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The Indie A Cappella Project: Modern music production techniques applied to a cappella music from singer-songwriters.

Abstract

The phrase "*a cappella*" is Italian for "in the manner of the chapel," meaning that the music is performed with only voices, without accompaniment by any other instruments. This inherent distinction is part of the reason why I am troubled by a rise in an over-processed "pop-music" sound on collegiate a cappella recordings. I'd like to demonstrate that the use of excessive post-production and digital effects is not necessary in creating a successful contemporary a cappella recording. I want to arrange, record, and mix an EP of six a cappella covers of songs written by independent singer-songwriters. In my production process, I want to emphasize that proper "pre-production" preparation with well-written arrangements, engaged performances, and context-aware recording techniques, allows a producer to rely less on mixed effects to leave the final product in a more believable and "real" sonic state. I want to access music from independent songwriters to highlight the importance of creative original songwriting in the arranging process. In an effort to give back to the original songwriters in more than recognition, I want to start a Kickstarter fundraiser to help finance the distribution of the final EP beyond Elon's campus. Half of the proceeds from this fundraiser would immediately go back to the songwriters while the other half would be used to pay for more professional mastering and duplication services.

History, Background, and Significance

Over the summer, while completing an internship for my major, I was also working on feedback for the tracks that would soon be Rip_Chord's latest EP. The six songs therein were the best that we had to offer to the a cappella world at large, and we've been competing for our own spot on annual compilations with our last two albums. To compare what kind of competition we would have for the coming year, I was listening to the selections for the "Best Of Collegiate A Cappella" compilation for 2013 and years past. What I found was not altogether pleasing. I found that as I moved forward chronologically, the selections became less and less about the vocalists, and more about the cool effects that were possible with the speed and flexibility of digital recording. I felt this with Rip_Chord's songs as well, where the professional studio handling our EP took the liberty of re-arranging our parts for one of the songs so that it was no longer true-to-life. One of the things that I have always found to be impressive about a cappella music is live performance. There's something special about a group that can take a song and re-create it live using only their voices. With an increase in the overall "produced" sound of a cappella music, I'm less and less convinced that the recorded arrangements are viable live pieces. The impetus for this project was a desire to change that; to make the music more about a recreation of a beautiful live performance using the tools available in modern studio techniques

When the Whiffenpoofs of Yale University were formed in 1909, collegiate a cappella was distinguishable from barbershop only in numbers (of singers,) and quality. Back then, a cappella, for the most part, was comprised of songs that were already recognized as a cappella songs in the popular eye. Up until the 1980s, it was not uncommon to just hear extra harmonies over the original soloist and background singers in a successful arrangement. To use a term from Micky Rapkin's book, "doo-wop" singers were the norm in collegiate a cappella, until 1989. Deke Sharon, the self-proclaimed father of contemporary a cappella, saw "Say Anything" in theaters that April, and arranged Peter Gabriel's "In Your Eyes" from the soundtrack. With this single arrangement, contemporary a cappella was born, reincarnating traditional four-part harmony as a "vocal band," where each part was imitating an instrument from the original songs.

Not too long after that, vocal percussion followed, and it was off to the races; a rock-and-roll band with only voices for instruments. Since that time, collegiate a cappella has retained much of the same “vocal band” formula. The most recent changes to collegiate a cappella followed hot on the heels of a software program called “Pro Tools”, that was inviting the recording industry into the digital realm, and with it, incredibly fast editing and mixing. By 1999, Pro Tools could be run on a personal computer, with built-in effects processing to emulate (loosely) the analog compressors and EQ controls of a professional recording studio. It was at this point that Bill Hare, now known as the “Dr. Dre” of a cappella recording, started making the shift from recording hair bands to recording singing college students. Instead of placing the singers around 1 or 2 microphones, he would record the voices individually, and process them as he would have processed the instruments that the voices emulated in the “vocal band”. While Bill’s work rocked the world, in terms of quality and polish, his competitors on the East Coast were left scrambling to recreate his sound. Fast-forward to present day, and most a cappella recording companies have caught on to Bill’s technique, but it’s not quite the same. Now, for around \$600 and a bit of internet research, just about anyone can set up an adequate recording environment with which to apply Bill’s techniques. It has never been easier for the average musician to produce music from the comfort of his own home (or dorm); now more and more collegiate groups are starting to record and produce albums of their work.

