

Sound Design Live

Build Your
Career As
A Sound
Engineer

by
Nathan Lively
Foreward by
Bob McCarthy



SOUND DESIGN LIVE:

Build Your Career As A Sound Engineer

By Nathan Lively



Humbly dedicated to [Steve Brown](#), who succumbed to cancer shortly before this book was published.

His work embodies the community-building sensibility to which I aspire. He will be very much missed in the global community of sound designers and theatre, in which he played a major part.

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ACKNOWLEDGMENTS

The material in this book comes from the massive generosity of [the 19 people](#) I interviewed during my first two years producing the *Sound Design Live* podcast. Their desire to spread valuable information and see others succeed in the area of professional audio is inspirational to me, and comprises the backbone of my work.

I would also like to thank [Elis Bradshaw](#) and [Ben Kates](#) for performing literary miracles with my talky words, [Mark Winslett](#) and Mercedes Groff for the cover design, and [Craig Sullender](#) for continued support.

FOREWORD

Audio engineering technology has changed, but the work is still all about connections. Not through CobraNet®, Dante® or AVB but rather the personal connections of telephones, email, social media, and old-fashioned face-to-face. Connecting to creative artists, crew, managers, producers and audiences. If you are already in this field, you are somewhere in this interconnected network. If you are wanting to get involved, welcome to the ultimate work in progress. This book is all about connections and why they are the most important, valuable, and motivating forces in the industry. Nathan Lively plays the role of network hub and monitors traffic in this book to give you a glimpse into the absolutely real experience of our peers and mentors in this trade.

The voices in this book have vastly different viewpoints, passions, and experience. Artists who use technology for self-expression, technologists

who thrive on being a conduit for artists to reach their audience, and folks who have worn many different hats. If Nathan had brought them all together in one room to discuss audio, there would be at least as many passionate disagreements as points of concordance. Two points they would all agree on are the importance of having a passion for this field of work, and attention to networking and relationships. So much of this field is serial monogamy, and therefore we must be careful to maintain good relationships, not burn bridges, and keep that little black book up to date with all the folks you might want to see in the future. This book examines the relationship issues that are so important for getting into, and staying in, this business.

Nathan's choice of speakers and topics provides a mix of information and experiences that I have not seen collected in one place. The viewpoints are refreshingly honest and free of the laundry lists of gear that characterize 90% of words written about this field. These are not all

superstar designers with mega-million dollar projects. Dive bars, home studios, educators, starving artists, and manufacturers are here as well. The contributors are very real people in whom it is impossible not to see a part of yourself, just as much as it impossible to not find a viewpoint that you had never considered or understood before.

Nathan's *Sound Design Live* podcasts have brought these people's voices to the internet and will continue to do so in the future. Here and now is a collection of assembled wisdom and experience that I believe will open your mind to the many ways you can expand your role in the audio professional network.

—*Bob McCarthy*

INTRODUCTION

Why I Started Sound Design Live



I started my podcast, [Sound Design Live](#), to find answers. I had many questions that weren't being satisfied by the trade magazines and books I was reading. Sometimes an author would cover a really interesting event, but would merely list facts without finding out why those choices were made. Other times I would read a great book on audio that would leave me with new questions; hosting the podcast allows me to discuss my questions directly with the authors. I guess other

people felt similarly, because since the podcast's creation in 2011 it has gained 37,000 followers on [SoundCloud](#).

I realize now that there is a middle area of pro audio education and reporting that is widely ignored. Between learning to connect a microphone to a mixer and delivering white papers at an AES convention, people are on their own as far as continuing education. Online forums try to fill this gap, but the available material is pretty thin. For this reason I decided to document my own education and technical knowledge as a pro audio freelancer.

The language in these interviews should be accessible to any audio professional and most students. There are no footnotes, but many acronyms and concepts are hyperlinked for further explanation. Also, there is no final index, but your eBook reader should allow you to search the text for any term.

How To Use This EBook

You can read this eBook from start to finish, but I find it functions best as a manual. Check the table of contents and find those topics that appeal to you. Interviews are presented in their original dialogue with my comments and questions in *red italics*. Some content has been edited for clarity.

I enjoy having conversations about audio, but I'm not a great writer, so aside from short introductions to each topic, I let the pros do most of the talking. I have included the best short clips from each interview; if you'd like to hear more, please find complete recordings available at sounddesignlive.com. Use the search box to find a specific name or skip to [their bios](#) at the end, which have a link to the interview. Keep in mind that these are transcriptions of live conversations; this is not a text book.

As an example of style as well as corroboration of my mission, here is an excerpt from my interview with Larry Crane:

Larry Crane (sound engineer)

Crane is the founder and editor of *Tape-Op*

Magazine. Here we commiserate on the lack of compelling pro audio journalism, which lead us both to start publishing on the subject.

