

A Focal Press Book

ROUTLEDGE



DANCE AND LIGHT

THE PARTNERSHIP BETWEEN CHOREOGRAPHY
AND LIGHTING DESIGN

KEVIN DREYER

DANCE AND LIGHT

Dance and Light examines the interconnected relationship between movement and design, the fluid partnership that exists between the two disciplines, and the approaches that designers can take to enhance dance performances through lighting design.

The book demystifies lighting for the dancer and helps designers understand how the dancer/choreographer thinks about their art form, providing insight into the choreographer's process and exploring how designers can make the most of their resources. The author shares anecdotes and ideas from an almost 50-year career as a lighting designer, along with practical examples and insights from colleagues, and stresses the importance of clear communication between designers, choreographers, and dancers. Attention is also given to the choreographer who wants to learn what light can do to help enhance their work on stage.

Written in short, stand-alone chapters that allow readers to quickly navigate to areas of interest, *Dance and Light* is a valuable resource for lighting design classes wishing to add a section on dance lighting, as well as for choreography classes who want to better equip young artists for a significant collaborative partnership.

Kevin Dreyer is a freelance lighting designer and an associate professor at the University of Notre Dame.



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

DANCE AND LIGHT

The Partnership between Choreography and
Lighting Design

Kevin Dreyer

 **Routledge**
Taylor & Francis Group
NEW YORK AND LONDON

First published 2020
by Routledge
52 Vanderbilt Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2020 Taylor & Francis

The right of Kevin Dreyer to be identified as author of this work has been asserted by him in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Library of Congress Cataloging-in-Publication Data

A catalog record for this title has been requested

ISBN: 978-1-138-33823-4 (hbk)

ISBN: 978-0-367-25944-0 (pbk)

ISBN: 978-0-429-29069-5 (ebk)

Typeset in Baskerville
by Swales & Willis, Exeter, Devon, UK

CONTENTS

<i>Acknowledgments</i>	vii
<i>Author's Note</i>	ix
Introduction	1
1 Why Do We Need a Book about Dance Lighting? Or, if It Is All Done with the Same Lights, Why Is Dance So Hard to Get Right?	5
2 What's It All About? Or, Dance, Meet Light; Light, Meet Dance	14
3 Learning about Dance	25
4 Dance and Light	35
5 Dance and Space	47
6 Talking with the Choreographer	60
7 Communicating with the Dancer	73
8 A Conversation I Wish I Had	81
9 Learning the Dance Work	87
10 Understanding the Piece or How to Approach Cueing	101
11 Why Did You Put That Light There?	111

CONTENTS

12	Dance and Color	122
13	Color as a Storytelling Tool	133
14	The Designer as Storyteller	144
15	Sharing Your Ideas for the Dance	155
16	The Designer's Toolbox	166
17	The Dance Light Plot	176
18	Changing Technologies and What They Mean	188
19	Simple Rules	199
20	Limitations as Design Ideas	209
21	On Being the Only Designer in the Room	219
22	Advice for the Choreographer Who Has to Go It Alone	229
23	My Partners in the Theatre	240
24	A Little Help from My Friends	251
25	Practical Examples	262
	<i>Index</i>	273

ACKNOWLEDGMENTS

This project was many years in the making both figuratively and literally. I have been training or working in lighting design for over 50 years now and all of that went into this book. The actual work of putting it on paper was a challenge that I first contemplated almost ten years ago. The final part of this undertaking happened in the last 12 months. That means there are a lot of people I feel I need to thank, but don't worry I have already made peace with the idea that I will not remember nor be able to include all of them.

My journey down this path began even earlier when my father, as the story goes, took me to a theatre where he was working on a production. I was an infant in arms and he walked me around backstage pointing things out, saying: "This is a batten and that is a Fresnel and that is a flat, and you have to hurry up and grow up so you can help me with this because I don't understand it all." To my parents' credit I was not told this story until I was in college at Carnegie Mellon studying Technical Production. I also grew up in a house where we had a bookstand, usually in the dining room, with an unabridged dictionary on it. Any time a new word came up we all knew the drill – "Look it up."

My father Bill directed and produced theatre that involved all of us at one point or another and my mother Donna Jean, a published author herself, wrote all her life. My brother Robin writes and takes wonderful photographs for a craft school in North Carolina where he handles their publications and my sister Melissa founded an arts focused newspaper. So, to my parents and my siblings I say thank you – for the love of theatre and of words.

I thank all of the teachers I have had in my life, both formal and informal. Some of them have made their way into the pages of this book, but whether they did or not they were all a part of my journey. I also thank my colleagues in the arts because I believe we all learn from each other, even if we don't realize it. The chapter with thoughts from fellow designers is included because of that belief. I could have written other chapters with input from directors, choreographers, and scenic, costume, and projection designers because I have learned from all of them. I also want to thank my students because a good deal of what is here I put into words as I answered questions and shared my perspectives. Which brings me to Notre Dame and the many people who deserve to be included here.

ACKNOWLEDGMENTS

I begin with Mark Pilkinton because he hired me and got me started on this improbable path in academia. I must also thank Jim Collins and Peter Holland who were both my champions and my challengers along the way. Their faith in me has always been humbling, and it was their conviction that I could write this book that kept me going more often than I would like to admit. In reality every member of the Department of Film, Television, and Theatre over my 30 years at Notre Dame had a hand in this as well. They were the ones who I talked things out with, went to for advice, shared with in successes, and figured out how to grow from missteps. I include faculty, staff, and students in this group because they were all a part of it. If it were not for a sabbatical leave funded by the University I am not sure I would have ever gotten started, no matter how many people believed in the project.