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I'm sure that this is not a new concept. I've found that well-accomplished and consistently talented groups can produce quality albums with just the right amount of effects and processing. A large deficiency is in the repertoire chosen to be performed. To appeal to a collegiate audience, a lot of the music that collegiate groups perform is popular music that their peers hear on the radio or online. Unfortunately, not all popular music is good, and it's hard to take a bad song and make a successful arrangement without investing lots of time and often money. A lot of today's music can be driven to popularity with enough publicity and marketing. Smaller singer-songwriters and bands often don't have the resources to make that marketed rise happen. Not all good music is popular, but since most audiences connect most with songs they have already heard, music from independent artists and singer-songwriters often doesn't get chosen for collegiate a cappella repertoire. This is why I intend the source music for this project to come from smaller bands and singer-songwriters; to bring them recognition for their musical contributions to the world. In the same way that collegiate doo-wop groups in the 1990s were all performing the same music, now formulaic pop music is the norm in collegiate a cappella, and it's just not that interesting. My hope is that by bringing songs that no one else has ever arranged or performed into light, I'll start a movement away from popular music that forces groups to stay close to home, and prove that sometimes it's easier to look outside the box.

Methods

The first step to this project is finding music that I might want to use in the project. This involves a lot of internet research and attending local concerts from touring bands to find music that I enjoy. There could even be a song or two from students at Elon if the songs are good enough. Once I have a list of potential songs for the project, I will attempt to contact the artists however I can; directly by e-mail or phone, or through their management company. The purpose of contacting the artists is to gain their permission to use their work for the project. This is also necessary for another aspect of the project, which I will explain later on.

In parallel with communicating with potential artists, I will be starting to analyze successful arrangements by professional arrangers in the a cappella scene, like Tom Anderson. The purpose of this analysis is to begin to identify what a successful arrangement incorporates, and use this information to build a sort of "arranging toolkit", with strategies to help me work through the writing of tougher arrangements. This process is mostly subjective, and while I have some experience through my duties as Rip_Chord Music Director, I wouldn't consider my work to be of "professional" quality.

With the artists' permission and my toolkit in hand, I would begin the process of arranging ten songs for the final product. While there may only be six songs that get produced, I want to give myself the option of scrapping a few songs mid-way through this process, if they end up not working out. A large part of this learning experience will be understanding that some songs are just not meant to be sung a cappella. I will be arranging these songs in the aforementioned "vocal band" style, trying to imitate as much of the original songs as possible, while working in whatever key(s) will be most comfortable to sing in. With the guidance of my professors and peers, I would hope that these arrangements would be my best to date, worthy of

the songwriters' approval. Throughout this arranging process, I will be in contact with the songwriters, to make sure that I am not altering the song to a place that removes the original meaning that they had for it.

Once the songs are arranged, I would find willing participants to sing the arrangements. Tentatively, I will be assembling a sort of ad-hoc group of studio musicians rather than using actual established groups of people, mostly because I think that this project should have more to do with the music than the groups or people that are featured on it, and I worry that attaching the names of established a cappella groups to the final product could interfere with that purpose. I also plan on arranging for different singers than what I am used to. I currently arrange mostly for all-male groups, and I would like to broaden my abilities.

In the recording studio, I would expand on common techniques used in a cappella recording to include a more involved process in microphone selection, placement, and preamp choice for the recordings. Often, a cappella recordings will use the same microphone for each singer, which doesn't always match well to the different voices. In terms of microphone placement, different parts of the voice are accentuated in different parts of the body, and even that changes from singer to singer. For a bass, I would want to accentuate the lower portions of his voice that resonate from the chest, whereas I would not do the same for a tenor or a soloist. Placement is something that is not always considered in a cappella recording, but can have a profound effect on the tone of a voice. Additionally, I would stress the importance of emotion in these recordings. A lot of what stands out, regardless of processing, is how excited/emotional/moved the singer(s) are when singing a song. Emotion is not something that any amount of effects can add to a song, it has to be something that comes from the performers,

and I think that it is a large portion of the difference between a fantastic finished product and a mediocre one.