The thing, too, that was really apparent is that with something like *Mix Magazine* or whomever—*EQ*, *Electronic Musician*—and almost everybody, is that they're much more likely to talk about the recording equipment than the techniques and the choices that led to using that equipment. I call it, The List. "I put a D12 on the kick and blah blah blah..." I mean, I'm not too interested in reading that stuff unless it's something really oddly unique or a brilliant little idea. [*laughs*]

I was reading that stuff while recording in my basement. I just thought, "Yeah, right. I don't have any of that stuff. I can't afford it. How about telling me where to place the snare drum, not telling me what mic to use?" [*laughs*]

Yes. I had the same experience with live sound trade magazines. There are a lot of lists of equipment and stuff that people are using on tour

and unless you're working on the next Madonna tour, those lists don't really help. I want to know why they made those choices. I want a lot more critical information.

It's easy to read that the new big tour has a 500 input MIDAS automated console. I'm sure they do. That's great. The rest of us are going, "What? I've got a Mackie." [*Laughter*] I've got a Mackie that someone poured beer on last week. I mean, I'm a little bit of a socialist at heart, so to me, when you see that people only discuss the upper echelons of the business that we're in, you realize that there's something really missing.

Working With Technical Limitations

“The enemy of art is the absence of limitations.” —Orson Welles

One of the problems I have with reading trade magazines is gear envy. Since I was a kid, I've wanted to work on giant shows with lots of cool equipment. Unfortunately, there are only a handful of those compared to the small gigs that most of us work on from day to day. So, what do we do when the job calls for a \$1,000 microphone but we only have a \$50 mess?

Roy Taylor (sound engineer)

Taylor is an Austin-based sound engineer and sound designer. Here he explains how limitations breed creativity.

It sounds like flying by the seat of your pants has been a recurring theme in your work.

I've kept the wide-eyed innocence of, “How

am I going to do this?" With each new challenge I look on the internet to see how people have done it before. I look at message boards to get ideas. I always remember a quote by Orson Welles that said, "The enemy of art is the absence of limitations;" you have what you have. It might be a six-channel mixer, you might have this microphone and that microphone, a certain amount of wires, and a budget of \$75, and there you go.

You figure out how to do it, and it isn't always the best way, but it's what is possible. I think I've learned a lot of things through that process. Maybe I wouldn't have learned anything if I had said, "You do that and it's going to cost six hundred bucks, or it will cost such amount to rent this." It's better to ask yourself, how can I do it with what I have? I've accumulated an arsenal of little toys and things that I like, but they're not necessarily the traditional tools used out there. I don't know. I'm using a lot of shotgun mics now, which make people ask, "Isn't there comb filtering and phasing and stuff?" And I'm like, "I

don't hear it."

Sometimes, like in the case of music production, it's what you take away that matters. Sometimes it is more powerful for the instruments to drop out and leave the voice on its own, rather than build up and use twenty cellos. Less is more. There are tools that do lots of things. I'll do shows at the Vortex where I've got two six-channel boards strung together. Then I realize, wait, now I have the facility to run two separate sound systems. What if I run some speakers on the back? It has led me to try things that I wouldn't have thought to do. If I'd had a digital board with recall, then maybe I would have just done the traditional thing.

When doing sound for artists like Emmylou Harris, what is most important to you on a technical level?

The promoters will get us, for the most part, what we need. I bring microphones. That's the one thing I won't do a tour without. I buy or rent what I think I need, and then during the first week

or so of a tour I hone it in.

I have some favorites and I'll bring several options that I like, but I think a good part of it is consistency. For me, that's the ear. Microphones are what hear the instrument or the voice. If there are five singers on stage, I've sometimes had three different kinds of microphones out there; I don't care that they're mismatched if they're right for the voices. That's what's important.

Cliff Caruthers (sound designer)

Caruthers is a San Francisco Bay Area sound designer and composer who thinks that big, expensive tools are generally unnecessary.

This show that I am working on now is at a tiny space, and they have these crappy old CD players. I was thinking, should I tell them to get a computer, or just get better CD players? In the end I told them to get CD players because they can spend \$150 and at least get some CD players with bigger buttons, so that operators have bigger things to push. If I tell them to get a computer,

then I will probably have to come in and make sure the operating system is up to date, to make sure everything is set so that there aren't any little bugs popping up, especially if they want to get a PC, and then it's all these other problems. Maybe I'm just describing the benefit of a hardware show-control system like a [Richmond Sound Design] AudioBox® or a [Meyer Sound] LCS over just using Qlab with a computer.

Well, talking to me personally, I don't see much of an advantage anymore. In fact, I think something like LCS in particular is a colossal waste of money. That's my opinion, especially in a climate like the one we are in right now where you can't find the money for an extra roll of gaff tape, let alone things you actually need.

