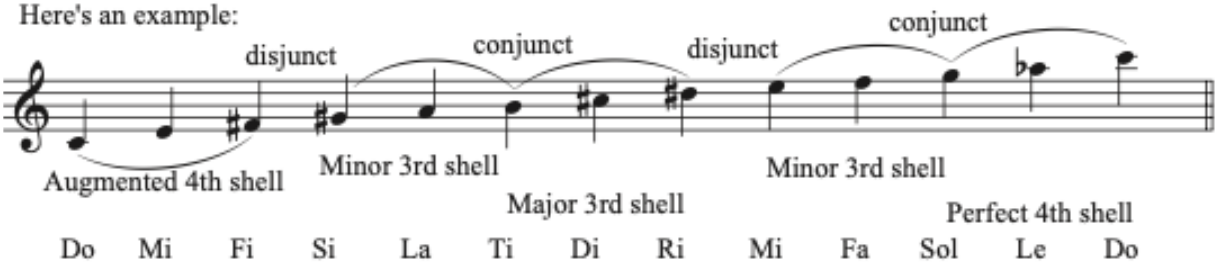



Dictation: we can choose different tetrachords to jumble up. In this example, let's mix shells of a major 3rd and an augmented 4th. Since these tetrachords do not have names, the student shall sing back, in Movable Do solfege, what the teacher plays. There are multiple acceptable answers, for example, Do Ri Se can also be Do Me Fi - the exact syllable can only be determined when the tetrachords are planned and written out in context.



Similarly with the gagaku tetrachords, we will now create synthetic scales with our synthetic tetrachords The possibilities will be vast - get creative! In this exercise, we practiced using major 3rds and augmented 4ths, but the examples can get really intricate if we use other outer shell intervals.

Here's an example:




Assignment: create your own synthetic scales and present them in class with Movable Do solfege.

*Figure 52. Sample worksheet for Japanese gagaku segment, part 2.*

It becomes apparent that tetrachordal implementation, whether from *gagaku* directly or inspired by it, can generate abundant material that may challenge the student's Movable Do chromatic solfege. In particular, singing solfege over multi-octave scales is incredibly challenging because the range is extensive. Therefore, it is evident that using *gagaku* concepts in an aural skills acquisition class can strengthen a student's pitching, especially when using solfege to vocalize melodies.

## Summary

Chapter Four of the thesis delves into the practical application of world music concepts to enhance undergraduate aural skills teaching. The chapter briefly explores integrating elements from diverse musical traditions, including Indian *tala*, African drumming, Arabic *maqam*, and Japanese *gagaku*, within the context of Western classical music education. The research results showcase various exercises designed to facilitate aural skills acquisition. These exercises cover rhythmic integrations drawing parallels between Indian *tala* and Western meter, an alternative approach to perceiving rhythm cyclically with African drumming concepts instead of linearly, intervallic ear training utilizing quartertones in Arabic *maqam*, and melodic integrations focusing on tetrachordal cells in Japanese *gagaku* for mode creation. The melodic frameworks in Arabic *maqam* and Japanese *gagaku* also present students with opportunities for compositional endeavors by inspiring the generation of melodic fragments or unorthodox modes.

By contextualizing world music elements into a Western classical framework, the chapter aims to provide educators with innovative tools to broaden students' musical horizons and enhance their aural perception. The presented exercises are a foundation for future projects, encouraging creativity and exploration in developing aural skills.

Moving forward to Chapter Five, the final chapter of this thesis provides a comprehensive summary of the entire project, highlighting the significance of the research findings, addressing the limitations encountered, offering recommendations for future research directions, and presenting the conclusions drawn from the study.

# Chapter Five: Conclusions

## Introduction

It has become more apparent during this study that many elements come into play when attempting to adapt a non-Western resource to a Western point of view. It is possible, for instance, that the Western understanding of a non-Western ideology would never have exact parallels with the original intent. After going through many biographies on American *gamelan* performers, Arms makes some observations on how the Americanization of *gamelan* tuning has led to many Western practitioners becoming persuaded of their unique approaches to *gamelan* tuning:

> In these tuning biographies, this process is revealed as complex, dynamic, and messy. The contrasting attitudes of American gamelan tuners are embedded in these ephemeral sounds. But like the tunings themselves, those attitudes have not been stagnant. The benefit of this methodology lies in its diachronicity, centering tuning as an adaptive and creative process contingent on shifting ideologies and musical needs.[135]

Arms shows that re-examining notions, such as *gamelan* tuning in this instance, may result in a departure from the original goals of the concepts. Despite this, it is indisputable that such innovation gives rise to fresh data and material, which, as a consequence, contributes to the enhancement of worldwide musicianship. In addition, the opposite is also possible, with culture affecting how music is perceived. In their research, Wong et al. found that individuals who spoke Mandarin came across a "potential influence of linguistic experiences on the perception of musical melodies."[136] Indeed, when it comes to reinterpreting non-Western notions, many aspects

---

[135] Jay M. Arms, "Tuning "American Gamelan": Transforming Javanese Gamelan Tunings in North America," *Asian Music* 52, no. 1 (Winter/Spring 2021): 111-2.

[136] Patrick C. M. Wong et al., "Effects of Culture on Musical Pitch Perception," edited by Alexander Borst, *PLoS ONE* 7, no. 4 (April 11, 2012): 7.

come into play, which results in the creation of branches of further study. If the researcher is not cautious, these branches may be a rabbit hole of knowledge.

