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Engineers Throughout Jazz History

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MPA 475: Capstone

Engineers in Jazz

Most of the general public do not know how much goes into the music making process as an engineer. Historically, with devices such as the phonograph, gramophone and early analog tape there was a push to get more audio out to the masses and engineers went from a documentary state of recording to a qualitative state. With technology like the record player, audiences had easy ways of accessing and listening to music in their own homes. The public even today buys physical or digital albums without taking a good look at who or what was involved in the process of making the album complete and ready to sell. The innovative minds in the recording industry, hidden in the liner notes of the albums, were engineers like Rudy Van Gelder, Frank Laico, and Tom Dowd just to name a few. They transcended a time where the recording sessions in the studio had to be perfect, tracking and mixing on the fly, when the artist mattered just as much as time and money. Though many engineers do not give out much detail on how they recorded the sessions, the artists, labels, and some interviews give insight on the overall process.

The aim of this paper is to show similarities of how the recording sessions went from the past to the present, to examine what approaches or philosophies each engineer used and to explore how they collaborated to reach the overall goal of the final product. Three engineers I will draw from are Frank Laico and his recording and mixing process on Miles Davis's *'Round About Midnight* record; James Farber, an engineer who has worked throughout the 80s until now as a freelance engineer; and a contemporary approach to jazz recording featuring Tony Austin of

the West Coast Get Down, who engineered Kamasi Washington's 2015 *The Epic* album among many others.

Frank Laico

Frank Laico was born in New York and was an engineer for Columbia Records who was one of the first engineers to “begin recording on wax and end [his career] recording on digital multi-tracks” (Mortensen). His list of artists in the jazz world who he worked with includes Miles Davis, Thelonious Monk, Bill Evans, Stan Getz and many more, and his pop musicians are just as noteworthy. Working up the ranks as a young working man at Columbia Records wrapping cables, he got his first experience being an engineer in 1949 at the famous 30th Street Studio. This studio consisted of one-hundred-foot-high walls, spatial flooring and big ambience that helped Laico promote, in the 1950s, that a bigger room equaled a better recording (Mortensen). Mitch Miller, former A&R of Columbia Records during Laico's early years, chose the 30th Street building because it is what he “wanted” says Laico:

“[B]ut I have to tell you, when we start coming in here I don't want anything changed...I want it just as is because the corporate people will come in...and do all things that are going to ruin what we want it for. [This is] Not for television, it's for audio.” (Youtube, AES)

Laico started in the time of mono recording and mixing so there were limitations that early engineers had run into. They had to deal with tracking and mixing quickly using their ears and equipment to adjust for volume and showcase the solo sections of the song all the while working towards the immediate release of the record. Laico expands on his process of setting up a bit of the session by running through a mental checklist. “It was always my practice to have the

rhythm section very close to each other,” Laico mentions about tracking in the past. He adds, “I tried not to use any baffles but some producers you have to work with, they’re afraid if you don’t have it, nothing’s gonna work” (YouTube, AES). Laico also mentioned that he preferred ambient mic’ing rather than close mic’ing, especially for songs which had sections for specific instrumentation such as strings or horns or rhythm that were all separated spatially and by microphone. Laico wanted each instrument section to swell up to microphones placed above the performers to use the room’s natural acoustic qualities. “I did as time went on, have people say I want to hear this closer, I want that closer and I said that’s fine...we can either do the musician themselves if he wants to get close to the mic or not, if not I can read and I’ll do it physically,” mentions Laico. He also notes “I particularly don’t like to use multi microphones” (YouTube, AES).

In a video interview with Dan Mortensen of the Audio Engineering Society, Laico revealed the stunning simplicity and complexity of working back and forth between Studio A at CBS headquarters and 30th Street Studios. A fan in the crowd asked what he had been recording on, and Laico responded:

“Well, we didn’t have tape so we were feeding our audio through the telephone lines and fed to 799 7th Avenue where the audio was, at the time, put on glass discs...you had transcription guys up there on the ‘Lays’ that you talked to and said ‘hey we’re taking a track, do it!’” (YouTube, Anatomy)

The fan countered by asking, “...there were no recorders in the studio?” Laico nonchalantly responds, “Right...it took us about two years for us to do our own recording in that control room there” (YouTube, Anatomy). Mortensen showed a slideshow of microphone models that Laico used exclusively. The collection included a matched pair of AKG C12 omni condenser

microphones, Altec dynamic microphones models 632c, 633A/C and the Beyer m260 ribbon microphone. Laico specifically mentions his favorite microphone to use on vocals was the Neumann U49.