With the recordings completed, I would move on to the mixing stage of the project. This consists of editing the recordings to match up each singer in terms of pitch and rhythms. With talented vocalists in the recording stage, this is not a very involved process. Pitch and rhythm correction is standard procedure in modern recording techniques for both popular music and a cappella music, and with a talented singer, is usually undetectable to the audience's ear. From there, the process is different for each song, as I have to determine how the song will fit with the album in context, and what sort of production techniques will work best for each song. Faster songs will require a punchier feel, while slower songs might require a bit more relaxed rhythm. The overall note for this stage is that any audible effects applied to the voices will be done in moderation and as a necessity. I want to maintain a believable quality for each song that is recorded, and the overall final goal is to make each song sound like it could be performed live and sound identical to the recorded version. At the end of the mix stage, the entire project will be sent off to be professionally mastered. Mastering is the process of equalizing the mixed products for different formats. Just because a mix sounds great in the room where it was mixed doesn't mean that it will translate well to an iPod or car stereo. Mastering serves to make the product sound similar across the spectrum of places where it might appear. Students can master songs as practice, but professional mastering can cost over \$100 per song. This is where the project can take one of two roads. The first would leave it as an educational product that doesn't go far beyond the school in terms of distribution. The second road would open up the finalized product to be spread to the world, by means of a Kickstarter campaign.

I plan to have a Kickstarter project as an optional additional step to the project. This is where the artists' cooperation and support matters most. The purpose of the Kickstarter would be twofold - to give back to the original writers of the music, and to pay for the duplication and distribution of the final album beyond the scope of a university project. Half of the Kickstarter would pay for the (more professional) mastering of the project, duplication and distribution of physical CDs; to backers, participants, and even potentially physical big-box stores like Target or Best Buy. The other half would go directly back to the artists, split evenly, as a sort of "thank-you" for writing the original songs that the final album would be based off of. A successful Kickstarter campaign would also enable me to pay the copyright and mechanical rights fees to artists, allowing for the release of the final product to online distributors that would help to provide a continual source of mechanical rights income for the artists and myself. Since this project is primarily academic, by design, I want to emphasize that if the Kickstarter campaign fails, all is not lost. The project will just be smaller in scope. The final project will remain as an educational product that falls under fair-use copyright. The bulk of my work occurs before the Kickstarter is even considered; the educational benefit of the project is wholly independent from the success of the Kickstarter campaign.

Timeline

Winter Term 2014

- Compile list of source songs
- Make contact with bands about their involvement in the project
- Complete arrangement and production analyses

Spring 2014

- Gather a list of students interested in recording for the project
- Finalize list of source material and performers for the project,
- Initial meeting with performers about the nature of the project.
- Begin the Arranging process

Relevant classes:

Music Postproduction

Summer 2014

- Finish Arrangements
- Intern with recording studio in Los Angeles
- Participate in Elon in L.A. program
- Connect with potential backers for the Kickstarter project

Fall 2014

- Record the parts for the album
- Draft the Kickstarter proposal

Winter 2014

- Final recording for the album
- Complete rough mixes of the album tracks for the Kickstarter
- Start the Kickstarter countdown (60 days)

Spring 2014

Finish Mixing

Album Mastering

Relevant classes:

ECF Senior Seminar
MPRA Senior Seminar

Project presentation(s)

If Kickstarter passes:

Pay Artists

Research and choose duplication company and distributor(s)

Register copyrights & Business LLC

Budget

\$750 ECF funding

\$100 – Books

\$350 – Plugins and microphones

\$300 – Basic Mastering

Optional \$5000 Kickstarter Funding

\$2500 – Artist payment

\$750 –

\$750 – Professional Mastering

\$1000 – Duplication and distribution fees.

Literature Review

Texts

Inside The Aca Studio with Tom Anderson

(Original CASA interview, and Post-interview parts 1-3)

Original Interview:

<<http://www.casa.org/content/inside-aca-studiowith-tom-anderson>>

Post-interview part 1:

<<http://www.valuevocals.com/tabonusmaterial>>

Post-interview part 2:

<[http://www.valuevocals.com/"inside-the-aca-studio-with-tom-anderson"-bonus-material-part-2-of-3](http://www.valuevocals.com/\)>

Post-interview part 3:

<[http://www.valuevocals.com/"inside-the-aca-studio-with-tom-anderson"-bonus-material-part-3-of-3](http://www.valuevocals.com/\)>

All interviews conducted by Shawn Pearce

In this four-part interview series, Penn State A cappella alumnus Shawn Pearce talks with Tom Anderson about his history with a cappella and illustrious present fame as one of the most prominent figures in contemporary a cappella arranging. This source is nearly invaluable due to the amount of pertinent information contained within. About a quarter of the work of my project will be arranging, so the insight from one of the best in the business will be incredibly helpful once I start that process. Inside the interviews, Tom shares his top tips for people looking into arranging, his opinions on the current state of the genre, and his thoughts looking back on successful arrangements from his past.