Hence, this study addresses the research questions and substantiates the hypotheses while remaining realistic regarding what the results can achieve, acknowledging the many layers of implications when applying non-Western concepts to a Western scaffolding. Research question one – how can the perception of rhythm in music cultures outside Western music benefit the rhythmic understanding of undergraduate music students – was answered with the hypothesis: the perception of rhythm in music cultures outside Western music can benefit the rhythmic understanding of undergraduate music students in terms of perceiving subdivisions, groupings, and cycles. The research supports this hypothesis by showing how educators can transplant students' deep understandings of Western rhythmic cells into Indian *tala*-inspired rhythmic groupings to create new rhythmic ideas and perceptions: they may reconcile the uniform Western meter with the odd groupings of *tala* to achieve a middle ground of rhythmic feel, where downbeats coincide and waypoints from either approach ground against and with each as time flows. Also, superimposing the rhythmic cells over different layers of cyclic African grooves gives the rhythms a new flavor that may allow students' rhythmic perceptions to evolve.

Research question two – how can the perception of pitch in music cultures outside Western music help undergraduate music students develop pitch perception – was answered with the hypothesis: the perception of pitch in cultures outside Western music can help undergraduate music students develop sensitivity to pitch in terms of scale degree recognition, tuning, and reproduction. This research addresses this hypothesis by portraying the juxtaposition of intervals generated through non-12-tone equal temperament tunings from Arabic *maqam* alongside the stereotypical major, minor, and perfect intervals in Western music. Furthermore, the genesis of

synthetic scales through melodic fragments inspired by *gagaku* adds further interesting possibilities to students' repertoire of scales and may inspire their aural capabilities to greater heights.

Consequently, it is of the utmost importance to examine the findings of this research in a manner that is as objective as is humanly possible. In this regard, how the study considers applying the resultant principles from world musics to the context of Western music is essential. For instance, even though their interpretation of African music using Western music rules may draw inconsistencies with African musical philosophies (and vice versa), this research eventually decides to interpret through the lens of Western music. The observations of Toussaint, on meter, are as follows:

> The concept of meter has already been used to compare African with Western music. However, as with the concept of rhythm, the music literature offers an abundance of definitions of the term meter. On one end of the conceptual spectrum, meter is defined as a mere pulsation of equally spaced (regular) beats (lacking any hierarchy) that may be sounded or merely felt, and that functions as the railing on which rhythms ride. At this level meter divides the timespan cycle (measure) into a specific number of regular beats such as 3, 4, 5, 6, 7, 8, 9, 12, 16, etc., without placing emphases (accents) on any one beat. At the other end of this spectrum, the regular beats are hierarchically arranged according to their strength within an evenly divisible periodic cycle.[137]

It may be naive to anticipate that the underpinnings of African rhythmic music, though extensive in their own right, are as cerebral as this description suggests. According to Toussaint, it is possible that this meaning is so contentious that it is the one "frequently invoked to contrast African with Western rhythm," but for this study, interpretations such as this one are preferable to more esoteric ones that try to include social aspects of the music.[138]

---

[137] Toussaint, Godfried T., "Quantifying Musical Meter: How Similar Are African and Western Rhythm?" *Analytical Approaches to World Music* 4, no. 2 (November 2015): 3.

[138] Ibid.

Hence, without making any pretenses, this research admits the Western aspect of its nature and that it helps to supplement, more precisely, undergraduate education in the acquisition of Western music aural skills. In light of this, the study presents several methods for utilizing specific world musics to improve the Western perception of pitch and rhythm. The research accords a distillation of the concepts where it is necessary to correlate them with the idiom of Western aural training and a perceived acceptable level at which educators can deliver an undergraduate foundational music curriculum. These findings represent a distillation and synthesis of world music ideas' possibilities for undergraduate aural skills learning.

## Significance

Including music from all over the world in teaching aural skills may significantly enhance students' musical experiences and foster the development of global musicianship. This application not only goes beyond the boundaries of conventional music but also offers insights and benefits that apply to a wide range of musical genres, such as jazz music, classical music, and a variety of specific musical instruments, such as saxophone, violin, and percussion. For example, incorporating African rhythmic exercises into an aural curriculum might assist jazz students in approaching rhythmic manipulation with more dexterity, mainly when playing music that combines jazz with African components.

In *Experimentations with Timelines: Strategies of Rhythmic Complication in Afro-Bahia Jazz*, Diaz finds that the African bell patterns are crucial as "temporal organizers of Afro-Bahian grooves."[139] As a result, incorporating principles of world music into undergraduate education may broaden the student's exposure to various global music styles and enhance their professional

[139] Juan Diego Diaz, "Experimentations with Timelines: Strategies of Rhythmic Complication in Afro-Bahian Jazz," *Analytical Approaches to World Music*, Vol. 6 (2017): 6.

experiences throughout their lives. Notably, Diaz emphasizes the need to normalize world music rather than seeing it as an unusual resource for artists from the West:

> The purpose of this essay has not been to reinforce the stereotype by establishing a correlation between rhythmic complexity and African-derived music, but to highlight how the notion has a real effect on musicians' activity. (…) Neither have I claimed that Rumpilezz's music is more complex than other musics in or outside the black Atlantic. There is, of course, much music that is far more rhythmically complex by any measure, with and without political underpinnings.[140]

Diaz's opinion is critical because it reaffirms that world music is a great resource that artists, whether from the West or not, must use without reservation. Indeed, this idea is congruent with the primary objective of our research, which is to advance aural skills education by assimilating world music concepts. Better aural skills can only help enhance technical proficiency, and as a result, they may contribute to the development of a more thorough awareness of the myriad of musical genres and the complexities of cultural traditions.