The slide shows during the AES interview offers insight into how singers were recorded with an orchestra in the same room: baffling was used in every photo. Laico mentions in those days they did not have a use for headphones and that he wanted the musicians to be able to hear and feel each other. Singers like Billie Holiday, Johnny Mathis, Sara Vaughan and many more had the microphone hanging upside down above their music stand, usually one foot away from their mouth. In a separate interview with Richard Buskin of *Sound on Sound* magazine, Laico explains his session with Miles Davis making his influential hard bop album '*Round About Midnight*'. This specific session took place at Studio C on 30th Street, and Laico gives good tips focusing on how echo affects not only the microphones in the studio itself but, because of his control room's large size, echo timbre changed every band that played in the studio:

It would be a different-sounding echo with every session that came in. With the chamber, we could regulate the echo by adjusting the volume of each instrument. Every mic had its own send, so we could set its level. (Buskin)

Laico also describes Les Paul's contribution to the studio's reverb sound:

Still, the sound of that return didn't sustain itself. Then Les Paul told me about how [at his home studio in New Jersey] he smoothed things out nicely by running the sound from the echo chamber through a tape machine. When I tried that, it worked, warming things up and increasing the length of the decay. (Buskin)

Laico focused on keeping musicians close to each other and avoided the use of headphones to let the musicians hear themselves and talk to each other if need be. Laico never thought bleed into proximate microphones was a horrible thing to happen during the recording process; at the time, most engineers tried so hard to isolate everything, and Laico equated this to a degradation in audio quality. Laico spent hours on listening in the huge room for the best spots in which to place, record and separate and chose to place everyone (all performers) in front of the control room window for two reasons: he liked the rhythmic attribute and that everything was visible. For some separation of the rhythm section he used a small baffle and placed it 6-8 feet away from the bass player and another one a short distance away from the bass drum (Buskin). Laico mentions how he mic'd the drum kit:

There would be a microphone on the bass drum, another on the hi-hat, one on the snare and then another mic for the overhead, catching everything, including the cymbals. I'd then put a bag filled with sand inside the bass drum, primarily so that, when the drummer kicked that thing, it wouldn't go all over the room on the wooden floor. It also kept the sound right there, because at 30th Street you could hear the bass drum all over the studio, and so [the bag of sand] made sure it wasn't overbearing. (Buskin)

The console they used was makeshift with 3- to 4-inch knobs to control levels, EQ and processing, and Laico mentions that the maintenance and research department first had an 8-input console when they opened the studio. Eventually they built 16 then 24 inputs for much larger sessions, but it goes on record that Laico stayed away from multi-track recording and usually summed his mic inputs to a certain number of channels. Loica mentions in the AES interview that the producers had a lot of control; they could use the knobs on the console and adjust what he felt sounded right compared to how small scale studios may not have the producer

dictating or modifying an artist's work (YouTube, Anatomy). A staggering fact is that Loica never was involved with the song or piece after the tracking stage, because the later work was left to what was known as the editing department back then. Therefore, Laico would work in stereo and edit the live session the way he would want it done. After he worked on it another engineer in the company would come and work on the final consumer ready product which may or may not have been a successful version so says Laico (YouTube, Anatomy).