I really feel like, particularly if you are just doing sound effects playback — if you are getting into live processing and stuff like that, that's a whole other discussion — but as far as just straight-up sound effects playback, I think you can do anything you are doing with LCS using Qlab and a little elbow grease.

Andy Graham (sound engineer)

Graham is a sound engineer and sound designer on London's West End. I interviewed him when he came to Berkeley Repertory Theatre with Kneehigh's [The Wild Bride](#).

I believe all of the actors and instruments are miked except for one of the actors, Audrey Brisson, who can't be miked because she gets covered in mud during the first act.

We did try, though. It's part of the Kneehigh way. Try it! It might cost a microphone, it might be a silly idea, but who is to say that it won't work unless we try and prove that it doesn't. So yes, we tried and failed.

She does eventually sing, at which point one of the other actors brings out a replica of a Shure 55S on a stand.

Yes.

I think that's significant, because up until then most of the technical elements are hidden.

Using a pair of SM55's is sort of a Kneehigh sound icon. Many shows prior to the last five years or so wouldn't have been radio miked. There wouldn't have been the budget for it, or perhaps even the technical creative team to facilitate it. With Simon [Baker, sound designer] coming in, I think that lifted a few more production values by proving that we can use radio mics.

The company has been going for thirty years, and they've probably tried radio mics and it's not really worked out. We've managed to change a few feelings and say yes, we can use radio mics. We can deliver what you want, hopefully eight times a week.

So, Kneehigh is very used to having cabled mics onstage. If you get to a point in a performance where you need someone to be miked, it would be a 58. We did a show last year, *The Red Shoes*, which was brought back for Kneehigh's 30th anniversary. We used a couple of SM58s on cables and no radio mics whatsoever, and I thought, that's strange. We've got technology. We can mic them. We can hide mics.

No, it's part of the Kneehigh look and feel. If we change too much, we take away some of the beauty of saying “This is a cable, this is how we do it.” A cabled mic is absolutely acceptable within the Kneehigh world.

Nevin Steinberg

Steinberg is a Broadway sound designer who declined to be included in this eBook, but I highly recommend listening to [his interview on Sound Design Live](#) for a good discussion about communicating with a production team concerning the ways every decision will affect the final result.

John Huntington (professor of entertainment technology)

While there are many people involved in the audio quality of an event, Huntington identifies the artist as the responsible party.

We are a very tiny market. I will have to double check the numbers, but the last time I

compared the revenues of GE and our industry, I think GE's revenue alone exceeded our entire live performance industry. Compared to other industries, we are pretty small. Compare us to Apple or Google or somebody like that and a single company can dwarf our whole industry.

So, we are always adapting and abusing things from other markets. Something on tour with the circus, for example, is going to get beat up and damaged in a way that probably only the military would exceed.

Let's talk about concert sound limitations for a minute. Let's say that the front of house mixer really cared about every audience member hearing really well. He might say to the concert promoter or the manager, "You need to hire a Systems Engineer to make sure that what I am mixing sounds great at every location," and they might respond with, "We can't afford that." Then he has to decide, "Okay, I'll do it, but it's only going to sound good at my location." That kind of thing probably happens quite often.

Absolutely. I think I am simplifying so as to not ramble on for too long, but we know that these situations are incredibly complicated. But, I think a focus on sound quality has to come from the artist.

For example, a friend of mine, Jamie Anderson, who is one of the owners of Rational Acoustics who make Smaart®, was on tour as the system engineer for Dave Matthews Band. They came to Madison Square Garden for about two nights. Between the first and second nights, the band authorized a work call in Madison Square Garden, which is not cheap, and they re-aimed the long throw PA elements they had. That's a level of scale that not a lot of people operate at.

Here's another example. Patti Smith was the opening act for another show I saw at the Garden, and she sounded great. The main act sounded horrible. No change in the PA, but the sound was terrible. Their friend from the bar forty years ago was mixing. Nobody was telling them that it sounds like crap, and they weren't hearing it because they were listening on IEMs.

There are two things I would say to the front-line people. One, walk away from the console a little bit. I have a feeling if that mixer had walked upstairs, he would not have been happy with the sound up there and he might have asked for it to be fixed. The second thing I have no evidence to back up, except my own experience. My hypothesis is that mixing and system engineering requires different brain wiring. I really enjoy system engineering, fixing problems in the PA. If I hear a distortion it drives me crazy. I can visualize and go after it. But I am not a very good mixer because I don't have the concentration for that. Things like noise and distortion very easily distract me. There are a lot of other people who are brilliant mixers and they do an amazing job, but it doesn't come as easily to them to visualize the sound waves and stuff like that. So my hypothesis, which I'd love to research someday, is that there are different aptitude sets for each skill.

I think there are two mind sets, and two kinds of people who really should be doing different

jobs. Obviously, that's not practical in a lot of small shows. If they are only going to hire one person, it's going to be the mixer, because you can't do anything without them.