I want to thank Ellen Lampert-Greaux and the folks at LDI who gave me a platform from which to speak to my colleagues in the field of dance lighting. Ellen's faith in my ability to lead large seminars and panels in dance lighting gave me a forum where I crystalized many of the concepts in this book. I thank Stacey Walker and Lucia Accorsi who have walked me through the process of getting into print, Christina Watanabe and Nicholas Fox, who provided editorial support, and I thank Stacey Stewart who is always ready to talk about ideas and who was one of the first people who read any of what I wrote. Her comment that she had learned something about both dance and lighting after two chapters showed me that I was on the right track.

Most importantly I want to thank my three daughters, Natalie, Lydia, and Wilhelmena who all listened, and supported, and encouraged me. Finally, I thank my wife Indi who did all of the above and more. Who danced into my life at the American Dance Festival, who brought me to South Bend, Indiana when she took over the Program in Dance at Saint Mary's College, who shared a sleeping mat in the room that was the Kurt Jooss archives in the Netherlands, who has always been my biggest fan and believer in what I have chosen as my life's career. She was my partner in some of my favorite collaborations. I truly would not have been able to write this without her. She had to put up with the research trips, the out-of-town design gigs, the LDI and USITT conferences, the constant refrain of "I have to go write" as each deadline approached. I was the most concerned about her response to my writing and an offhand comment on the phone one day, when she said she wished she could be spending her time reading my beautiful words, made all the difference at a moment when I didn't think I would get to the finish line.

For those of you who have made it to this point, thank you. Thank you for caring enough to see who I care about, for being invested enough to take the time to read this, and for being understanding enough to realize I cannot include everyone who actually got me to this point without making the acknowledgments as long as the book itself. I realize there is something rather indulgent and self-involved in acknowledgments, so I thank you for accepting that as well.

AUTHOR'S NOTE

One of the things you may notice about this book is the absence of photographs. This was a deliberate choice on my part. I believe one of the barriers to better collaborations between lighting designers and choreographers is the absence of clear, jargon free, communication. If either party uses words that are not commonly understood they put their artistic partner at a disadvantage. On the other hand, when we can directly describe what we are looking for without relying on terminology, we level the playing field. In this book I seek to balance the knowledge on both sides of the conversation. While photographs can create a lovely counterpoint to words, they can also feel like established goals. Goals that can get in the way of individual creativity and short-circuit the process of refining language. What I hope this book will do is to create a new way of discovering what role each partner in the creative process is being asked to fill. I also hope that it will be a step toward the goal of helping the Jeraldyns of the world find the next Tom Skeltons. Read the book, you'll understand.



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

INTRODUCTION

For quite some time now I have been encouraged to write down why I do what I do. Not because it is so unique or because no one else does it but rather because I have a unique point of view and it seems to illuminate work which I have discovered many find quite mysterious. Of course, those who are not mystified by what my colleagues and I routinely do tend to dismiss it as technical stuff. To the few of you out there, not involved with this profession, who view what I do with respect and even acknowledge that it is an art form, perhaps you will find what I have to say interesting.

Much of my work life has been spent in the world of dance. I find this is a very comfortable place for a lighting designer to reside. Dancers tend to value what we do very highly. They seldom take it for granted and generally are openly appreciative of lighting. Dance lighting is a partnership of art forms. Yes they can and do exist separately but I for one find each benefits greatly from the other's presence. Much of what people admire in contemporary theatrical lighting – acute angles, strong color choices, isolation, quick changes, embracing shadow, etc. – has its roots in the theories of dance lighting. Either there or in rock and roll lighting, where the money is always rumored to be.

Stanley McCandless started things off quite simply and directly with his wonderful little book *A Method of Lighting the Stage*. People have been trying to ignore it ever since but the truth of the matter is that in that little book, which was never intended to be *the* definitive way, rather simply *a* way of lighting the stage, is a logical approach that allows the novice to be confident that they, like the physician, will first do no harm. Lighting is there to make things visible so of course the first thing we need to make sure of is that things can be seen. The how and what and when of the making sure things are seen is where the art begins. As I have been thinking about what I do and how I do it, I have come to realize that as a lighting designer what I am most proud of is when I have helped to successfully tell a story. I think all designers are storytellers, it is simply that the way the story is told in each profession is a bit different. If the costume designer and the set designer do not do their jobs well we will not understand the place or the characters.

INTRODUCTION

These are essential to a successful story and so we are all partnering in that process. In theatre early conversations with the director routinely center around what story we are telling and how we intend to tell it. Choreographers often shy away from using the term “story,” but communication is just as important in dance – we simply use different words.

So why do I single out lighting and what keeps me doing it? I believe the lighting designer is essential to the entire story-telling process. This is not to diminish what the other design professionals accomplish; far from it. My work would be significantly harder without theirs. What is different is that I am involved in the moment-to-moment story telling, just as the choreographer and dancers are. My work remains active and can, and often does, evolve as the work of the performers becomes more specific and refined. The set designer tells the story of place and often that is not a singular story. The costume designer tells the story of character, and again that is not a single story – even in most one-character shows there is change. But both of these artists, because of their medium, must commit to a final (or near final) version well before the play (or other performance) is set before an audience. It is simply the nature of the process. Sets must be built and painted and installed. Costumes must be built or purchased, fitted and altered, before they can go on stage. All of that takes time.