In the jazz world Miles Davis came from the end of a bebop era and brought innovation to the jazz genre introducing hard-bop with his quintet. However, this album payed homage to jazz pianist Thelonious Monk and his tune "Round Midnight," originally a standard of early bebop. Davis puts an unforgettable twist on the tune with tone coloration, his bandmates' virtuosity and an unforgettable tone from his muted trumpet. Miles, using this muted and spatial style of jazz improv on this tune, leaves a mental print of the hard-bop/cool jazz era. Buskin provided insight on Laico's first experience with Miles Davis. Laico mentions, "I admired his playing and I basically admired Miles, too...other people found him to be obnoxious and arrogant, but once he and I began working together we became very good friends" (Buskin). Laico expands on his story:

By the time I began working with Miles, we had the U49, and he had not seen that microphone before. I said, 'I'd like to try this for you. It's got a nice full sound, whereas the 67s are very high-pitched mics.' He said, 'OK, let's go, we'll listen.' I was extremely nervous, but he was so agreeable, and after we tried the 49 he said, 'I like that very much, it's great,' and that was my start with Miles Davis. (Buskin)

During the Miles Davis sessions, Buskin mentions how Laico did not like to mic close due to the brash sound Laico heard from the proximity of the mic to the instrument. Even in Miles' recording session Laico chose to mic trumpet, sax and bass at least 12 inches away so the listener felt the air between the performer and the microphone. For the piano, Laico explains:

[I]f the pianist wanted it mic'd inside, I would do that, but normally I would have the lid open all the way and put the microphones — or microphone, if I was only using one because of the size of the group — about three-quarters of the way up there, a few feet from the keyboard, so that there, too, I would have an open sound rather than a tight sound. (Buskin).

During his video interview, Laico mentioned another session with Miles for his album *Miles Smiles*. The placement of the band members was not too far from each other and he baffled much more. Laico mentions that he used short baffles behind Miles and Wayne Shorter (the tenor saxophonist) not too tight against the performers—maybe three to four feet behind them and the distance between the performers was about four feet so they could communicate and listen to each other throughout the song. The bass player was experimental but usually had been ten inches to a foot from the bass and Laico strongly discourages close micing the F-hole of the bass (Youtube, Anatomy).

Analysis

A song from Laico's and Davis's project '*Round Midnight* that showcases the instrumentation sound in 30th Street Studios is "Dear Old Stockholm." The listener should take note that the song was mixed and released in mono. The performers do a great job at attenuating

their own playing volume on top of what must have been automation between solo sections. Even though Laico states that he placed the microphone at least a foot away from Davis and any horn player to hear the room in between, it is hard to hear the room in Davis's microphone. I hear more of Miles's breath as well as other instruments like drum and piano slightly leaking in at the end of musical phrases. The aluminum Harmon mute, Miles's signature sound, makes the sharpness of his attack really noticeable in the room. John Coltrane, the tenor player, comes in around 3:22 in the song and uses the room well to color his tone. The microphone is so pristinely placed on him to capture a lot of body compared to future Coltrane recordings with Impulse Records, where his tone seems a bit thin and "bitey" or direct. The pianist is very distant in the mix, at least throughout this song, and is mono mic'd. The piano seems to have enough space to allow the room to come back to the microphone. In comparison, the drums feel heavy on the room reverb but soft on the direct sound of the ride, hi-hat and snare. The bass sounds like Laico mentioned with the microphone maybe 10 inches to a foot off of the instrument, and it sounds a lot more boomy than one would expect from an early jazz record. However, Miles and other artists of the time wanted to stray from the norm and make their own history. "Dear Old Stockholm" and the rest of the tracks on the record sound very dark and somber, and Laico helped add that effect, which made Miles's career blossom that much more.

Compared to Miles Davis' album *Kind of Blue*, which became Miles's most well-known album and the jazz world's best-selling album in 1959, 30th Street Studios seems underutilized in *'Round About Midnight*. *Kind of Blue* was handled by Fred Plaut and not Laico. At this point in time the album was recorded in stereo, and this set up a different stage for the performers and the average listener. Take the beginning of Miles's hit jazz standard "So What;" the piano and bass come in together sustaining long notes showcasing the room. The listener can hear hiss from the

recording, and it sounds complimentary to the song as if you were in a distant land. The bass placed straight up the middle of the spectrum sounds fuller, and the recording captures the nuance of the bass strings being plucked and hitting against the fretboard. The piano appears a lot brighter and more prominent with a bit less room compared to *'Round About Midnight*. It is also panned hard left alongside Coltrane's tenor, and at times the two instruments do clash.