MEET THE CONTRIBUTORS!

Alphabetical by last name.

“It just hit me: this is what real life is going to be. This is what I do.” —Roy Taylor

**Daniel Baker — sound designer with
Broken Chord Collective**



What gave you the idea to work in theatre? Did you have theatre in school?

In high school? Yes, I was in a couple of musicals. You know how high school theater is; I really enjoyed it. I grew up going to church. My grandmother played the piano and my mom was always in choir, so I was always in the church choirs. I had an interest in singing.

In high school I had the opportunity to do a couple of plays. I did a year of community

college in Texarkana, and the crowd that I fell into was the freaky theater kids who had not yet left their small town. I hated all the community theater people at the time. I was like, "Okay, if I'm in this town for another year, I'll kill myself." So I did a couple of musicals there at the community college, then went to the University of Arkansas and got a BA in Theater. About three years in, I quit school and took a big long break. I did various things, and when I came back I really didn't want to act. At that time, I was the same age as the MFA students. They didn't have an MFA in sound design, so there was a need for sound designers.

I got my first computer in 2000. I had never really owned a computer before. I got a computer that had Sound Forge. It was completely new. I made a score for Macbeth; it was really cool. Folks were like, "Oh, wow! You can go to grad school for that." I put a portfolio together and took that around at USITT. I met with the seven sound design schools that were there and got some offers. Ultimately, I did a three-year MFA

at the US School of Drama.

Steve Brown — sound designer,
composer, and head of audio at the
Royal Exchange Theatre



Can you remember how you got your first job in audio?

I'm completely untrained. I left school when I was 15. I played a bit of football, and I started to

play the drums and I became a drummer in a rock band. We made a few records and toured; sooner or later I realized I wasn't ever going to be the rock star I had dreamed about. I was looking around for other things to do, and a friend's mother was a drama teacher who suggested I might like to work in theater sound.

I checked it out and I got a job at my local theater as an operator. I didn't have a clue what I was doing but it was a great learning experience. I did a bit of stage lighting. I was offered a tour of a musical by Sandy Wilson called *The Boy Friend*. It was a cheap tour, shall we say, but I grabbed it with both hands and went on the road for six months, touring around the UK and learning lots about mixing a musical. It was a fantastic experience. From that I was offered some more work on musicals, and I was offered a job with the Royal Shakespeare Company very early on. I went off to work for them for six years, touring around the world with various shows of theirs.

Touring was a great learning experience for

me, because you might be out on the road and be faced with a huge problem of some kind, and you have to rely on your own skill and wit to get you out of that problem. I think that's a fantastic way to learn.

I've made every mistake that a sound engineer, sound technician, or sound designer can ever make, but I think the important thing is that I only made them once. The best thing to do is own up to it and put it right.

**Cliff Caruthers — sound designer,
composer**



You have created soundscapes and music for over a hundred Bay Area productions, you're an Artistic Associate at Cutting Ball Theatre and a company member of Crowded Fire, and now at you are teaching ACT? Are you a resident designer?

Sound Design Associate.

Another San Francisco designer recently told me that you can't make a living as a designer. So, my question is, is that true, and if so, how are you

alive right now? [laughter]

Well, you have to define ‘make a living,’ first of all. I’ve been able to do it for the past six or seven years. I have been here for about ten years, and it is pretty tough to do it purely freelance. I manage it, but I work a lot. I thrive on that, so it works for me; it’s not for everyone. Most people I know who are making a living in theatre work a lot. They’ve also got a teaching gig on the side, or they have a part-time gig with a theatre doing something outside their field. They find some way to stabilize their income so they can do the theatre work that they want to do. So yes, it is really hard.

You made it work by being full-time some places, and doing other shows on top of that?

I ended up getting a resident designer gig with Theatre Works back in 2003. I started out designing half their shows one year, and then a couple years later I went full-time and started doing all of them. That got me through some very dry years while I was still building up clients.

They were very good about letting me take as much outside work as I could deal with. It was a really good arrangement for me. After a few years of doing that, I got to a point where I could pretty much be freelance and make a living. I am never going to be rich, and I will never be able to afford most of the equipment that I use; that's at the theatre. That's just the way it is.

Eddie Codel — live video streaming expert



What were some of your first jobs?

The gig that got me the job at Ustream is a pretty funny story. MySpace was doing a secret show in San Francisco, when MySpace was still relevant, and Weezer was playing. I think it was at...

When Weezer was still relevant...

Yes, so probably 2007 or 2008. It was a multi-camera shoot and Ustream was broadcasting it

live. The cameras went out and people were like, "What's going on?" It was right in the middle of the show. I was like, "I'll figure this out," and I followed the BNC cable from the TriCaster® all the way back to where the camera was, because I figured somebody stepped on the cable. I followed it all the way back, and I was literally in the pit in front of the stage where the security and photographers were. I found the BNC cable ripped apart where the cameraman had stepped on it or something.