I am not trying to say that lighting does not take time; far from it. Lighting takes time to install and to plan. It needs to be designed and drafted, hung and focused, all of which takes time. But now the ability to alter the sequence in which lighting is triggered or to change the actual number and intensity of lights with the push of a button has allowed lighting to become as fluid a medium as the imagination of the performing artists. This means that I have to move as quickly as they do, I have to plan a design that is malleable, that is mutable, that has room for additions or changes. It is why so many lighting designers want moving lights and LED fixtures and color changers. It isn't just about having more toys, at least not with the really good designers; it is about being able to join in the creative dance that happens during the final push toward an opening night. I have to be ready to recognize where I am needed as a partner in the story and where I need to stay out of the way. I have to be ready with a concrete idea that can be shown to a director as soon as technical rehearsals begin; but I also need to be ready and willing to chuck it in the face of a better idea. I also need to help the director understand my process and make sure they know that I do not consider a cue complete until the whole show is in place. No matter how wonderful a moment may look, if it is out of step with the story it is wrong.

I realized as I was writing the previous statements that I am describing a process that is now very easy for me. I wish that I could say that it was always the case; and in truth there were shows that I worked on early in my career where it was that way. There were also a number of times when I stubbornly stuck with an idea that did not help the story telling. There

INTRODUCTION

were also times when the story changed during the process, and it was not until we were getting into problems in tech rehearsals that I realized it had. I also know that my effectiveness is not just a reflection on my preparation and my understanding of the story – it is also dependent on the trust I am able to build with the rest of the artists. Building this trust happens in big and little ways. It starts with the first conversations you have and it continues through the kinds of questions you ask and your ability to honestly and clearly respond to those asked of you. It requires that you are confident in yourself and what you can bring to the process. It also requires you to say so when you are not up to a task. In a profession where we are trained to never say no to a job (otherwise you may never get asked again) this is a very hard lesson to master.

So how do you go about doing what I do? First – you don't try to do what I do. I realized a long time ago that if I ever went to see a show and there was not one cue I would change or one moment I would handle differently then I needed to quit. Because it would mean that I was no longer unique. I have grown up a bit since then and I realized that even if someone executes the moment on stage in the same way I might have, they will never do it the same way I would have. Because it is in the doing, the working through a moment with fellow artists, that we are most uniquely ourselves. No matter how much we may wish to emulate someone else's approach, we are not someone else and the process is inexorably changed by that simple fact. So I am not writing this to teach you how to do what I do. I am not even trying to teach you to think about design the same way I do. I intend to share what I have discovered over the years. Some of this is what I was taught in school; sometimes I even realized how important it was when I learned it. Some of it is what I learned in school even though I wasn't taught it, but most of it is what I have realized through the process of doing.

I have tried to present the material in a logical fashion, moving from broad concepts into more tightly focused ideas. Anyone who has ever taken a class from me knows I am a non-linear thinker, but I usually get back to the point I was making; digression as a method of teaching. Each chapter was written as a stand-alone piece so while there may be some referencing back to other sections, for the most part you could look through the Contents and pick the topics that you are most interested in. In time I would hope you would read all of it but really the order is more an organizational tool than a proscriptive way to move through the material.

I could not have done this without a lot of help, but then again if I am honest that same statement holds true about my design work as well. I have had people who offered me time to write, have given advice, have read early drafts, and who have constantly encouraged me when I needed it. I have discussed ideas with colleagues and have discussed what I was doing with a few. I have drawn on many experiences that are not mine alone and have tried to be as fair and honest about them as I can. So I hope anyone who

INTRODUCTION

recognizes themselves in any of the stories feels as if they have been fairly treated. I honestly believe that we get nowhere in life or in art by ourselves. Even if we are alone when we are working on a project, at some point someone helped us with something that got us to that point. What is singular is the way we assemble the parts.

WHY DO WE NEED A BOOK
ABOUT DANCE LIGHTING?
OR, IF IT IS ALL DONE WITH
THE SAME LIGHTS, WHY IS
DANCE SO HARD TO GET
RIGHT?

If you ask any lighting design teacher to recommend a good source of information about lighting, they will generally point to the same half dozen or so books. They do a good job covering the basics of lighting, and that is why so many teachers use them. The main drawback as far as I am concerned is that in virtually all of these books dance lighting is relegated to, at best, one chapter. I have been designing dance for many years but I never thought I was doing anything that unique. I used many of the same principles as most other dance lighting designers to the point where it bordered on the formulaic, except it wasn't. I had a clear point of view but that didn't mean that the way I was doing it was all that different. This started to change when I was asked to give a three-hour presentation on dance lighting for the 2009 LDI conference and trade show, an annual gathering focused on live performance design. I remember starting by asking how many people in the audience had ever lit a dance piece. Virtually every hand went up. I then asked how many of them had been taught how to light a dance piece and virtually every hand went down – and I began to realize there was a gap that needed to be filled.

For many years now dance lighting has been considered a sub-specialization in lighting design and by and large it was assumed that if you knew how to light one kind of performance you could light any kind of performance. The curious thing about this business is that while I can assert that this sort of an assumption existed, I can also tell you with confidence that lighting designers tend to get pigeonholed. Early in my career I was identified as a dance lighting designer. I found it very hard to get jobs designing straight plays and virtually impossible to get musicals. I did migrate into opera but only on a very limited basis. The great irony of this

is that I received my design training from Carnegie Mellon University, a university without a dance program; I was trained exclusively in spoken word theatre.

So why was it that no one seemed to think there was a need to train designers in specific areas of lighting despite their being recognized as having areas of specialization? I have never been able to find a satisfying answer to that question. I have some ideas, and by and large they fall under the heading of economics, but I am not convinced that is the only reason. After all there are separate acting programs focused on straight plays and musicals within single theatre training programs – why not lighting design? Sub-specialties are recognized in other fields; it is about time that it happened in lighting.