Global enrichment is reciprocal. As the number of people throughout the globe who are aware of global issues increases, non-Western cultures may likewise adopt Western concepts and discover greater depth over time. Indian Carnatic music is an early example of this phenomenon, wherein the violin is one of the primary melody instruments. Indeed, this is an example of how Western musical influences may unwittingly make their way into other cultural traditions. Swift discusses a number of the reasons why the violin is so well-suited to Carnatic music:

> That is, each type of *gamaka*, or ornament, is closely matched by a left-hand technique that expresses the violin's essential nature. In particular, the three broad classes of modern South Indian *gamaka* – slides, deflections, and fingered stresses – correspond to three types of left-hand movement that tend to appear in violin playing regardless of musical style: shift, oscillation, and fingerfall.[141]

---

[140] Diego Diaz, "Experimentations with Timelines," 29-30.

[141] Gordon Swift, "Exploring Carnatic Violin," *Strings*, San Anselmo: String Letter Publishing, February 2005: 65.

Furthermore, Swift observes that there the violin's involvement in Carnatic music appears to have triggered an evolution in its technique, precisely, the way the musician holds the instrument:

> The violin rested with its scroll in the hollow of Thyagu's ankle and its lower bout against his chest. The instrument stayed there even when he wasn't playing – it didn't require his left hand to hold it up. All the devilish difficulties I had been having with supporting the instrument against gravity while shifting up and down the neck and trying to produce expressive music that showed no trace of the complex effort involved – all that melted away.[142]

The capacity to advance a musical legacy is impressive, lending credence to the weight music can have on the world. Hence, it may not be too far-fetched to aspire for comparable mindset changes in the worldwide community with the ongoing inclusion of world musics in undergraduate music education.

In addition, the incorporation of music from all over the world into the core music curriculum represents a substantial paradigm shift in the context of the educational system. Executing a more inclusive and comprehensive education than the historically homogeneous ones would be challenging, even though educators are becoming more attentive to the diverse student population. The remarks of Abril, Gault, and Campbell are critical in the following section:

> Teachers of various subjects in elementary and secondary schools were gradually developing an awareness of the diversity of their student constituency, pioneering ways to respond to the interests and values of local and regional communities. Soon after midcentury, they became notably sensitive to societal injustices, discriminatory practices, and the continuation of class systems that privileged some over others. Predominantly white and working class, they were learning of "the other"—of cultures other than European and Euro-American communities of their personal experiences. Teachers were becoming more knowledgeable of Africa, Latin America, Asia, and the Pacific in the 1960s, gaining an awareness that myriad national, cultural, and linguistic communities were alive and well and living locally in their midst (or at least were accessible via advancements in communications and transportation). Teachers were recognizing a spectrum of differentiated learning styles anchored in community customs and values and

[142] Swift, "Exploring Carnatic Violin," 64.

> were thinking of ways in which schools could fulfil the needs of diverse populations of children and youth. At times, they were leading the way to reshape curriculum to create equal opportunities for learning regardless of students' race, ethnicity, or gender, while at other times they continued to teach as they were taught. Textbooks and teaching resources were slow to embrace a multicultural approach to content and method because it seemed much more straightforward to promote a one-size-fits-all curriculum.[143]

Since this is the case, putting inclusive principles into practice might be a significant objective of an efficient educational system. Because it has the potential to pique the interest of those exposed to such global information in non-Western musical customs, the findings of this research may serve as a source of inspiration for such inclusiveness.

Academics can broaden the conversation in music education by expanding upon the findings of this research and the activities or even perspectives inspired by the study. Traditional attitudes may provide results that could be problematic. Educators can create a united and all-encompassing learning environment for their students by encouraging collaboration across disciplines. This unity is fundamental when considering the interconnection of music in the global atmosphere, and such an environment may assist pupils in getting ready for the inevitable and more complicated music world that can emerge before them.

## Limitations

Several challenges and limitations have become evident during this study. The first and most important thing to note is that students, professors, and scholars have varying degrees of theoretical comprehension. The mismatch between the parties may result in obstacles that may inhibit the proper application and comprehension of themes linked to global music within the framework of aural abilities. The results in this chapter assume a certain level of world music understanding that does not exist universally among educators and students, so the exercises may

[143] Carlos R. Abril, Brent M. Gault, and Patricia Shehan Campbell, *Teaching General Music: Approaches, Issues, and Viewpoints* (Oxford Scholarship Online, 2016), 91-92.

find varying levels of success depending on the region or institution in which administrators choose to implement them. Educators can minimize or eliminate this limitation depending on how they set up the exercises. However, there exist underlying issues that educators, particularly those with a Western background, may find difficult to eschew. For instance, one of the most pressing issues arises if the educator believes they cannot correctly impart world music concepts. This inadequacy could arise for many reasons, but the overarching factor may be that educators do not feel qualified to teach world music. Wu observes the following:

> 'Authenticity' must not be at the centre of learning world music. The real sense of authenticity is almost impossible to achieve or implicate for practical reasons (absence of original instruments, and teachers from the original culture, budget, etc.). Teaching world music should be focused on learning how emotions and thoughts can be conveyed differently; and what they mean within different cultures.[144]

The crux of the matter here is that the prevailing sentiment in teaching world music may be to educate as accurately as possible while holding the history, culture, and conventions in the highest regard. While all these factors are doubtless crucial, Wu makes a very salient observation that the point of world music education may be a lot more social than technical:

> Multicultural music education is as much about people as it is about music (Letts, 1996). It is about learning the difference in peoples through music, rather than learning music filtered through different cultures. Multicultural music education in the classroom is not to be seen as a struggle to conquer mainstream hegemony. Music has never known borders, but flows, shapes, and finds its own way of existence as it has always done.[145]

Thus, the first order of business is to reconcile the conundrum of imposter syndrome in educators and perhaps even students. After all, there is undoubtedly a wealth of data available to academics concerning the craft of world music.