A huge difference between these records is that *Kind of Blue*'s adoption of stereo became a common pattern with substantial contributions from another engineer named Rudy Van Gelder. The Van Gelder sound on Blue Note, Verve and Prestige involved panning the instruments sounding in the same frequency spectrum on opposite sides, not extremely hard panned but close. For example, on the track "Freddie Freeloader" off this album you hear the piano is panned left with the tenor saxophone. In the middle of the spectrum, the bass drives the song. On the right the trumpet, alto saxophone and drums complement each other because the drums follow a constant swing and the drummer's snare accents remains at a low volume a majority of the time. However, every track on *Kind of Blue* has instruments panned differently for reasons unbeknownst to the listener, and a guess is that it may be because of a certain sound Miles wanted.

A staple of a Van Gelder recording is that he sets up room microphones to capture the tail end of the attack of the reverb from the room and instrumentation. Fred Plaut, the engineer for Miles's hit record, appears to have taken note of how to embellish the sound of the room. An example of this is during "Blue in Green," when the horn players as well as the piano get a chance to do sort of a ballad, and the notes have a chance to ring out for the listener to grab. The notes start from right side of the speakers or headphones but the tail end can be heard exiting the left monitor or vice versa depending on the musician. In jazz engineering, there is this

philosophy of letting the music speak for you and direct you to how to shape the final product will sound. All the engineers I will touch on have this common knowledge that I don't believe is passed on verbally from engineer to engineer. I assume these men have never met but have only analyzed, recorded and displayed a sound that attracts the ear naturally, and their technical and intuitive selves seek to create the same effect as long as it adheres to the artist's vision.

James Farber

One of the most well-known engineers in New York is James Farber, who has worked his way from the bottom to the top of the jazz audio engineering world and has a career spanning almost three decades. Today he is known to be hired via word of mouth with no advertisement of his business or product online or on social media. What keeps Farber at work are his plethora of credits from such jazz artists as John Scofield, Joshua Redman, Brad Mehldau, Dave Holland, Joe Lovano, and Michael Brecker. Farber got his start as an assistant engineer after college in New York at the Power Station, now known as Avatar Studios (Branciforte). Farber had to rise up the ranks as an assistant engineer, doing the recordings that nobody wanted to handle; for example, the Haitian music style called "compas." Farber describes his experience working on Haitian music during an interview for TapeOp magazine, "Yeah, there were a ton of these Haitian "compas" records being recorded at Power Station. Nobody else was into it here. It was a little bit like a chore. 'Oh, we have to do those sessions?' But I really liked the music and those guys, and Fred started requesting me as the engineer" (Branciforte).

Farber provides insight on how he and his fellow engineers attempted to mix, in an old-school fashion, similar to how Frank Laico did a couple of decades prior:

Everybody played live. It was two electric guitars, Rhodes and/or piano, drums, two percussionists, a horn section, background vocals, and a lead vocal. It was amazing training. They were always night sessions: it would start at 7 or 8 p.m. and go until around 4 in the morning. (Branciforte).

Farber continues:

We'd do everything live, but then we'd overdub and replace better performances of certain things. The formula was: Monday for basics, Tuesday replace the horns, Wednesday replace the background vocals, Thursday the lead vocals, and Friday we'd mix. We'd rehearse the mix old school; a couple people had their hands on the faders. I wrote down numbers where things happened and tried to memorize everything.

(Branciforte)

One advantage that Farber and contemporary studios had were many mediums to record on; and Farber, early on, chose to record to two-track tape and to a multitrack console simultaneously for the “compas” sessions.

Farber points out in the interview that he could have multiple recordings going on at once. On a side note, this relates to how early engineers innovated ways to record multiple performances; one example would be how guitarist, engineer and innovator Les Paul introduced multitrack recording by layering multiple tape reels. Farber had the luxury of picking and choosing how to record, that is he recorded on single or multiple recording devices at the same time:

It was all tape, so we'd leave the 2-track running and if we made a mistake we would just rewind the multitrack, let the 2-track run, and then edit the 2-track together when we

were done. I listen back to those records and feel like I couldn't improve upon them now — in fact, I'd probably make them worse. They were done so instinctively, yet they really defined a sound of a genre of music. (Branciforte)

Farber also mentions Van Gelder's recording and mixing style and how he takes note of it:

I'm a huge fan of the early stereo records: late '50s, early '60s. I love the sound of early, stereo Rudy Van Gelder recordings, with the drums in mono on the right speaker. There were no pan pots — just left, center, right. (Branciforte).