The Social and Applied Psychology of Music
by Adrian North and David Hargreaves
Oxford University Press: 2008

This book was not really what I expected; it focuses a lot more on the audiences for music than it really does on performers, which isn't as useful to me as I would have hoped. One interesting snippet that I found was some research that they referenced, finding that "what is beautiful is good," or in other words, when people see good music performed by a beautiful musician, they will perceive it as much better than if they had seen the same performance, but from a less attractive musician. The attachment to my project is that it somewhat removes the beauty aspect from the picture. Through the speakers, a listener is removed in that aspect from a physical performance. In a way, I have the unique challenge of encouraging the image of attractive performers from my mixes. I'm honestly not quite sure how, or if I'm going to be able to do that.

A Kick In The Seat Of The Pants: Using Your Explorer, Artist, Judge & Warrior To Be More Creative
by Roger von Oech
HarperCollins, NY: 1986

The premise behind this book is that there are four distinct steps to creation, and when these steps are implemented out of order, or towards the inappropriate context, there is a block in the creative process. The Explorer is meant to gather anything and everything that may have meaning when it comes to a project. The Artist is then meant to make things out of this big collection of stuff. The Judge determines whether or not the Artist's creations are worthwhile to pursue, and the Warrior puts together and implements a plan of action to do the work required to bring the creations to reality. This was a book that I started with when forming ideas for the project; von Oech's wisdom, though self-help in nature, was invaluable in discovering the impetus for the project.

Pitch Perfect: the quest for collegiate a cappella glory
by Mickey Rapkin
Penguin Group, New York: 2008

Mickey Rapkin's delve into the private side of collegiate a cappella and its history has proven to be more than just a gossip book that inspired a movie of the same name. The most useful portions of this book for me have been those that talked about the Beelzebubs and the album that they were releasing at the time, Pandemonium. This album responded to the audience's call for more realistic voices on the record, following 2003's Code Red which featured an abundance of special effects in the mix to help hype up the songs. Bill Hare is the most awarded a cappella engineer and producer in the world, having been featured on every BOCA album since the compilation started, and 53 times in total. (The compilation has only existed since 1995). Bill pioneered the idea of treating the new vocal band singers like they were actually their instruments- the vocal "guitarist" would have his voice run through a guitar amplifier and similar postproduction treatments to guitars, and so on.

The Physics and Psychophysics of Music: An Introduction

by Juan G. Roederer

Springer-Verlag, New York: 1995

This book is a broad overview into the actual physics behind how sounds are created, and the physics and mathematics concepts that can be used to explain why sound works the way that it does. I found the section musical scales to be the most interesting in the text, and most rewarding in terms of new information. In trying to understand what is a “pure” chord, I have to look back to the mathematics behind defining musical scales, and this book provided three different methods used at various points in history. Before the modern equal-tempered scale, there were two other options: the “just” scale, and the “pythagorean” scale. the “just” scale is formulated from the most consonant notes first, then works backwards, picking out octaves, fifths and fourths, then down to thirds and seconds, eventually arriving at a chromatic scale of 12 tones. The “pythagorean” scale uses only the fourth, fifth, and octave intervals, those for which there are no major or minor variations. The scale uses these “perfect” intervals to form the scale. For instance, a fourth down from the fifth of a scale renders “re” in a solfege scale, and the fifth up from that creates “la”. A fourth down from that is “mi,” and a fifth up from there is “ti”. By this point, we’ve created all of the major scale, or the white keys on a piano. The equivalent interval of a “whole step” is defined as 9/8ths of the lower frequency, but this only applies from do to re, fa to sol, and la to ti. Continuing the pattern creates the full chromatic scale, even arriving back at what should be “do”, but is not exactly as it should be, double the frequency of the original starting “do”. The problem with these scales is that they rely on a tuning to a specific starting note. Compared with the equally tempered scale, which is really not in tune with itself at all, but instead equally out-of-tune with all of the other notes, relying on a consistent frequency ratio from note-to-note.