---

[144] Sinae Wu, "Reflecting on the Implications, Problems, and Possibilities Raised by the Entrance of 'World Musics' in Music Education," *British Journal of Music Education* 29, no. 3 (November 2012): 314.

[145] Ibid.

It may be true that, despite the dialogue around incorporating world music into general music education, many current educators may still be products of an older system that does not emphasize music outside of the dominant culture of their society. Hence, even though there is a willingness to bring in new topics, there is a lack of experts. The straightforward solution to this problem is to include world music modules in the general music curriculum, leading to world music modules becoming more prevalent everywhere, including in undergraduate student programs. After all, Satomi finds that students are more than willing to embrace unfamiliar music styles, only feeling apprehension due to a lack of exposure:

> When I had opportunities to observe music classes at junior high schools, I noticed that although they had been scarcely exposed to traditional music, students tended to hold a preconceived image about it as boring and uninteresting. Once they gained knowledge about the music in class, however, their attitude often turned positive. If they had had opportunities to familiarize themselves with traditional music at an earlier age, perhaps they wouldn't have held baseless negative conceptions. In fact, in the classes of traditional music such as *koto, shamisen*, and folk songs, I found that most students were absorbed in studying it without hesitation.[146]

As a result, educators may use this strategy to ensure that students have acquired the necessary information and abilities before engaging with more intricate musical traditions.

It is necessary to solve these fundamental issues for the teaching of music worldwide to progress. After all, some aural exercises, even those part of established curricula, may be irrelevant in the context in which teachers administer them. On the other hand, some aural exercises cannot fully encompass the cultural and historical contexts essential for a thorough knowledge of music all over the globe. A paradigm shift in the perception of world music may be the best solution, where educators and students can temper their expectations and expect technical mastery when it is due but also allow concessions when the music must be the catalyst

[146] Oshio Satomi, "Traditional Music and World Music in Japanese School Education," *Min Su Qu Yi*, no. 203 (March 2019): 96.

to weave social fabric. With more general exposure to world music and its caveats, students can acquire a more profound comprehension of the social components of music, which may complement the curriculum that seeks to develop students' aural ability.

## Recommendations

In the future, research must continue into various types of music and regional musical traditions to increase our collective understanding of music worldwide. This concern is a nonissue since world music is a mainstay in academia, and the trend shows no signs of reversing. With scholars synthesizing more and more data about the world's musics, there is no lack of information about the musics of cultures all over the globe. However, what is lacking could be these musics' relevance to a general music education; they appear to be very niche topics. Lell notes the disconnect between the vibrancy of world music performances and music education:

> When speaking about music education, general readers would likely imagine formal, institutional places of learning like public schools, music schools or universities. These formal institutions are connected to the legitimation and the achievement of being musically educated, and are often associated with the acquisition of practical musical skills with instruments, ensembles or composition. This echoes the idea of music education that is foregrounded in academic literature: "Until recently, formal learning practices have dominated attention and research agendas in music education. However, the continuum of lifelong music learning necessitates an awareness of the manifold ways of learning."[147]

Hence, it is evident that the communal sentiment on world music needs to shift. Scholars and music practitioners are responsible for regularizing the idea of world music in schools, making it and its concepts factors and topics that students readily accept in conventional education.

In order to acquire valuable information, ideas, and perspectives, music education specialists and policymakers may find it helpful to collaborate with individuals who are experts

[147] Peter Lell, "Understanding World Music Festivals as Sites of Musical Education – An Ethnographic Approach," *IASPM@Journal* 9, no. 1 (October 2019): 57.

in the field of ethnomusicology as well as practitioners of a broad range of music traditions from across the world. Furthermore, world music resources are relatively quickly accessible; lack of information should not be why educators and policymakers skirt this issue. For example, Bartik observes that public libraries can "(provide) materials that help educators to gain a better understanding of world music so they may incorporate it into their curricula, such as world music recordings, DVDs, scores and books" and thereby "fulfill the roles of reference library and formal education support center."[148] Thus, encouraging interdisciplinary approaches helps enhance teaching skills and contributes to developing a framework for music education that is more respectful of different cultures and more inclusive of all students.

Furthermore, incorporating topics associated with global music into the many areas of undergraduate music courses, such as music theory, history, and performance, offers exciting opportunities to develop a holistic education. Researchers such as Fung identify the best world musics that may help kickstart such a collaborative curriculum:

> From a music educator's standpoint, the teacher may begin with using musics from Latin America, such as the Mexican excerpts used in this study. These excerpts contain the most preferred characteristics such as regular rhythm, tonal center, more different pitches, clear melody, consonant, and similar to Western music. Next the educator may wish to use music from Africa that contains some, but not all, of the most preferred characteristics such as fast tempo. Excerpts with only a few most preferred characteristics may be presented to students at a later stage. Japanese and Korean excerpts used in this study might fall into this last category. For these less preferred musics, the educator may wish to select excerpts with more different pitches and wider pitch range for the students' listening experience.[149]

---

[148] Ericableu L. Bartik, "World Music, Education, and the Public Library," *Music Reference Services Quarterly* 13 (2010): 114.

[149] Victor C. Fung, "College Students' Preferences for World Musics," *Contributions to Music Education*, no. 21 (1994): 61-2.