Farber answers whether or not he draws from older techniques used in the past:

Well, I'm always working for someone, so I want the record to reflect what they're into. A lot of piano players hate that mono Rudy piano sound; they want a big, expensive stereo piano sound. Also, if the music is complex, and we need isolation for editing, that hard-panned mono approach doesn't work because you don't have leakage. The leakage is what defines the room and allows the hard-panned instruments to sound less detached from each other. (Branciforte)

Farber continues, “So, in that case, I'll usually have stereo piano and stereo drums overlapping. That tends to be a bigger, more homogenous sound. But if everyone's in the same room, I'll set the musicians up to reflect the imaging I want in the final mix” (Branciforte).

Farber also has suggestions on how to record at a jazz club live and capture the energy of the room. Farber always has a stereo mic pair at the front of the stage that are capturing a natural image of the band in a way he feels is balanced. You can choose from an x/y pair or a mid/side configuration, but along with the stereo pair in the front, there should be a pair placed in the back of the room. Doing this only adds depth and provides the lively space and feel of the room and

audience members to help enhance the recording (Branciforte). Farber also gives in his interview great detail about how he sets up a recording session, what he thinks are the first steps in defining what the finer details of a contemporary jazz engineer is responsible for while working for a client:

The guys come in and they want to play. I'll usually come an hour before a small group session. I'll go right into the control room and I'll do my setup in there. As the musicians are arriving, I'll start miking them and fine-tuning where things are placed. I do a lot of pre-planning. I'll send in a very detailed setup to the studio. A studio diagram, complete mic input list, what preamps I'm using, comments about inserts if I'm using a compressor, all the patches, where the reverb is going to return and send from. (Branciforte).

Farber has a similar quality that Laico has in that he's been around his studio and equipment for such a long time that he knows what mics he wants and how he's going to apply them to the session.

Despite this similarity, there are differences between Farber's studio recording approach than Laico's. For instance, Laico had so much more sonically within his studio space to work with, rather than Farber's studio. Farber isn't worried about the sound of the room, but the sound of the overall recording. Farber pre-plans his sessions out methodically, to the point where his method has to be followed exactly as he lists it, for the musicians and even his assistants. Farber confirms this by stating:

If I'm recording here at Avatar...I just know which mics have certain characteristics and which ones are going to work. All that goes into the setup notes. When I show up, the assistant is really prepared. If the piano isn't where I drew it, I'll take him or her aside and

say, 'Listen, this drawing is designed for a very specific sightline to that booth over there. You really have to pay attention to this next time because it's not an arbitrary drawing.' I leave nothing to chance. (Branciforte)

Farber continues:

I ask so many questions before a session, to the point where sometimes I'm annoying people. 'How many toms in the kit? How many snares? How many amps does the guitar player have? Acoustic guitar, as well as electric?' The worst thing to me is coming in, with everything perfectly planned, and all of a sudden, the drummer is adding a tom and I have to put the channel all the way down at the end of the console, and it's not near the rest of the drum mics. That drives me nuts [laughs]. (Branciforte)

Another comparison to make between Laico and Farber is the amount of time they spent getting to know their clients. Laico was an inquisitive engineer and wanted to get to know performers during sessions to help understand where the musicians are coming from. For Laico this was a means of getting to know what the musicians were looking for sonically, and being able to see and hear their fellow musicians. For Farber, he had a history of jazz prior to recording it. He studied and played piano since a young age, listening to his parents' records from artist such as Bill Evans, Oscar Peterson, Duke, Count Basie and so on. Farber even interviewed Bill Evans before going to school for recording, out of appreciation for the genre and the legendary pianist himself. Along with Farber's attention to detail for recording, he knows the music and its performers well, therefore he can strike up conversation to help musicians feel at ease. One of Farber's many clients, Joshua Redman, held Farber up to a high esteem. Crediting Farber as a listener of the music itself, Joshua Redman mentions in the same TapeOp interview:

He has great sonic ears, obviously — that's why he gets such a great sound — but he also has great musical ears. He's a musician. He really hears and feels music. I have leaned on him heavily in the studio, not just for advice about how to make things sound good, but also for creative input. I've actually credited him as associate producer because, for a lot of the things that I've done, he's really had an important production role. He's been a sounding board, someone to bounce ideas off of. He's helped me make important musical decisions. (Branciforte)

Listening to James Farber's recording and mix of Joshua Redman's album *Moodswing*, listeners can hear a modern-day jazz mix with hints of a Van Gelder approach. "Alone in the Morning" starts off with piano, bass and drums vamping a bossa nova rhythm, and immediately you hear a shimmer come from the ride cymbal that is so smooth and tame. The cymbal grabs the audience's attention because of its directness and the response of the room. The whole drum kit is stereo panned, with the snare up the middle, hi-hat panned a bit right and kick up the middle and the cymbals panned hard hitting a listener's right ear with the same intention and intimacy of a Van Gelder recording. A big difference, as Farber mentioned previously, was the piano and drum quality that modern musicians wanted on their record. This record involves a full sounding kit panned mid to right, the piano recorded in stereo, spread wide and the tenor saxophone and bass up the middle. Meldhau, pianist, has a pulled back role compared to Redman's but is clear to the listener. Redman's saxophone has some reverb that helps him stand out during his solo and adds depth and length to his phrases. Farber realized that Redman is performing a slow upbeat bossa and the reverb complements Redman's saxophone. Christian McBride, bassist, is very up front and has some woof to his playing, and this boomy feel helps fill out the rest of the space within the spatial spectrum. The bass has a low-end issue of

reverberating throughout most of the album and this constant low-end rumble sometimes clashes with the lower notes of Redman's tenor. The bass track could have been kept due to this clash of sounds from the bass and tenor saxophone. This clash of sounds made This also could have been a showcase of the microphone's frequency range. McBride's bass clarity and up-front presence showed how much Farber wanted each instrumentalist to have a say.

At first listen to Redman's album, there is a clean-cut quality sound to it compared to the raw energy of a classic Blue Note Van Gelder album. A comparison track is off of the famous jazz drummer Roy Haynes' album *Out of the Afternoon* called "Moonray," a composition by Artie Shaw. Immediately at the beginning of the song, the cymbals and drum kit hit your right ear in a brash and jarring way and the snap of the snare leaks across into the saxophone microphone and most likely the room microphones. Rahsaan Roland Kirk, tenor and soprano saxophonist, is panned hard left playing two saxophones into one microphone recorded mono. Kirk leaks into the room and drum microphones and the distance from the microphone to the saxophones portrays a haunting type of sound. The pianist, Tommy Flanagan, was recorded mono, panned center and Van Gelder gives it a tucked back presence within the mix. There is little to no reverb that can be heard on the piano, and this may give the mix a dry or bland piano sound. This approach lets the pianist feel and sound raw and real because the performer cannot rely on the room to help the tone. The bassist, Henry Grimes, is panned up the middle with a hollow, punchy feel peeking through the mix, but the bass gets a bit muddy and gets lost in the higher register at times. Between the two records, the panning and sound of all the performers are almost night and day. This could stem from Van Gelder letting more of the room hit the microphones, his choice of microphone or the performer's tone themselves. Roland Kirk has a distinct sound on the saxophone and when he double melodic phrases they come off as slightly

out of tune which adds a certain characteristic to the song itself. However, Farber's choice of panning fills out the stereo spectrum to where instrumental parts fit in naturally together.

Tony Austin and Brian Rosemeyer Interview

For a more modern approach to jazz recordings, I turned to asking an old friend for help. An old colleague and audio engineer from Cal Poly Pomona named Rob Duffy gracefully helped me out in getting into contact with two engineers that were involved with Kamasi Washington's *The Epic* album. The engineers' names are Brian Rosemeyer and Tony Austin. Rosemeyer works at the studio where they recorded the album, Kingsize Soundlabs, a studio located in Los Angeles, California. The studio isn't known for recording any jazz specific records, but that didn't stop Kamasi and the West Coast Get Down from pooling all of their money into renting the studio out for a whole month in order to get everyone's musical works finished and out to the public. Rosemeyer was there for the first two weeks of *The Epic* sessions and gave some insight on how things were recorded.