I have seen and met many people who called themselves dance lighting designers, who worked in dance, and yet they had no real concept of what it meant to light dance. They didn't think you had to do anything different, except maybe pick different kinds of color. It was always amazing to me when I would run into these folks and I soon discovered they had something in common – they all wanted to be doing something else. I often wondered how they had gotten into the position they were in and why they tried so hard to keep it. Dance lighting will never make you either rich or famous. I also wondered why no one seemed to notice their work was not really that good. You could not clearly see the dancers, there were streaks of light across the bodies that broke the line of the movement, and sometimes the scenery had better lighting than the dancers. It is harder to work with a moving target than you might assume.

Dance aficionados, choreographers, dancers, and on occasion critics could tell you when they saw bad dance lighting. Most of them have an idea when they have seen good dance lighting but are less confident about it. Almost none of them could tell you why. In fact, it is the elusive “why” that prompted this book. I was recently part of another session on dance lighting at LDI that was called “Why Is Dance Lighting So Hard to Get Right?” We came in with a number of ideas and had covered most of the topics and toward the end we opened the floor up for questions. Most of these were along the lines of “I was lighting a piece and the choreographer asked me to do ...” – fairly predictable. Then as we were about to wrap it up someone raised their hand with a question. They asked us to describe what bad dance lighting was and how to get it right. Everyone on the panel hesitated. The answers started out from the same direction as the now famous statement from Supreme Court justice Potter Stewart: “I know it when I see it.” Ultimately we did hit on some more specific examples and they have found their way into another piece in this book.

Lighting designers can quickly tell if there is a problem, and I have read some very astute critics that got it as well; but if there are still concerts with bad lighting it either means not all artistic directors can see it, or there are

not enough people who know how to do it correctly. We all hope that the right people are able to make that distinction. There have been times when I was not sure I had hit the mark and there have been others when I heard words that confirmed I was doing it right. I was touring with the Nikolais Dance Theatre and on one of the very rare occasions that Alwin Nikolais (Nik) was not with us we performed in a municipal theatre in Roubaix, in the north of France. After the performance a man came backstage and introduced himself as Alfonso Cata. He demanded to know who had done the lighting for the performance. I had no idea who Alfonso was but I later learned that he was the artistic director for Ballet du Nord, the resident dance company in the theatre.

I told him that the designs were Nik's. He said he knew that but wanted to know who had actually done the lighting in that theatre. I told him I had, and he said "Good, you will design my next concert. I have been performing in here for years now and tonight was the first time I could see the dancers." I told him I was interested but it would all depend on my availability. He confidently told me when he set his mind to something he generally got it. Sure enough, in May of 1984 I was back in Roubaix to light Alfonso's production of *Sweet Carmen*, the first of almost a half-dozen pieces I would design for his company. After we opened *Carmen* Alfonso told me that his former lighting designer had sat next to him during the dress rehearsal. After a few minutes he had leaned over and said "I see what he is doing. He has put all of the light on the dancers." Alfonso said that before he had a chance to react this fellow then leaned in again and said "Too bad he didn't light the scenery, it is hard to see." It turned out he was also the set designer and made sure his own work always looked good.

One could argue that it is largely a case of aesthetics or personal taste but in fact there are several common mistakes that are made in dance lighting and many challenges. Certainly, the single biggest error, at least to my mind, is underestimating the task at hand. Lighting for dance is not really that easy. If you have been trained as a designer in a college program where there is no focus on dance, you have to be ready to let go of some significant assumptions about lighting. Other common pitfalls include knowing that you need lights on booms but not necessarily knowing what they should light, believing that McCandless-style front light is also the best answer for dance, or deciding that really saturated color makes it "dance lighting."

It is true that all lighting *is* done with the same lighting instruments, but one quick look at a light plot for a play and a good dance plot and you will be immediately struck by several obvious differences. The choice of color, the use of scenery, and certainly the location of the lighting instruments will differ to a certain degree. These are all clues that the designer is thinking about the space and the subject being lit differently. The answers are not all to be found in the plot. Look at the stage managers cue sheet, see how many cues there are and how close together they come within the dance

piece. Try to understand the pace or rhythm of the dance from the placement of the cues. The biggest difference is only apparent in a performance, that is when you should be able to see how differently the lights are used to create the stage pictures.

I am left then with the question of how best to fill the gap in the training we offer new designers. I could simply offer formulas – how many units per boom, how many colors in back light, how to focus seamless washes, how best to use front light, and so on. The “how to” sort of answers. But the point of this book is not just to tell you how to create a good light plot for dance but rather to try to help you understand why it is a different process and why we make the choices we do. Because if you do not understand why I am putting the lights where I am then it will be much harder for you to create effective light cues that will help the audience understand what the choreographer is trying to do. So how do we answer the big question of “why”?

To start with, we should all be able to agree that the basic function of lighting is visibility. This is true of architectural lighting, industrial lighting, and theatrical lighting. What elevates lighting to the realm of lighting design is the process we are working to understand. It is the need to make choices, choices driven by an artistic or aesthetic set of circumstances – this is the job of a designer. Lighting consultants who work in the industrial market have guidelines, generally established by safety groups such as OSHA, that determine the minimum number of foot-candles at a given work site; a very clear-cut and measurable standard for appropriate visibility. In general, that is where the process ends for them. They are interested in clear visibility because to them areas of darkness can lead to accidents. No one is likely to argue the case that this is an aesthetic process.