With Fung's observations in mind, educators can better ease world music content into mainstream music education without going overboard in the beginning with complexities that may discourage students.

Longitudinal studies are also essential to assess the long-term benefits of incorporating global music into the curriculum in terms of students' musical development and cultural understanding. Through the use of qualitative research methods like interviews and focus groups, it is possible to get a deeper understanding of the viewpoints and experiences of students. These findings may prove essential for enhancing teaching techniques and ensuring the sustained effectiveness of global music initiatives within music education. With these considerations in mind, educators can create synergistic learning experiences that reverberate across the curriculum by promoting communication and collaboration across disciplinary boundaries.

## Summary

This narrative inquiry highlights the significance of introducing global music into undergraduate aural skills teaching, showing the potential of such an approach to improve students' musical experiences and to build global musicianship. On the other hand, the results have several shortcomings, such as application issues because there may be an inconsistency between the theoretical grasp of world music held by students or instructors and the detail in which the study proposes to implement world music concepts into aural skills acquisition curricula. Consequently, to rectify these disparities, it is necessary to include global music content in Western curricula in a planned manner.

Researchers can create a future in which educators may achieve a revolutionary approach to building global musicianship and cultural awareness among students by incorporating world music into aural skills teaching. Scholars can achieve this goal by prioritizing future research

into other musical genres and regional traditions to enhance the collective knowledge of global music and its use in aural skills education. Policymakers may also find it practical to include world music in general music education syllabi. Hence, while it may be possible for educators to teach students to connect with a range of musical traditions and to link these concepts to the topics present in undergraduate aural acquisition skills classes, it may be easier for them to do so by addressing the limits and building upon the concepts presented in this research.

All practitioners, however, must constantly be wary about Westernizing global music without it being necessary; Schippers notes that what may seem "eminently logical to (himself) based on (his) Western and Indian music backgrounds (…) did not match the aims and values of (traditional) musicians."[150] He notes the following as well:

> They already had meetings that were musical, creative, and enjoyable (as well as a major factor in attracting girls); there was no perceived need for a formal music education. Although it was painful to have organized a course without students, I am grateful for the intuitive insight these youngsters showed by not coming to the classes. Later, I became a strong advocate against the introduction of formal criteria and certificates for facilitators of village brass bands, an attempt to formalize this vibrant Dutch "world music" tradition. We have to acknowledge that some musics do quite well without interference by "experts."[151]

As a result, a thin line separates the process of contextualizing world music into formal music education from the process of usurping its underlying principles; educators must establish this difference.

The findings of this research underline the relevance of recognizing the value of cultural variety and cultivating an inclusive atmosphere within the realm of music education. Educators have the potential and the obligation to enable a new generation of musicians that are not just technically proficient but also culturally aware and musically enriched via collaborative efforts

---

[150] Schippers, *Facing the Music*, 10.

[151] Ibid.

and innovative teaching methodologies. Nissen observes the prevailing sentiment in the education realm that world music is a positive force:

> World music education in secondary schools in Manchester is at a crossroads. It has gained a strong position in curricula and extracurricular activities at KS3 and, in many schools, culturally responsive approaches empower students to celebrate their personal identities and collective diversity. However, exam specifications, teaching materials and school resources limit the scope of world music learning at KS4/5, positioning European classical music at the centre and world music on the periphery. This tale of two curricula evidences an education system that works against the aspirations of its teachers, who recognise the benefits of multicultural music education and favour maintaining it throughout their programmes. Moving the goalposts between different levels creates a dysfunctional learning trajectory that discourages most students from continuing their music studies, as students whose diverse musical talents were celebrated at KS3 suddenly find themselves with the 'wrong' musical knowledge and skills at KS4/5.[152]

It is apparent that, while there is evidence that world music has various benefits in education, it is not without its host of issues. For example, because of the assumption that potential students, by default, have access to Western music education and can thus build upon those concepts to glean the effects of the world music teachings, Nissen describes the system as "hierarchical" since it "particularly disadvantages students from weaker socio-economic backgrounds, because they are less likely to have prior classical music training and schools in more deprived areas usually provide lower support for music."[153] Hence, scholars and policymakers must address other issues that may arise alongside implementing world music into general music education.

Additionally, on the other side of the planet, Satomi also identifies the issue of the prevalence of a Western music background in the Japanese music education system, where even the teachers themselves do not have the requisite knowledge to administer the class properly:

> As for world music, the situation seems more challenging. It is indispensable to learn the basic concepts of ethnomusicology in order to introduce various musics of the world in music classes. However, in reality, quite a number of instructors become music teachers

[152] James Nissen, "Aspirations and Limitations: The State of World Music Education in Secondary Schools in Multicultural Manchester," *British Journal of Music Education* 40, no. 3 (2023): 392.

[153] Ibid.

> without having an opportunity to study ethnomusicology. If teachers do not have the experience to recognize the value of traditional music and of understanding different music cultures, how can they convey the worth of traditional music and the diversity of world music to their students? University professors of musicology must recognize their responsibility and make more efforts to develop their pedagogy to teach basic (ethno)musicological ideas about understanding different cultures.[154]

Perhaps it is dire that scholars address the dilemma of the dominance of Western classical music in pedagogy. Indeed, since multiple academics from various parts of the world have identified the overreliance on a Western music context as hampering the system's ability to administer a world music education, the reign of Western classical music could be one of the most curtailing crutches curbing the evolution of a global music tradition.