Immediately, I was like, "Shit, well..." The cable ripped, so I had to actually re-crimp it and put it back together or find another cable. They had a satellite truck to send a video feed out, so I ran down the truck. There was some guy from Santa Cruz just sitting there smoking a joint, and he saw me and thought I was a boss or something. I'm like, "Dude, it's cool. It's just the BNC cable." He put the joint down and gave me the stuff. I ran back up there and reconnected it.

You had to run through a few hundred feet of

feeds.

I had to diagnose it and get the cable all within a few minutes' time while the show was going, and avoid the people moshing around me. I did that, and they got the camera up. When we got back to Ustream, they realized that I know what I'm doing and I was able to solve problems under fire, so I got hired. That was a really awesome gig.

I was running production services there, which meant I got to go do some really cool events around the world. For example, I was on a project with Sports Illustrated swimsuit models for a week in Las Vegas. I was the Ustream representative to make sure nothing went wrong. So I had to be on the bus with the models, and plenty of them.

Sounds terrible.

Yes, it was quite an experience.

Larry Crane — record producer, sound engineer, founder of Tape Op magazine,

owner of Jackpot Studios



I was a musician and played in a band for eight years, plus I did home recording as far back as probably 1979, when I was a teenager. I studied electronics in high school. I studied communications and art in college. Then I was in a band, and I was the one handling a lot of the co-production side from the band standpoint: running us through rehearsals, recording rehearsals, working on arrangements. At the time I didn't

realize that I was learning how to produce records.

I had been writing for different magazines, and all of them simultaneously went defunct. *[laughs]* I wanted to keep writing because I had been writing record reviews and concert reviews and doing interviews and stuff like that, and I wanted an outlet.

The other thing was I started recording people in my basement, trying to learn. I was trying to figure it out. I went to the library a lot to do research. I read every book I could get my hands on. I read all the other magazines. I spent a lot of time doing research, and I would call my friends who were professional engineers and pick their brains. All of a sudden it made sense that the magazine writing outlet could also be the recording outlet.

Pierre Dupree — Audio Supervisor at the Alley Theatre in Houston, Texas



High school is when I started getting into theatre. I went to Jesuit College Prep in Dallas, and we had a very good theatre program over there. We did a lot of really good plays that were great for high schoolers to do. Obvious things like *Hamlet*, but we also did Arthur Miller's *The Crucible*, some shows with a lot of sound. *One Flew Over The Cuckoo's Nest*. We even did *Auntie Mame*, and that really got me excited about theatre and everything I loved about music,

including the creation of music, creation of sound, using various different playback devices, and speaker placement. It's most satisfying in the context of theatre.

Honestly, there were a lot of pretty girls in theatre. That initial motivation in high school set me on the course to where I am now.

**Howie Gordon — studio musician,
college professor**



Gordon has been an active musician in the Philadelphia area for over twenty years. He graduated from Philadelphia's University of the Arts with a Master's Degree in Jazz Performance with concentrations in composition and music technology. He is also an experienced studio musician, working extensively with Grammy-nominated producer David Ivory, and has performed session work at Dylanava Studios, Sigma Sound, Studio 4, Philadelphia International Records, and countless other recording studios in the Philadelphia area.

Gordon is a recipient of the Steinway Award for Outstanding Pianistic Ability, Musicianship, and Artistic and Academic Scholarship. He also received the National Academy of the Recording Arts and Sciences Award for Excellence in the Field of Music and the Recording Arts and Sciences.

Andy Graham — sound designer, sound engineer



I want to know how you got into the West End. I imagine there is a lot of competition for those jobs.

I think it's one of those things that is strangely easy to get into, because we work very much by recommendations. You can do drama school training, that's what I did. I'd always done amateur theatre, and I took a year out to work in producing and receiving before I came to college

in London. I got to know how the industry works from a more professional point of view. Then I went to London and spent two years at drama school, which was a fantastic opportunity to get to London from Liverpool. That's about 200 miles away. It really got me into the culture by meeting people.

In terms of how I actually got into the job, I was very fortunate. I met up with a friend one afternoon for a coffee. He was an A2 operator on a show twelve or thirteen years ago, and he said, "Oh, you're still interested. That's fantastic. Why don't you come in this evening and see how it is from a different point of view." Then twenty-four hours later someone got sick and they said, "Well, you were in yesterday." That was a real baptism by fire, going from thinking you know everything as a fourteen- or fifteen-year-old, to realizing you don't know much as a seventeen- or eighteen-year-old, to being nineteen and realizing you know nothing and you have to be taught and here you go.

You were making connections, but you weren't necessarily promoting yourself.

