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Graduate School of Arts and Sciences

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The undersigned, appointed by the

Department of Music

have examined a dissertation entitled

Shapes: A Music Method for the Expert Beginner

presented by

David M. Forrest

candidate for the degree of Doctor of Philosophy and hereby certify that it is worthy of acceptance.

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Date: September 4, 2023

Shapes:

A Music Method for the Expert Beginner

A dissertation presented

by

David M. Forrest

to

The Department of Music

in partial fulfillment of the requirements

for the degree of

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Shapes: A Music Method for the Expert Beginner

Abstract

Shapes is a music learning method that shifts the notion of musical basics from music-theoretical *objects*, like notes, scales, chords, keys, and even particular musical works, to the *contexts* that underlie these ideas. It begins by using the keyboard as a mnemonic device to leverage a learner's implicit musical knowledge, enabling the learner to play along with any song they hear. From this foundation, it develops instrumental, analytical, and note reading skill, progressing gradually to an internal model of the instrument, and the ability to imagine sounds clearly in the mind's ear. Shapes exemplifies an alternative to beginner methods that present music as a whole built up from parts. It suggests, instead, that a learner begins with the whole, and uses musical tools to explore inexhaustible and particular aspects of that whole. The approach establishes a relationship with music-theoretical concepts more generally as playful, designed environments within which to have a particular experience of music.

A Note on the Format

This dissertation conveys its most central ideas through musical experiences, brought about through text, images, audio, video, animation, and interactive software. It is the experiences themselves—and not textual descriptions or analyses of the experiences—that are the epistemic medium. This mode of scholarship is not adequately captured in PDF format, and raises a question of how best to present the dissertation, and of how to archive it.

When ideas are conveyed through text alone, we can take for granted that the text brings about, and therefore implicitly represents—even embeds—the experience of the reader, as well as the experiences of future readers in unknowable future contexts. This extends to works conveyed through multiple, independent media. In the case of a composer's thesis, for example, the score, performance recordings, and textual commentary are each separate and complementary presentations that comprise the overall work. In a computer science thesis, source code may accompany the text, serving as both the product of creative work, and as a representation of its functionality.

In the case of this thesis, the textual content, media, and source code are not independent formats that complement one another. They are meant to be taken together as part of a single format that is capable of providing a meaningful presentation of the ideas. The balance of readability and archivability can no longer be taken for granted.

I have attempted to provide a thoughtful balance of these priorities, and to do so as simply as possible. The dissertation is designed to be read in a web browser. The frontend and backend code repositories that serve the presentation are included as supplemental files to this PDF. The Table of Contents contains links to a functioning implementation of these repositories, and the

supplemental materials contain instructions for running them locally when the functioning implementation is no longer supported. The links double as descriptions of the locations of individual files in the supplemental materials.

Of course, the broader environment within which a text is read, or the complete technological ecosystem within which a piece of software runs are outside the scope of archivability. The archivable format must therefore do more than provide instructions for how it is to be read. It must also allow a future reader to extract the principles by which it could be meaningfully reconstructed in a different technological ecosystem.

For this reason, I have built the dissertation using the simplest technology possible, with a focus on the content. Text is written in markdown so that it is easy to read when the application is not running. Lessons are static pages with minimal styling. Media assets for the lessons, such as music notation and recorded exercises are included as local files rather than generated programmatically. Code is written and commented to express its functionality, without using unnecessary frameworks or libraries. The database that serves the player is a SQLite database, which is fully contained within a single local file. The database file is accompanied by a text dump of all the data. And models that serve the API endpoints are fully written out as SQL queries.

In this sense, the format is indeed a textual representation of the intended experience, and a generalization of that experience. But it is also a means of presenting the ideas directly. My hope is that this solution will provide a meaningful reading experience for you, whenever you are.

Table of Contents

Title Page

Copyright

Abstract iii

A Note on the Format iv

Table of Contents vi

Acknowledgments viii

Dedication x

Shapes Basics

Commentary: About Shapes 1

Lesson Sequences:
- Playing With Songs
- Tactile Reading
- Chord & Key Levels
- Tonescapes & Tensions
- Reading Imagery

- Lesson 1: A Shape lessons/01-a-shape
  Commentary: Why Music Videos? writing/why-music-videos
- Lesson 2: Different Shapes lessons/02-different-shapes
  Commentary: What Is a Shape? writing/what-is-a-shape
- Lesson 3: A Group of Shapes lessons/03-a-group
  Commentary: Is This the Circle of Fifths? writing/circle-of-fifths
- Lesson 4: Shape Fingerings lessons/04-shape-fingerings
  Commentary: The Centered Keyboard writing/centered-keyboard
- Lesson 5: The Anchor Note lessons/05-the-anchor-note
  Commentary: What is the Anchor? writing/what-is-the-anchor
- Lesson 6: Playing With the Anchor lessons/06-playing-with-the-anchor
  Commentary: Musical Structures writing/musical-structures
- Lesson 7: Bass Notes lessons/07-bass-notes
  Commentary: Chord and Key Levels writing/chord-and-key-levels
- Lesson 8: Matching A Shape lessons/08-matching-a-shape
- Lesson 9: Notes In Time lessons/09-notes-in-time
- Lesson 10: Changes lessons/10-changes