Nonetheless, in the end, although there is much to study about the extensive history of music from across the globe, time continues to pass, and musicians need to concentrate on the here and now. Schippers believes that the "shift of musical theories superimposed on musics of other cultures" is second only to the "actual practice and its underlying systems of musical knowledge…it is the musical concepts in the practicing musician's mind that need to be transmitted, rather than abstractions made from a scholar's or listener's point of view."[155] Ergo, whether as an educator, student, scholar, or any other participant in music, one must never forget the ultimate goal: organic artistry, unfettered by unnecessary intellectualism, that communicates from soul to soul.

---

[154] Satomi, "Traditional Music and World Music," 95.

[155] Schippers, *Facing the Music*, 69.

**Bibliography**

Abril, Carlos R., Brent M. Gault, and Patricia Shehan Campbell. 2016. *Teaching General Music: Approaches, Issues, and Viewpoints*. Oxford Scholarship Online, 2016. https://doi.org/10.1093/acprof:oso/9780199328093.001.0001.

Alekseenko, Nataliya and Daniela Rakich. "The Use of Innovative Pedagogical Technologies in Music Education." *Les Ulis* vol. 87 (2020): 1-9.

Andrianopoulou, Monika. *Aural Education: Reconceptualising Ear Training in Higher Music Learning*. New York: Routledge, 2019. https://doi.org/10.4324/9780429289767.

Anku, Willie. "Circles and Time: A Theory of Structural Organization of Rhythm in African Music." *Music Theory Online* 6 (2000): 1-8.

Arday, Jason, Dina Zoe Belluigi, and Dave Thomas. "Attempting To Break the Chain: Reimaging Inclusive Pedagogy and Decolonising the Curriculum Within the Academy." *Educational Philosophy and Theory* 53, no. 3 (February 23, 2021): 298–313. https://doi.org/10.1080/00131857.2020.1773257.

Arms, Jay M. "Tuning "American Gamelan": Transforming Javanese Gamelan Tunings in North America." *Asian Music* 52, no. 1 (Winter/Spring 2021, 2021///Winter/Spring): 88-121. https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/scholarly-journals/tuning-american-gamelan-transforming-javanese/docview/2699753090/se-2.

Barbour, J. Murray. *Tuning and Temperament: A Historical Survey*. East Lansing: Michigan State College Press, 1951.

Barrett, Margaret S. "Sounding Lives in and through Music." *Journal of Early Childhood Research: ECR.* 7, no. 2 (2009): 115–34. https://doi.org/10.1177/1476718X09102645.

Barrett, Margaret S., and Sandra L. Stauffer, eds. Narrative Soundings: An Anthology of Narrative Inquiry in Music Education. Dordrecht: Springer, 2012.

Bartik, Ericableu L. "World Music, Education, and the Public Library." *Music Reference Services Quarterly* 13 (2010): 112–15. doi:10.1080/10588167.2010.528747.

Berklee College of Music. "Studying Percussion at Berklee." Last modified July 22, 2024. https://college.berklee.edu/studying-percussion-berklee.

Chenette, Timothy. "What Are the Truly Aural Skills?" *Music Theory Online* 27, no. 2 (June 2021). https://doi.org/10.30535/mto.27.2.2.

Clandinin, D. Jean, and F. Michael Connelly. *Narrative Inquiry: Experience and Story in Qualitative Research*. San Francisco: Jossey-Bass, 2004.

Clayton, Martin. *Time in Indian Music: Rhythm, Metre, and Form in North Indian Rāg Performance*. New York: Oxford University Press, 2008.

Cleland, Kent D. and Paul Fleet, eds. *The Routledge Companion to Aural Skills Pedagogy: Before, In, and Beyond Higher Education*. New York: Routledge, 2021.

Cousin, Glynis. "Rethinking the Concept of 'Western.'" *Higher Education Research & Development* 30, no. 5 (October 1, 2011): 585–94. https://doi.org/10.1080/07294360.2011.598449.

Creswell, John W. and J. David Creswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th ed. Los Angeles: Sage Publications, Inc., 2018.

Creswell, John W., and Cheryl N. Poth. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. 4th Ed. Thousand Oaks, CA: Sage Publications, 2018.

deOgburn, Scott, Tony Germain, Mitch Haupers, Steve Prosser, Roberta Radley, and Dave Vose. *Ear Training 3 Workbook*. Massachusetts: Berklee College of Music, 2006.

deOgburn, Scott, Tony Germain, Mitch Haupers, Steve Prosser, Roberta Radley, and Dave Vose. *Ear Training 4 Workbook*. Massachusetts: Berklee College of Music, 2007.

Diaz, Juan Diego. "Experimentations with Timelines: Strategies of Rhythmic Complication in Afro-Bahian Jazz." *Analytical Approaches to World Music*. Vol. 6 (2017): 1-34.

Ekwueme, Laz E.N. "Structural Levels of Rhythm and Form in African Music: With Particular Reference to the West Coast." *African Music : Journal of the International Library of African Music* 5, no. 4 (November 1975): 27–35. https://doi.org/10.21504/amj.v5i4.1615.

Eroğlu, Özgür. "Solfege Teaching in Higher Music Education in Turkey: Instructors' Perspectives." *International Online Journal of Educational Sciences* 13, no. 2 (2021): 346-361.

Farraj, Johnny and Sami Abu Shumays. *Inside Arabic Music: Arabic Maqam Performance and Theory in the 20th Century Middle East*. New York: Oxford University Press, 2019.

Fournier, Alex. "Pliability of V7 Resolutions." *Canadian Musician*. Toronto: Norris-Whitney Communications, April 2021. 2507254987. Music Periodicals Database; ProQuest Central.