When we move into the area of artistic expression things are much less clear-cut, individual opinions and the “eye test” matter much more. It is in this realm that the ability to see something as bad or good is so much more subjective and why the very direct question from our audience member about bad dance lighting received a very indirect answer. But there are certain criteria we can define, and the criterion of visibility is certainly one of those. There are even cases where the level of visibility represents a specific design choice, but in general that is not the totality of what we are trying to accomplish. This is what distinguishes design – namely, choice. Without clear choices we are falling back onto the way it has always been done as opposed to finding our own way.

The primary way in which information is communicated to the audience in dance is through the body, and the way in which the body occupies the space. This may well mean that our ability to clearly see faces or eyes is no longer the priority it is in a text-based theatrical production. It most certainly means we need to be able to address both the figure and the space the figure occupies distinctly and, from time to time, independently. This

need dictates that we cannot simply use our lighting instruments in the same locations as we do for a traditional play, hence the difference between the two hypothetical light plots I described earlier. This basic idea about the different way in which information is being communicated to the audience is something that seems to have been missed in some of the poorer lighting designs I have seen. Or to put it another way, each form of communication or artistic expression deserves to be seen as different and the designer's response should reflect that. Using the same set up you had the last time you were in the theatre is not the right way to do something new.

Another big mistake that I see in poor dance lighting is in the way the designer reveals the space in which the dance occurs. Dancers occupy the stage in a different way than actors. They don't gravitate to down-stage center when they have something important to share. Sometimes the choreographer puts the critical moment as far away from the audience as possible. While blocking for an actor is critical it is also not as specific as choreography. This means that a dance lighting designer can be more specific in their cues because they can be fairly confident that the dancer will be within a foot of the same spot on stage every single time they hit a particular point in the music. I also believe that dancers are much more likely to know where the light is supposed to be and they will get to that place almost every time.

Most dance lighting designers approach light in very similar ways. We have come to accept certain conventions as foundational and we do talk with one another about theories or techniques for lighting dance. These relate to where lights should go, what sorts of colors should or should not be used, how best to focus the instruments, and how to figure out where a cue, or change in the lighting, belongs in a particular dance. These technical choices are what this book is about; but that is not all that I am trying to do. It is my hope that you will not only learn how to do these things but that you will also understand why we do them the way we do. Without an understanding of the "why" I do not think you can claim to understand "technique" – whether it is for dance lighting or classical music or painting.

I do not think that what is in this book is new; but I do believe that I may have a different way of thinking about it. I started designing lights in 1971; the earliest dance techniques trace back to the 15th or 16th centuries. Electric lights were developed in the late 1800s and stage lighting shifted to electricity as the century turned into the 1900s. My point in all of this is that it did not start with me and I have not really brought anything new to the process of lighting dance. The woman most people credit as establishing the first specific approach to lighting dance, Jean Rosenthal, wrote eloquently about the unique relationship between dancers and light. In her book *The Magic of Light* (p. 117) she opens her chapter on dance with the following quote:

Dancers live in light as fish live in water. The stage space in which they move is their aquarium, their portion of the sea. Within

translucent walls and above the stage floor, the lighting supports their flashing buoyance or their arrested sculptural bodies. The dance is fluid and never static, just as natural light is fluid and never static.

From the first time I read this quote I was struck by its poetry. The wisdom it contains was something I came to understand a bit more slowly. Dancers have a very different relationship with the theatrical space than virtually any other performer and as a result with the lighting that seeks to define it. The idea of an aquarium created by light is poetic, but it describes a practical process of defining, for the audience, the space in which the dance is to occur. It also speaks to the philosophical concept of support. We are called upon to support dancers in motion and in stasis, and as any dancer will tell you support is the key component in partner work. So we are, in effect, asked to create lighting that will partner the dancer.

Finally Ms Rosenthal speaks to the most challenging aspect of lighting dance – motion. When we were getting ready for the panel presentation one of the participants emailed us all a note that said “And did we mention that dancers move?” Actors certainly move about the stage space, so this concept of lighting things that will not be pinned down to a single spot is not alien to lighting designers. But dancers move as a way of communicating images and ideas. Generally speaking, they also move more frequently and cover greater distances than actors. Movement is their language and it is up to us to reveal it in appropriate ways without distorting the meaning of what is being said through the choreography and the performance. Ultimately it is a different and unique aesthetic partnership, more so than virtually any other that exists in live performance.

If that were not complicated enough we create new dance works and designs while inventing a new language almost every time we light a piece. We come into the process without a common text. Dances do not start from a script as a play does: it is written with the dancer’s bodies in the rehearsal studio. And as if it were not already hard enough, most of the time they are creating a new way of moving that will fit the needs of their new piece of choreography. If it is new to them how can we possibly be expected to understand it? But if we do not try, we will not get anywhere.

We, the designer and choreographer, have to find a common language. The designer will often have to create their own script of the piece because they need a way to communicate with the stage manager so that changes in the lighting happen when they are supposed to. Beyond that it helps them communicate with the dancers and choreographer, so that we are hopefully all talking about the same moment in the dance at the same time. This script, for lack of a better word, charts the course of the dance, identifies shifts in mood or perspective, highlights key moments, and serves the necessary functions of structuring the design impulse and providing a communication tool. If

it is done well it will be a tool that gets used by multiple people in the production. But even the poorest dance script will serve the lighting designer and improve the discussion with the choreographer. But to be clear – it is not a decisive record of the choreography, no one would ever dream of trying to teach a dance from the record the lighting designer makes. I will come back to this issue of communication and common language but there are other pitfalls to consider as well.

