

UC San Diego

UC San Diego Electronic Theses and Dissertations

Title

Adjusting Room Acoustic Response Over Time for Dramatic Effect

Permalink

<https://escholarship.org/uc/item/9cm69740>

Author

Jensen, Stephen

Publication Date

2020

Supplemental Material

<https://escholarship.org/uc/item/9cm69740#supplemental>

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA SAN DIEGO

Adjusting Room Acoustic Response Over Time for Dramatic Effect

A Thesis submitted in partial satisfaction of the
requirements for the degree Master of Fine Arts

in

Theatre and Dance (Design)

by

Stephen Jensen

Committee in charge:

Professor Robert Brill, Chair
Professor Judith Dolan
Professor Victoria Petrovich

2020

©

Stephen Jensen, 2020

All rights reserved.

The Thesis of Stephen Jensen is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

Chair

University of California San Diego

2020

DEDICATION

To my family

TABLE OF CONTENTS

Signature Page.....	iii
Dedication.....	iv
Table of Contents.....	v
List of Supplemental Files.....	vi
Acknowledgements.....	vii
Abstract of the Thesis.....	viii

LIST OF SUPPLEMENTAL FILES

File 1. *The Gradient* Photo 1, Jensen_Gradient_Photo1.jpg

File 2. *The Gradient* Photo 2, Jensen_Gradient_Photo2.jpg

ACKNOWLEDGEMENTS

Thank you to Jonathan Deans, Michael Roth and my many other mentors.

ABSTRACT OF THE THESIS

Adjusting Room Acoustic Response Over Time for Dramatic Effect

by

Stephen Jensen

Master of Fine Arts in Theatre and Dance (Design)

University of California San Diego, 2020

Professor Robert Brill, Chair

The acoustic characteristics of a space can be defined through subjective terms and precise physical measurement. By correlating these subjective terms with the physical characteristics of a space, a sound designer is able to implement specific techniques in altering the acoustic response of a space to reach an artistic end result, such as a warm, inviting environment. For example, a space that is considered warm has increased reverberation of lower frequencies, and by altering the amount of reverberation at other frequencies a sound designer could change how warm a theatre feels.

In the production of *The Gradient* the design team imagined that the audience should enter into a welcoming space and that the space would feel less comfortable as the play progressed. To achieve this, the sound design included a series of area mics run through a tightly

filtered reverb engine that artificially enhances the reverb at specific bands of frequencies. At the beginning of the show, lower frequency reverb was produced to create a warmer, more welcoming space. Over the course of the play, the frequency of the filter was increased to produce reverb at higher frequencies, ending the play in a space with a cold and clinical feel. By utilizing this technique of artificially adjusting the reverb response of the theater, the sound design successfully shifted the audiences emotional reaction to the space in sync with the dramatic arc of the play.