- Lesson 11: Groups of Shapes — lessons/11-groups-of-shapes
- Lesson 12: Reading by Touch — lessons/12-reading-by-touch
- Lesson 13: A Tonescape and Tensions — lessons/13-a-tonescape-and-tensions
- Lesson 14: Imagination as an Instrument — lessons/14-imagination-as-an-instrument
- Lesson 15: Two Higher and Lower — lessons/15-two-higher-and-lower

  Commentary: What is a Tonescape? — writing/what-is-a-tonescape
- Lesson 16: Reading by Ear — lessons/16-reading-by-ear
- Lesson 17: Switch To Number Names — lessons/17-switch-to-number-names
- Lesson 18: Reading by Touch Part 2 — lessons/18-reading-by-touch-2
- Lesson 19: Moods — lessons/19-moods
- Lesson 20: Reading by Ear Part 2 — lessons/20-reading-by-ear-2
- Lesson 21: Light and Heavy Tensions — lessons/21-light-and-heavy-tensions
- Lesson 22: Reading by Ear Part 3 — lessons/22-reading-by-ear-3
- Lesson 23: Reading by Touch Part 3 — lessons/23-reading-by-touch-3
- Lesson 24: Moods and Tensions Together — lessons/24-moods-and-tensions-together
- Lesson 25: Getting Inside of Moods — lessons/25-getting-inside-of-moods
- Lesson 26: Reading by Ear Part 4 — lessons/26-reading-by-ear-4

  Commentary: Shape and Standard Notation — writing/shape-and-standard-notation
- Lesson 27: Making Time Relative — lessons/27-making-time-relative
- Lesson 28: All Moods and Tensions — lessons/28-all-moods-and-tensions
- Lesson 29: Mood Notes — lessons/29-mood-notes

  Commentary: Chord-Modes — writing/chord-modes
- Lesson 30: Incidentals — lessons/30-incidentals
- Lesson 31: Independent Solfege — lessons/31-independent-solfege
- Lesson 32: Free Play — lessons/32-free-play

Back Matter

Appendix 1: Frontend Code Repository[1]

Appendix 2: Backend Code Repository[2]

[1] Archived in Supplemental Files

Viewable at: https://www.github.com/shapesmusic/shapes-method

Hosted at: https://www.shapesmusic.com

[2] Archived in Supplemental Files

Viewable at: https://www.github.com/shapesmusic/shapes-backend

Hosted at: https://api-9q2sw.ondigitalocean.app

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You are my teachers, collaborators, and cherished friends

About Shapes

What does it *feel like* to be fluent in music? What does a skilled musician experience when they play their instrument, or when they use musical symbols? And how close can we come to that feeling, right from the beginning?

What if the "basics" of music aren't the notes, scales, chords, keys, intervals, or the correct techniques for playing an instrument—but instead, are the intuitions that *generated* all those ideas and techniques in the first place?

If that's the case, then you already have the basics. And you're not by any means at the beginning. You've more likely arrived to a place where you feel the need to connect your experience to some musical tools and techniques—to bounce your intuitions off of something outside yourself, so that you can develop and refine those intuitions.

The difficulty is that so many of the tools that work so remarkably well for musicians are designed to do exactly that—to work remarkably well—but not to show you *how* they work. Music notation, for example, takes layers upon layers of different ways of experiencing music: its contexts, its departures from those contexts, its events in pitch and in time, the relationships between those events… and compiles them into a single, readable surface layer that lets musicians navigate any or all of these aspects at once, as they wish.

But when we encounter music notation for the first time, all we can see is its surface layer, not all the layers beneath it. And so we're presented with our very same question about the basics: do we start by learning the individual notes, one by one, in the hope that eventually they will begin to transform into something greater than themselves? Or can we start from some of those deeper

layers, that are closer to what we already understand intuitively, and that are ultimately the source of that surface layer?

We absolutely can. But this means that the symbols, tools, and techniques we work with at first will have to look a little different than you might expect, because each will be focused more closely on representing its own particular aspect of musical experience. And they'll also need to change their form along the way, and to be replaced by different symbols, tools, and techniques that gradually begin to connect together and resemble our more familiar ideas about music. In short, we have to be playful and creative, not only with our music, but with our ways of *understanding* music.

Shapes is an example of how to approach musical basics in this way. And there are no doubt as many other possibilities as there are ways to be playful and creative. But since we've landed *here*, I'd like to show you around, and invite you to try out this experience for yourself.

A Brief Tour

I'll begin our tour by showing you the first lesson, which is my favorite way to introduce Shapes:

Follow This Link[1]

[1] Link to: /writing/about#a-brief-tour