Fournier, Guillaume, Susan O'Neill, and Maria Teresa Moreno Sala. "Strategic Approaches to Learning Sight-Singing at College Level: An Investigation Using Q Methodology." *Psychology of Music* 49, no. 6 (November 1, 2021): 1429–48. https://doi.org/10.1177/0305735620964315.

Fung, C. Victor. “College Students’ Preferences for World Musics.” *Contributions to Music Education*, no. 21 (1994): 46–63. http://www.jstor.org/stable/24134186.

Gagaku. “Home Page.” Last modified July 21, 2023. https://www.gagaku.net/index.ENG.html.

*Garland Encyclopedia of World Music Volume 5: The Indian Subcontinent*, edited by Alison Arnold. Routledge 1999.

*Garland Encyclopedia of World Music Volume 6: The Middle East*, edited by Danielson, Virginia, Scott Marcus, and Dwight Reynolds. Routledge 2001, 61-73. https://search.alexanderstreet.com/view/work/bibliographic_entity%7Cbibliographic_details%7C326926.

Gianakon, Hong Hong. “Teaching Undergraduate Music Theory Through World Music.” M.M., University of Missouri - Kansas City, 2018. ProQuest Dissertations & Theses Global (2055441219). https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/dissertations-theses/teaching-undergraduate-music-theory-through-world/docview/2055441219/se-2?accountid=12085.

Guest, Greg, Emily Namey, and Mario Chen. “A Simple Method to Assess and Report Thematic Saturation in Qualitative Research.” PLOS One 15, no. 5 (May 2020): 1-17. https://doi.org/10.1371/journal.pone.0232076.

Swift, Gordon. “Exploring Carnatic Violin.” *Strings*, San Anselmo: String Letter Publishing, February 2005: 63-7. 237175643. Music Periodicals Database; ProQuest Central.

Haddon, Elizabeth. “Bi-Musicality and Dialogical Musicality: Influences of Javanese Gamelan Participation on Western Instrumental Learning.” *British Journal of Music Education* 33, no. 2 (07, 2016): 219-35.

Hartenberger, Russell, and Ryan McClelland, eds. *The Cambridge Companion to Rhythm*. Cambridge: Cambridge University Press, 2020. https://doi.org/10.1017/9781108631730.

Hijleh, Mark. *Towards a Global Music Theory: Practical Concepts and Methods for the Analysis of Music Across Human Cultures*. Farnham, United Kingdom: Taylor & Francis Group, 2012. http://ebookcentral.proquest.com/lib/liberty/detail.action?docID=956291.

Hoffman, Richard, William Pelto, and John W. White. “Takadimi: A Beat-Oriented System of Rhythm Pedagogy.” *Journal of Music Theory Pedagogy*, vol. 10 (1996): 7 - 30.

Howlett, George. “West African Grooves: Kora Harps and Ewe Polyrhythms.” Rāga Junglism. Last modified July 21, 2023. https://ragajunglism.org/teaching/guitar_resources/west-african-rhythms.

Hung, Jou-Lu. “An Investigation of the Influence of Fixed-Do and Movable-Do.” EdD diss., University of San Francisco, 2012.

Karlsen, Sidsel, and Väkevä, Lauri, eds. *Future Prospects for Music Education: Corroborating Informal Learning Pedagogy*. Newcastle-upon-Tyne: Cambridge Scholars Publisher, 2012. Accessed October 14, 2022. ProQuest Ebook Central.

Kárpáti, János. “Tonality in Japanese Court Music.” *Studia Musicologica Academiae Scientiarum Hungaricae* 25, no. 1/4 (1983): 171–82. https://doi.org/10.2307/901970.

Karpinski, Gary S. “A Cognitive Basis for Choosing a Solmization System.” *Music Theory Online* 27, no. 2 (06, 2021), https://go.openathens.net/redirector/liberty.edu?url=https://www-proquest-com.ezproxy.liberty.edu/scholarly-journals/cognitive-basis-choosing-solmization-system/docview/2555633282/se-2.

Karpinski, Gary S. *Aural Skills Acquisition: The Development of Listening Reading and Performing Skills in College-Level Musicians*. New York: Oxford University Press, 2000.

Karpinski, Gary S. *Manual for Ear Training and Sight Singing*. New York: W. W. Norton, 2007.

Killick, Andrew. “Global Notation as a Tool for Cross-Cultural and Comparative Music Analysis.” *Analytical Approaches to World Music* 8 (December 1, 2020), 235-79.

Kippen, James R. *Hindustani Tala*, edited by Arnold, Alison Routledge (Publisher), 1999, 136-163. https://search.alexanderstreet.com/view/work/bibliographic_entity%7Creference_article%7C1000227051.

Koizumi and Nogawa. *Theory and Notation in Japan*, edited by Provine, Robert C., Yosihiko Tokumaru and Lawrence J. Witzleben Routledge (Publisher), 2001, 601-620.

Lahdelma, Imre, and Tuomas Eerola. “Single Chords Convey Distinct Emotional Qualities to Both Naïve and Expert Listeners.” *Psychology of Music* 44, no. 1 (January 1, 2016): 37–54. https://doi.org/10.1177/0305735614552006.

Lehmann, Bertram. “The Syntax of ‘Clave’ – Perception and Analysis of Meter in Cuban and African Music,” 2002. https://doi.org/10.13140/RG.2.1.2703.1761.

Lell, Peter. “Understanding World Music Festivals as Sites of Musical Education – An Ethnographic Approach.” *IASPM@Journal* 9, no. 1 (October 2019): 56–72. https://doi.org/10.5429/2079-3871(2019)v9i1.6en.