The role of the lighting designer changes from dance piece to dance piece. In some cases I have found myself called upon to create structure for a work, in others the focus was on storytelling. Sometimes I find I am called upon to organize the space in which the performance will take place and at others I have been asked to focus on supporting emotional communication. This is not unique to dance but it is more prevalent in dance. Sometimes I have even found that my role has been to follow specific technical instructions from a choreographer. (I will admit that I tend to rebel against those kinds of constraints and find ways to introduce my own ideas, as long as they do not do artistic damage to the work.) But even in those situations where I feel I am more of a technician than a designer I do find that dancers honestly respect the necessary partnership with light in ways that actors do not always understand – and that makes it easier to accept.

As an example, I was working with an actor on a production of Shakespeare's *Henry the Fourth*. I had created a very atmospheric cue that relied on templates of Gothic windows coming in on an upstage diagonal as a diagonal backlight. The actor playing the king had a critical line to deliver on his exit and I asked the director if I could help the actor understand how to play the light so we would not lose the line. By the time I got to the stage the actor had found the light and was experimenting with how he could use it. I asked if he would like me to stand in the light so he could see, and he said yes. As I headed back out into the house I complimented him on how quickly he had discovered what he had to do to make it work; he smiled at me and said "I used to dance."

Dance frequently has a greater need for lighting as the space is frequently empty of any specific scenic elements. Light serves to not only provide visibility for the dancers but can also take the place of scenery. Or at the very least define the space in the same way scenery might in a play. This leads to yet another difference. In a play scenery will often dictate where you can place lighting instruments and how those instruments can shine onto the performers. In the absence of scenery there are many more options available to the designer. These two variables are offset by yet another challenge – budget. Dance is generally produced on a very tight budget. This often means working within a fixed inventory, with reduced hours in the space as well as being asked to share it when you can get into the theatre. These competing interests have to be managed. The lack of scenery can be as much an aesthetic choice as a budgetary one. That same budget constraint

probably cuts into those wonderful options we thought we might have in terms of instrument placement.

Cueing – the pre-programmed shifting of light in terms of color or intensity to signal a change of mood or location in the performance – becomes critical as the need to maintain interest in a plain black box falls to the lighting and the dancer. The ability to create a large number of changes and different “looks” to the stage also suggest abundant instruments in many locations. It also means that the designer is looking for increased amounts of time in the theatre both to focus (or direct) all those lighting instruments and then to work out all those different cues. This is when the other budgetary issue comes to the surface – time. Time is of a premium in the world of dance, both because of the rental and labor costs but also because the space itself is at a premium. Many dance companies rehearse in chronically under-sized spaces. If there is enough room to replicate the entire performance area there will certainly not be enough room for the wings and the rest of the backstage areas. As a result the dancers and the choreographer are constantly looking for time in the performance space. And honestly, if they don’t get their work right, there is very little for me to do.

But limits can be good and sometimes too many options are indeed too many. Another lesson I remember from Jean Rosenthal was a statement in her book that she did some of her worst lighting when she had unlimited resources. When you are not forced to make the right kinds of decisions prior to arriving in the theatre, you will frequently find you do not have enough time to make them once you are there. Limited budgets spill over into all areas of the production. No money for scenery, no extra money for renting more lights, reduced number of crew members, and limited amount of time in the theatre. Not all of these will help you create a better design but they are all factors that impact your design. Nothing happens in a vacuum, particularly in the theatre where we all collaborate on a common outcome.

This brings me to a final, often overlooked, challenge in lighting dance. The need for speed and efficiency. I have never been asked to work as fast or to do as much in a limited amount of time as I have been when I have worked in dance. This was true with the Nikolias Dance Theatre with its domestic and international touring schedule; it was true of the Joffrey Ballet in its home seasons; and it was true when I took the company into the Metropolitan Opera House in Lincoln Center. But I also feel I have to say that if you can learn to work fast, if you can create your art under these pressured circumstances, you will make something that is spontaneous, inspiring, and absolutely right for the dance you are lighting. More time would simply cause you to second guess and overwork the piece.

I was reminded a while back of an apocryphal story about a designer who said their ideal process was to write cues while the dancers ran the piece. They allowed themselves the period of time that it took to perform the work

and, when the piece ended, their design was complete. In preparation they attended various rehearsals to fully learn the dance, they thought about their through line or visual arc, and made any adjustments they needed to in the plot so that they felt prepared. Then they went into the theatre and wrote the cues. I do not think that it is practical to try and cue an entire piece in the amount of time it takes to perform it, and as designers get more complicated instruments to work with it becomes a virtual impossibility. But the idea is sound and speaks to a level of preparedness and efficiency we need to strive for. If we can reach the same level of understanding of the dance that the dancers have, we should not need hours and hours of time in the space.

This desire for speed and efficiency appears in my own work as an admonition I often make to myself – never work on a cue longer than it will appear in the dance. The more you tinker and play the further you can stray from the central idea of the design you are creating, not to mention the tricks your eyes will play on you when you sit in a particular cue for a long time.

Dance is a wonderful performing art form to light. For whatever reason, I have felt that my work was more appreciated in the world of dance. There have also been more times that I felt as if my work was seamlessly incorporated into the performance in a way that made me very proud. When I can contribute to the final performance in a significant way and at the same time not pull attention onto my work, that is when I feel that I have been a good partner. That I have indeed (to borrow Ms. Rosenthal's words) supported the dancers "flashing buoyance or their arrested sculptural bodies." And that is when I feel I have fulfilled my responsibility as the lighting designer.