A lot of it is about being in the right place at the right time. We don't have a strong union like you guys do here, so we don't really have to prove anything to anyone, apart from, can we get along? Can you do the job? Are you competent? Do people want to have you around?

[on working with [KneeHigh](#)]

Just keep trying. That's what I've learned to do well with KneeHigh. With this show, for example, there are many cues for thunder for various entrances and exits. What if we said, we're not going to do thunder? Instead, we have a water phone. We have crashes. We have bangs. Don't take everything at face value. Try and think outside the box a bit, and sometimes people will think you're an absolute genius. Other times they'll turn around and say, "Where's the thunder I asked for?"

[John Huntington](#) — Professor of

Entertainment Technology at New York City College of Technology



When I graduated, I got a job at Theater Crafts and Lighting Dimensions. I think it's the only job I ever saw advertised and then applied for. I did that for a couple of years, and then Steve Terry hired me to work at Production and I worked there for a couple of years.

I took the Local 1 Stagehand's Apprentice test somewhere along the line, and seven years later they offered me the job of handing out drill bits at

the ABC Carpentry Shop. At the time I was traveling to Italy to install lighting systems on cruise ships and I had already started work on the first edition of my book [[*Show Networks and Control Systems*](#)]. I said no, and everybody thought I was crazy.

I left there and I worked for the Metropolitan Opera. I had a friend at the Met and I ended up working there for three years. I was lucky because it was at a time when they were getting much more serious about sound. We really rebuilt the whole system. The group upgraded the skill level there by six orders of magnitude, and now they have a really kickass sound department, which is great.

I left that job to work for one of my mentors, George Kindler, who did every cool show control thing in Vegas. PRG bought him [out], and I was working in the PRG office when they were acquiring everything. Unfortunately, that didn't work out, and I left when I got an offer at City Tech. I actually got that offer because I got in an online argument with my colleague David Smith.

We got arguing about something and David was like, “Hey, you want to grab lunch? We’re looking for somebody.” I’ve been there now for twelve years.

Ellen Juhlin — sound designer, project manager, game designer



My first sound design projects for shows were at school, but there is actually a rather extensive theatre community in Pittsburgh. Most of them

have connections to Carnegie Mellon, because it was actually the first university to have a theatre program in the United States. So, there were a bunch of people around town who were very familiar with the program and knew many of the faculty and staff members.

My first sound design job outside of school was at the Benetton Center, working with Chris Evans on the Civic Light Opera, which is the summer season in Pittsburgh. They were created to bring in talent from New York and Los Angeles and put on big shows. They have a six million dollar budget and they do five or six shows over the summer, big musicals sometimes involving touring productions or co-productions.

In my senior year at Carnegie Mellon I went to [USITT](#), which is a big technical theatre conference. That's also where a bunch of theatrical sound designers get together every year, and companies like Disney and Cirque du Soleil show up to hire interns and upcoming graduates. That's where I first got connected with Disney and got hired to work in the parks as an...

You played Minnie Mouse?

No, I ran monitors for a show at American Gardens. There was a show with a really awesome band called Off Kilter, who are still there. Also at USITT I met BC Keller, who at the time was Head of Audio at South Coast Repertory Theatre in Costa Mesa. I had heard about it because they had an [LCS Matrix3](#) system, which was the predecessor to D-Mitri.

I'd been at DisneyWorld for maybe two months when I saw that the South Coast Rep was hiring an audio technician. I knew BC, so I applied for the job and said, "Please, get me out of Orlando." [laughter] "Please, please, please." He relented and hired me, and that's where I started using the Matrix3 system with the CueStation software.

It sounds like USITT is a pretty sweet place to make connections and get jobs.

It's great for students, especially for anybody who is interested in working at Disney or Cirque du Soleil. Both of them show up and they have

great internship programs. You can talk to some pro audio manufacturers. Meyer Sound is always there, as well as D&B and some other companies.

I know people want to know how you got the job at Meyer Sound.

While I was working at South Coast Rep I was using CueStation software, and LCS, the company that made the program was up the road in Sierra Madre, about an hour away. Since it was repertory theatre, we had different shows every month and we were able to be a beta test site for new releases of CueStation software and firmware. I was filing bug reports and asking questions, sharing what I liked and didn't like. I got to know the people at LCS.

They had a job opening for a product specialist right at the end of the South Coast Repertory season, so I applied for that job and managed to get hired. I was managing the beta program for CueStation, getting feedback and writing release notes and documentation. Shortly after I was hired they announced that Meyer Sound was

going to acquire LCS. I got acquired along with the rest of the company, and that's how I ended up working for Meyer Sound.

Bob Lentini — sound engineer, software programmer, and entrepreneur



You worked in electronics repair, then recording studios, then live concerts, then software development, and none of it ever seemed premeditated.