The Science of the Singing Voice

by Johan Sundberg

Northern Illinois University Press: 1987

Abandoning the traditional term used in vocal pedagogy, this book dives right into the anatomy and physics behind professional singers and their voices, from breathing technique all the way to audience perception of the voice, this book is unmatched in depth to date.

The most useful portions of the book for me were those on perception and articulation. A large portion of a male singer’s sound has to do with the presence of a “singer’s formant” between 1 and 3 kHz that acts to amplify the harmonics of the voice. This is only present in male singers, and contralto singers, due to the higher frequency range that sopranos sing in. In terms of perception, there were a few tips that, when boiled down, corresponded with my choral knowledge, such as: it’s better to be sharp than flat. I also found that vibrato serves a purpose to the listener, beyond just being a sign of a freely singing voice- vibrato can help to mask subtle “beats” that are not necessarily perceptible as notes, but enough to make an audience sense that a singer is out of tune. Additionally, and probably most importantly to my project, barbershop singers do not sing on an equally tempered scale; they can deviate from the common scale by as much as an eighth-step to form tones and chords much closer to those that are mathematically pure.

Albums & Compilations

Disconcert

The Pitchforks of Duke University

Released in 2008

Relevant RARB Review:

<http://www.rarb.org/reviews/891.html>

I am my father's son, and my father was a founding member of The Pitchforks. As a result, I end up hearing their latest productions fairly early on in their lifetime. I can remember listening to this when it was first released, and I wasn't a fan of much of the material within. Perhaps it was my naive ears at the time, but I didn't believe that a good portion of what was on the record was real voices. Listening back to it now, I realize why RARB gave it a high-scoring review, a very respectable 4.7 overall, but I still have my reservations. In terms of production, I found this album to be a little over-done. There are wonderful moments where purer vocals shine through, and while they are autotuned to make the chords, I can hear where the live production would hit a high point.

Code Red

Tufts Beelzebubs

Released in 2003

Relevant RARB Review:

<http://www.rarb.org/reviews/393.html>

If you want to look at a timeline for the success of the Tufts Beelzebubs, it starts with "Code Red". Released in 2003, it makes gratuitous use of effects like a kid in a candy store, and combines that with the group's choices to use the background voices to emulate not only the notes but the tone of the instruments from the songs covered. Deke Sharon's production quality certainly stands above the rest from this release year, but not always in a good way. A lot of the effects on the album give the impression that they were used because they were available, not because they were necessary. Yes, it gives the record depth, but it takes away from what made the content great in the first place, which is the arrangements and the singers themselves.

Pandemonium

Tufts Beelzebubs

Relevant RARB review:

<http://www.rarb.org/reviews/765.html>

Earning a near-perfect RARB review score, 5.0 in all sections except for Tuning/Blend, where one of the three reviewers scored it a 4 out of 5, this album represents my personal pinnacle of modern a cappella production. There was an all-star cast involved in the production of this album, and it shows. Arrangements by Ed Boyer and recordings by Bill Hare take this group to new heights, such that the album still holds its weight even 6 years later. Winning a slew of

awards, including sweeping the 2008 CARA awards for the "Best All-Male _____" categories, this album represents what I believe is top of the line production: effects where they add to production, and always tailored to their use, only just present enough to provide the desired effect without smothering the underlying voices underneath.

BOCA: Best of College A Cappella 2013

Compiled by Varsity Vocals

Featuring various collegiate groups

This album was the biggest impetus for the idea of my project, because it contained many problems production-wise that I felt were not deserving of the "Best Of" label. The opening track, Eight Beat Measure's cover of LMFAO's "Party Rock Anthem" sounded less like voices than it did the original. Within the bassline, there aren't any hints of actual voices that produced the bassline, and the solo lines, both sung and spoken, are deflated and lifeless. A hypothesis for this would be that the over-production was used to cover up a lack of quality coming from the group itself, but I've never heard them perform live to know the difference. The album is full of other examples of this, and while there are a few bright points, the album overall doesn't represent true excellence in a cappella, it represents excellence in a cappella post-production, which deviates from the original allure of a cappella itself.