In the following chapters I hope to answer some of the "why" questions that surround this enigmatic art form. I will also return to some of the challenges I touched on briefly here. And hopefully I will make all of you want to go out and find a choreographer or a dance company with whom you can work to experience this incredible partnership. Jean Rosenthal closed her quote about dancers and light by saying "Designing for the dance has been my most constant love." It has been mine as well and I hope it will become yours.

WHAT'S IT ALL ABOUT? OR, DANCE, MEET LIGHT; LIGHT, MEET DANCE

Lighting design as a discipline – or an art form as I like to think of it – is relatively young. Up until about the 1930s all the formal lighting work in theatre was accomplished by people who were fulfilling other tasks. The set designer was often tasked with lighting the space as an extension of their vision for the set. They relied on the electricians to place instruments and masking based on general directions and then adjusted the intensities. Abe Feder, whose earliest Broadway credit dates to 1934, is frequently cited as the inventor or “father” of lighting designers. While he was not the only person fulfilling this function, Broadway records show he was the earliest one to be credited with lighting design on a Broadway production. It would be almost ten years before Jean Rosenthal and Peggy Clark would claim that same title; however, many of the earliest theories about lighting design are based on ideas that predate any of these individuals.

At the turn of the 20th century, Adolphe Appia (in the late 1890s) and Edward Gordon Craig (in the 1910s) wrote about their ideas for lighting in theatre, although much of what they theorized was not practical due to the limitations of the available equipment. Still they recognized the power of light to not only provide visibility but to convey emotion and to add to the overall scenographic statement of a piece of theatre. One of the earliest books written exclusively about lighting design for the theatre was *A Method of Lighting the Stage* by Stanley McCandless. Published in 1932, it contained practical directions for how to apply a standardized methodology to creating illumination that could serve an artistic purpose. It also discussed four properties of light and design that should be considered. Three of these – intensity, color, and distribution – are the same terms I currently use when I teach lighting design. Movement, the fourth property I discuss, was replaced with a section on control in McCandless’s book. They are certainly closely related concepts, as we use the control system to create movement in our designs. These concepts are what I call the manageable properties of light. Ultimately these ideas all became codified into a standard approach to teaching lighting design.

In my class I start with a very simple idea that, to my mind, runs to the core of lighting design. The most important thing about lighting is visibility, and we can never forget that part of the job. But what turns mere lighting into lighting design is the addition of one word. That word is “selective.” Lighting design is selective visibility. The word “selective” implies choices, decisions, specificity. All of these are part of it, but the foundation that all of this sits on is the idea that we care enough about how things are going to look that we want to make those choices. For a good designer it also means that those choices are always different because they relate directly to what we are lighting. Which brings us to the questions: What are the choices we are making? How do we make those choices? And almost more importantly, why are we making the choices we make?

I am starting here with the biggest kinds of questions about light; the answers apply to much more than dance. In fact, the same basic manageable properties of light apply to all lighting design. As designers we are working with tangible equipment – lighting instruments, cable, gel, control boards – in an effort to control an intangible element, light. While the tangible and the intangible can be bit of a mystery to anyone who has not taken several lighting classes or worked with the equipment in some capacity, we should remember that we do no one any good if we try to maintain an aura of mystery about these ideas. We are not members of some secret society, and directors and choreographers are not the enemy.

My father was a theatre director and one day he was heading out the door to a design meeting for a musical he was directing. He heaved a sigh and said he was not really looking forward to the conversation. I asked with whom he was meeting, because I was not used to anything but excitement when he was starting on a new production. He told me the meeting was with the lighting designer and that normally he enjoyed these conversations but that this particular designer liked to always speak in numbers when they were talking about color. To make matters worse if my father ever questioned the colors in tech rehearsals the designer would reply that my father had approved them when they met.

I suggested he was doing this for clarity and my father disagreed and said it felt more as if the designer was trying to keep the upper hand and never seemed to want to just describe the colors. He went on to say that he had simply not been able to figure out how to redirect the conversation away from numbers and back to ideas. I was still in college so I had some of my supplies from my design classes with me. I got out three gel swatch books. These “books” are sample pieces of all the colors a manufacturer makes with a piece of paper behind each one with the name and number of each color along with some technical information about the color medium. (Note: The term “gel,” while widely accepted in the industry, is a bit of a misnomer. It harkens back to the early days in lighting when color media were largely fabricated with a gelatin base to which dye had been

added. In modern usage “gel” is understood to be shorthand for color medium – the more technically correct term.)

I handed them to my father and he demurred saying he didn’t want to sort through them to find the numbers. I responded that he should think of them as a prop. I was certain that if he simply sat down in the meeting and set the gel books in the middle of the table his designer would have the sort of conversation with him that my father wanted to have. With the ability to immediately translate his numbers into actual gel colors there would be no value in using numbers instead of ideas. When my father came back from the meeting he was full of his usual energy leading into a new project. I asked how it had gone and he said it was the best meeting he had ever had with the designer, they shared more ideas than usual with each other, and the conversation about color had gone very well. He had managed, through the use of a simple prop, to get the conversation to be about the ideas of the design. The technical approach, the choices, were left entirely to the designer since they both now fully understood the ideas. A real partnership.