Well, that's pretty true. I went to college with a plan to take electronics engineering. I went to Drexel University near Philadelphia. During that study I found the books and the process to be too boxed in for my taste, basically.

I didn't leave just to be a rebel and throw it back in somebody's face. I listened and looked at the norm and what their trained skilled set was, and the way they approach sound and math. Then I deviated from that when I felt that something could be done differently, maybe a little more effectively, to get better. What really matters are the results. I got into one thing, which led to another, that led to another, which led to another...

Brian Linds — actor, sound designer



I became an avid listener of music when I was thirteen years old. Sound design probably started forming in my head back then. I liked to listen to music that was outside the norm. People like Frank Zappa really inspired me. They were doing amazing things.

I was always a music collector. I got into the habit of buying records so much that we had to buy a house that would house my record collection, because I have over ten thousand

records. It got a bit crazy. It isn't necessarily designing, but I have a huge kind of treasure trove to go through, to find interesting stuff.

When I was younger and starting to be an actor, I would always have people over and say, "You gotta hear this piece of music, it's amazing," either because the musician was unbelievably good or so bad you had to listen and laugh. That turned into me doing radio work for community radio stations at universities.

As a DJ?

As a DJ, yeah, hosting a radio show called Uncle Brie's Funhouse on CFUV radio in Victoria. I did that for about twelve years. I started to add in little bits of samples. I would do themes on trees and throw in Pioneer Chainsaw commercials from the 50s, that kind of stuff. I started to learn the editing process.

That got me playing around with some of the software, but really I was an actor first. In 1981 I graduated from theatre school and worked professionally for about twenty-five years. Then

someone asked me to do a sound design ‘cause they knew about my background in music.

Aaron Meicht — musician, sound designer, and composer with Broken Chord



I started my life as a musician. I’m a trumpet player, and that’s what I went to school for. I lived in Philly and played a lot of music there. I didn’t do theater until about ten or twelve years

ago when I did a production that required music, not really sound design. I didn't even really know what that was.

I also studied computer music and composition in Europe. That was my base, but I always enjoyed theater. I started getting a few jobs as a sound designer. Most of them included composition. That was my primary interest. I was in New York, and a director friend of mine who knew both of us separately and said she wanted me to write music for a production and Daniel Baker to do sound design. She thought we would hit it off, and we did.

Moldover — electronic instrument designer, musician, and teacher



You run a blog, [Controllerism](#), have your site [moldover.com](#), and you produce some shows through [LoveTech](#). One of the things that you do besides performances is sound control playshops. I was wondering if you could give an overview of those?

We like the term playshops because we think music should be fun. Workshops don't get me excited about making music. Sound control is the

term I came up with to talk about what I do. It's in the same spirit as controllerism.

Sound Control and controllerism playshops are about playing sound with new instruments. Typically they last two hours. I do them in universities, colleges, and on Skype. I did one with a group in Italy not long ago. I have slides and other stuff to provide visual interest, and I play a little bit of live music and do question and answer. I value education very highly, and I think that's the most important thing you can do.

Mark Mosher — electronic musician, composer, performer, social media maven



Ever since I was a child, I've been involved in music in some form. I actually grew up playing organ, not piano. I took organ lessons. Later, as I got into high school, I started getting interested in electronic music. I started listening to the iconic classics — Kraftwerk, Gary Numan, all those things — and playing in bands for fun. Of course I got into synthesizers, and I had to learn to program synthesizers to cover a particular sound so that when we played live it sounded somewhat like the album.

It was not like today where you have a lot of

online tutorials. You had to be self-motivated. There were very few people in any given area doing this sort of thing, so there was a lot of experimentation.

Later I moved on to doing music professionally as a musician in bands that made money. I've been playing professionally since probably '89. Around 2002 I started getting into custom composition using a combination of hardware and software so I could create my own arrangements without having to hire studio musicians.

I went on to do sound design for live theater. I did about nine months of shows doing sound design. At some point, after doing this for quite a while, I wanted to just be a solo artist and release albums. And, since I'd been working with synthesizers and all this gear for so long, I really wanted to find a way to give back.

For about five and a half years I've run a blog called [Modulate This](#) where I cover industry news. That's how it started out, but it really has turned into a tool to pass on tidbits, ideas, and

concepts about how to transcend the technology to make art. I've also been experimenting with different ways to get sounds to people. I kind of wear different hats. Some days I'm a composer. Some days I feel like I'm just a synthesist and a sound designer. Some days those worlds collide and merge.

I love creating sounds and synthesizers from scratch. I initialize the patch and just sit down and see where I can take it. I've been searching for a venue online where I can be effective in getting those sounds out to people.