Lipiczky, Thom. “Tihai Formulas and the Fusion of ‘Composition’ and ‘Improvisation’ in North Indian Music.” *The Musical Quarterly* 71, no. 2 (1985): 157–71. http://www.jstor.org/stable/948133.

Maqam World. “The Arabic Maqam.” Last modified July 21, 2023. http://maqamworld.com/en/maqam.php.

McMullin, Caitlin. “Transcription and Qualitative Methods: Implications for Third Sector Research.” Voluntas: International Journal of Voluntary and Nonprofit Organizations 34, no. 1 (February 2023): 140-53. https://doi.org/10.1007/s11266-021-00400-3.

Montemayor, Mark, William J. Coppola, and Christopher Mena. *World Music Pedagogy, Volume IV: Instrumental Music Education*. Boca Raton, FL: Routledge, 2018.

Nelson, David Paul. *Karnatak Tala*, edited by Arnold, Alison Routledge (Publisher), 1999, 164-187. https://search.alexanderstreet.com/view/work/bibliographic_entity%7Creference_article%7C1000227059.

Nissen, James. “Aspirations and Limitations: The State of World Music Education in Secondary Schools in Multicultural Manchester.” *British Journal of Music Education* 40, no. 3 (2023): 385–96. https://doi.org/10.1017/S0265051723000098.

Nodal, Roberto. “The Social Evolution of the Afro-Cuban Drum.” *The Black Perspective in Music* 11, no. 2 (1983): 157–77. https://doi.org/10.2307/1214911.

Paulding, Ben. “Meter, Feel, and Phrasing in West African Bell Patterns: The Example of Asante Kete from Ghana.” *African Music : Journal of the International Library of African Music* 10, no. 3 (November 1, 2017): 62–78. https://doi.org/10.21504/amj.v10i3.2196.

Peiris, Eshantha. 2018. “Changing Conceptualizations of Rhythm in Sri Lankan Up-Country Percussion Music: From Rhythmic Contours to Metric Cycles.” *Analytical Approaches to World Music*. Vol. 6: 1-31.

Reno’s Music Notes. “Yehnian Solfège.” Last modified July 18, 2024. https://renoyeh.wixsite.com/notes/post/yehnian-solfège-solfeggio-yehniano-葉氏唱名

Saldana, Johnny. *The Coding Manual for Qualitative Researchers*, 3rd ed. London: Sage, 2016.

Satomi, Oshio. “Traditional Music and World Music in Japanese School Education.” *Min Su Qu Yi*, no. 203 (March 2019): 73–110.

Schnee, Dan. “The Algebra of Indian Music.” *Canadian Musician* 41, no. 1 (2019): 29.

Schippers, Huib. *Facing the Music: Shaping Music Education From a Global Perspective*. Oxford ; New York: Oxford University Press, 2010.

Schippers, Huib, and Catherine Grant, eds. *Sustainable Futures for Music Cultures: An Ecological Perspective*. New York, NY: Oxford University Press, 2016.

Shumays, Sami Abu. "*Maqam* Analysis: A Primer." *Music Theory Spectrum* 35, no. 2 (2013): 235–55. https://doi.org/10.1525/mts.2013.35.2.235.

SIFAS. "Soul of Thani." Last modified July 2, 2024. https://www.sifas.org/soul-of-thani.html

Swift, Gordon. "Exploring Carnatic Violin." *Strings*, San Anselmo: String Letter Publishing, February 2005: 63-7. 237175643. Music Periodicals Database; ProQuest Central.

Temperley, David. "Meter and Grouping in African Music: A View from Music Theory." *Ethnomusicology* 44 (December 1, 2000): 65-96. https://doi.org/10.2307/852655.

Tokita, Alison McQueen. "Mode and Scale, Modulation and Tuning in Japanese Shamisen Music: The Case of Kiyomoto Narrative." *Ethnomusicology* 40, no. 1 (1996): 1–33. https://doi.org/10.2307/852434.

Toussaint, Godfried T. "Quantifying Musical Meter: How Similar Are African and Western Rhythm?" *Analytical Approaches to World Music* 4, no. 2 (November 2015): 1-30.

van der Schyff, Dylan. "Music as a Manifestation of Life: Exploring Enactivism and the 'Eastern Perspective' for Music Education." *Frontiers in Psychology* 6, no. 345 (2015): 1-15.

Wong, Patrick C. M., Valter Ciocca, Alice H. D. Chan, Louisa Y. Y. Ha, Li-Hai Tan, and Isabelle Peretz. "Effects of Culture on Musical Pitch Perception." Edited by Alexander Borst. *PLoS ONE* 7, no. 4 (April 11, 2012): 1-8. https://doi.org/10.1371/journal.pone.0033424.

Wong, Shuenda. "A Narrative Study: Professional Development of a Piano Teacher through Various Music Education Philosophies and Psychologies in Different Sociocultural Contexts." PhD diss., Liberty University, 2024.

Wright, Colin R. *Aural and the University Music Undergraduate*. Newcastle upon Tyne, England: Cambridge Scholars Publishing, 2016.

Wu, Sinae. "Reflecting on the Implications, Problems, and Possibilities Raised by the Entrance of 'World Musics' in Music Education." *British Journal of Music Education* 29, no. 3 (November 2012): 303–16. https://doi.org/10.1017/S026505171200037X.

Yuan, Rui, and Icy Lee. "'I Need to Be Strong and Competent:' A Narrative Inquiry of a Student-Teacher's Emotions and Identities in Teaching Practicum." *Teachers and Teaching* 22 (May 25, 2016): 1–23. https://doi.org/10.1080/13540602.2016.1185819.