Color is one of the properties of light over which we have control and, by extension, choice. It is more important than ever to have color conversation without a total reliance on numbers of specific color media. This is because we now have a wide range of lighting instruments available to use that are capable of mixing colors directly in the instrument. We can now start with a particular shade of blue and then decide we want a little more green, or perhaps a touch more red, added to the color which can be accomplished by the turn of a dial. The ability to choose anything we want from the light board does not, however, mean that we should defer that decision to the level set or tech rehearsal. Choices still need to be made and they need to relate to the choreographic ideas and to the costumes and decor that will be part of the piece we are designing.

Color is also one of the two easiest manageable properties of light to understand, even with little to no training in lighting design. The other is intensity – how bright or dim we make the lighting. If color is ultimately one of the more complex elements of the design, intensity is probably the simplest. I say this because of the way in which we encounter these elements in our lives. Everyone has dealt with light that was too dim or too bright. We all have had the experience of walking into a dark room and hitting a light switch, or of sitting in a chair toward the end of the day reading and suddenly realizing we should have turned on a light much earlier in order to be able to see what we were reading. These are the functions of intensity. This property is one that we spend very little time discussing because it is so easy to adjust. In virtually every theatre the lights are managed with a dimming system so that the regulation of the intensity is almost as commonplace as the light switch I mentioned, just with many more options than on and off. The way that we do need to consider this quality is in terms of groupings and control. Even that has become significantly less important over the years.

In the past dimming systems were large and cumbersome. The amount of control you had was often a reflection of the amount of room available for those systems – they took up a lot of space. Contemporary systems typically feature more individual dimmers than you could imagine using and they are located at a distance from the stage to avoid both noise and heat, and to free up backstage space for more important functions. It is certainly not beyond the realm of possibility to put every individual light on its own dimmer.

In contrast color, or more specifically color in light, is a bit more alien to most people. It is not that we do not encounter colored light, it is more about how we see or interact with colored light. Our eyes have the remarkable capacity to adjust to changes in both intensity and color. Together with our brains they are able to keep adjusting to maintain a singular perception of color or intensity until the difference gets so extreme it is no longer possible for the brain to compensate for the changes. In other words, if you are in a room where there is a light source with variable color and you introduce a touch of blue, it will do very little to change your perception of the room. Unless the shift in color is abrupt or extreme your eye and your brain will maintain a consistent perception of color around you.

Another way of thinking about this is what happens with the sun throughout the day. At sunrise the color of sunlight is frequently seen as golden and those early rays of light coming in through a window can give a warm, almost candle-like, quality to morning light. Very quickly and almost imperceptibly that color shifts and we begin to see the sunlight as white. Toward the end of the day we can plainly see that the sunset has moved to a strong orange or even a reddish pink which we can sometimes see as we look at a tree or the side of a building. But if we look at a book or a piece of paper in our hands we will probably not see much, if any, of those warm colors. Our brain knows that paper is white and so that is what we see.

But now I feel as if I am making this about some secret knowledge again and that is not the point. The point is that when you ask most people to tell you a color of light they associate with an emotion or a place, they have a hard time doing so. If they can, their answer often turns out to be more about color in pigment than light. That does not mean we don't make choices; in fact one of the things I studied in lighting design was how to use color to support thematic or emotional ideas in a production. If a designer asks you about concepts or themes in a piece, or about the overall feel or idea of the work, they are often working on how to use color. I will still ask if there is a strong color sense or idea in a work I am designing because more and more theatre artists are able to speak in those terms. If, however, there is no real answer I do not take that to mean I cannot use color. It simply means that I will need to make that choice based on other criteria.

After color and intensity we look at distribution, or angle, in light. When a designer talks about this manageable property they are thinking about how

to reveal the three-dimensional quality of the body, and the space which the body occupies. This is an important component of the overall lighting design as it is what determines the placement of the lighting instruments. Light can come from virtually any direction. Our limitations are those created by the design of the theatre space in which we are working. The relationship of the placement of a light source to the object (person) being lit is what determines the “angle” of light; and the term “distribution” refers to the various combinations of angles we may choose to use to surround the object with light. When teaching about manageable properties of light I use these two terms interchangeably.

This consideration about distribution is important because it determines the kind and quality of shadows that are cast by and within the object being lit. Shadows are important because we actually learn more information about the three-dimensional quality of an object through shadow than we do from highlight. This means that the shadow can also distort our perception of an object. The simplest example of this is how kids will take a flashlight and put it under their chin, lighting their face from below to look “spooky.” This has that quality because all of the shadows have switched from their regular position below the thing casting a shadow, to above. Our brain immediately communicates that this image is unnatural and so it becomes strange or spooky.

In dance lighting, distribution also takes into account one other significant task: being able to separately light the dancer and the space, usually in the form of the floor or the background. This is not something that we only think about in dance, it is simply that more significance and more attention is placed on this aspect of the design.

Although not always counted among the manageable properties of light, I also like to consider texture as an element over which I have control and about which I have to make choices. It, along with color, distribution, and intensity, is a decision with direct impact on the light plot and so should be decided long before you go into a theatre. Texture is created either by multiple lighting instruments creating patterns of light and shadow, or they can be created within the beam of a single light by way of “gobos” or templates which can be placed in certain instruments. These patterns can be used to create a sense of place by projecting trees and leaves or cityscapes and window patterns. They can also be used to create abstract textural patterns that will flicker across dancers’ bodies as they move through the beam of light.

The final manageable property goes by the rather unfortunate title of “movement.” I say it is unfortunate because in a conversation that is about dance and light it really seems as if movement belongs to the dance side of things. In fact we are not really talking about movement in the traditional sense. While it is true that we may decide to use follow spots in certain instances, so that the beam of light moves across and around the stage in synchronicity with a performer, that is not the definition of this particular term.