GW Rodriguez — sound designer, programmer

The beginning of my sound designer journey wasn't rooted in building and playing back sound files via reel-to-reel like many of the greats, like Abe Jacobs. (I know this may discredit me a little for some of you sound gurus out there.) I started by editing sound files on mini disc players and performing live sound effects via synthesizer. Don't be fooled: splicing two songs on mini discs

is as destructive as cutting tape, and it's wicked hard.

The tools for design were relatively simple, not a large amount of different audio gear. You could record sounds via a microphone, use a mixer to add reverb, delay, etc., and use a DAW, a Digital Audio Workstation, to achieve similar and more advanced effects and playing back those creations.

As I evolved as a sound designer, I was introduced to Stage Research's SFX. This program allowed you to play back sound files to multiple outputs depending on your output card or audio interface. Most importantly, you could fade the sound files in or out of the different outputs. A new world of design creation, technique, and execution was open to me, but I had to figure out how to get the thoughts in my head into the computer with this new language.

Hello, sample and bit rates, ugh! I remember having to make sure my hardware, software, and sound files were all the same sample rate, but it was well worth the artistic possibilities that SFX

opened up. The point is, in order to achieve a specific sound cue, I had to interpret the way the cue would need to be programmed in SFX. I had to know the syntax of the SFX language to make the cue happen. It's very different than visually moving the region of audio in a timeline on a DAW, which is more instinctual and requires very little interpretation.

**Dimitris Sotiropoulos — Athens-based
sound engineer for touring and
recording**



I just like the job. It's amazing, it's challenging, and there is always, always, always something new to learn. You will never know it all. You get to know great people, and the biggest jerks. They're all in our industry.

Also, it's really fun. It makes me think more. It sometimes makes me have more patience with people and sometimes not. I think it's the struggle between gigging and meeting new people, and doing records and getting intimate with people

and their musical dreams that gives me an opportunity to be a better person for myself and for the people I work with.

**Roy Taylor — theatrical sound designer,
concert sound engineer**



You just get your hands on stuff, figure it all out, and help your friends. At one point, when I was living in Madison, Wisconsin, one of my

friends was a guy named Pat McDonald who had a band called Pat McDonald and The Essentials. Gradually they got bigger and bigger, and he was able to hire me to go on little road trips around the midwest to do sound for them.

They left town while I was running a bar, which usually involved booking the bands, bartending, and running sound. That was sort of a punk rock circuit place. I'd see touring bands come in and I'd meet their engineers. Pat moved to Austin, and he and his wife got a band together called Timbuk 3. They got a record deal, and Pat called up and said, "Do you want to come down and help us out while we go to LA and make this record?" Since the temperature in Madison was nine degrees [*chuckles*], I said sure.

I ended up going down there, sleeping on their couch, getting ready to go to LA, making the record. We made the record, I became their babysitter, became their manager...

Wow, babysitter to manager.

Babysitter to manager, and mixing sound for

them through all that. There was sort of a steep learning curve at that point.

You had never done management before that?

I had never done management before.

Except for some other work at that bar?

The record company at the time was I.R.S. Records, which was owned by Miles Copeland. He became our mentor. He was the guy I could call and ask, “What do I do about this?” He couldn’t manage the band, or they didn’t want him managing the band, because there would be a conflict of interest with him being on both sides — band management and the record label. I was sort of the buffer in between, which became fun. I got to argue with Miles Copeland.

Nice!

That sort of led me into the sound and business side of this, and also exposed me to production. I had a little experience playing in bands in Madison. By a stroke of luck, I was also able to

work in a little 8-track studio owned by a producer, Butch Vig, who after that went on to produce “Nevermind” for Nirvana, Sonic Youth, and so on.

Garbage?

Garbage. He plays drums with Garbage. It was like he was just learning at the time. Little 8-track machine. That was the foundation of the original Smart Studios.

And you got more and more jobs working with bands?

Pretty much! At a certain point, I was twenty-nine years old, turning thirty, and going through that personal questioning of “What I am going to do? If this is play, what’s my real life going to be?”

“Now I’m an adult.”

And it just hit me: *this is* what real life is going to be. This is what I do. Something hit me and it’s been kind of a mantra since then. It’s one

project to the next. Your job isn't necessarily going to be your job forever. This isn't like working at Monsanto or something. What you do is going to change, and the opportunities are going to keep changing. Just follow that path.

Mark Winslett — recording artist, actor, and comedy writer



There is a lot of comedy on your record. With

songs like “Backdoor Circus” and “Auto Hizzled,” it seems like it's natural for you to combine comedy and music. There are some love songs, too. Is that something that you planned on?

I think about what I want the message in each song to be for a while. I found out early on in my music career that if I stick with comedy, I can make people enjoy my music a lot more easily than if I'm trying to come at them from a different angle.

You didn't make the entire album like that.

I don't want to listen to funny shit for fifty minutes straight.

Feedback

Congratulations! You made it all the way to the end. Was it good for you, too? [Let me know.](#)

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