Rosemeyer remembered about the session itself that it was packed. Space was hardly available, and this would be a reoccurring theme with these sessions. Tony Austin (Drummer/Engineer), Ronald Bruner, Jr. (drummer), Brandon Coleman (keyboardist) and Cameron Graves (pianist) were all placed in the same iso room together. All the microphones were spotted on different parts of the kit and piano strings and amplifiers, which took up about 32 inputs on the console.

Patrice Quinn sang within the control room due to no rooms being left to take. The string ensemble and choir ensemble were recorded later on in one of the larger rooms at Kingsize

Soundlabs, and Kamasi Washington conducted and led all of the performers during the separate takes. From a jazz perspective, a majority of jazz groups like to record as few takes as possible, performing in the same room with some instruments iso'd and some not. This isn't the case for Kamasi, at least it didn't start out that way. Kamasi after recording the West Coast Get Down, began to ask his bandmates whether or not he should include a choir and string ensemble.

Rosemeyer mentions:

It was all in Kamasi's head, the vision was in his head. There were songs that were redone because of performance or personnel missing and he didn't quit until he had it I think...I loved working with him and all those guys have been playing since they were three or so for forever. When they came into the studio they didn't have to talk because they've been playing together for so long. They have a residency at the piano bar; Kamasi would flush out his ideas with the WCGD [West Coast Get Down] there. They play one of the songs there at the bar before coming into the studio in order to work out the song first before recording.

Rosemeyer mentions for his session, the best microphones were placed on the upright bass, which were ribbon mics from companies like Royer and Coles. These ribbon mics were also placed on the horns, an AEA r84 ribbon was used for the vocalist and the piano was mic'd with the Telefunken RFT AK47 tube condenser microphones. The drum kit had a stereo pair, most likely another pair of condensers or a AEA stereo ribbon microphone as overheads, a kick in/out and snare top/bottom. Rosemeyer mentioned because of the session size and the fact there were so many people in iso rooms and so many people that took up inputs, it was a challenging modern jazz recording. Later on, Tony Austin mentioned that the horn section, Kamasi Washington, the trumpeter and the trombonist, were placed together in a room. The performers

had their own individual microphones but collectively each microphone had bleed. Rosemeyer told me there was “bleed within the horns due to being in the booth with each other, but it becomes part of the sound, and you blend them and you kind of create this sound of the whole thing.” Kamasi was recorded with a Korby Convertible tube condenser microphone with four hot-swappable capsules, as well as polar pickup patterns. This is a versatile microphone that has been engineered to recreate the sound of a Neumann U 67, Neumann U 47, Telefunken Elam 251 and AKG C 12 microphone. During Rosemeyer’s session, he mentioned placing Kamasi’s saxophone microphone relatively close to the sax sound hole and the brass section were recorded 2 to 3 feet away from the sound source.

When asked about how technology has helped him in the studio, he replied:

You use technology to your advantage. Digital is the best thing that happens to jazz, there’s no tape hiss going on anymore and there can be a quiet moment during the quiet moments. Multiple mic techniques had come about with the addition of more inputs in Pro Tools, for example you can have 32 tracks for the ensembles, and 3 mics for the choir and spot mics for the strings and end up with 56 tracks that you have more control of rather than back in the day. Back then you had to make decisions going into the session and now there’s more time you save going into the recording.

Rosemeyer brought up good information about the session, but he was unfortunately only there for part of *The Epic*. Rosemeyer pulled some strings in order to get into contact with Tony Austin, drummer/lead engineer for *The Epic* album. There were two phone call interviews with Austin, and Austin graciously spared a few moments of his time, in order to help with the research about the album.

Tony Austin was introduced to the engineering world in a serendipitous way. Austin was a drummer first before being an engineer and learned the art of jazz early. Austin mentioned, “There was a strong music community in Los Angeles as much as people don’t think so. There were free music lessons and big bands, and I would meet my bandmates that way.” Austin got his engineering start early, unlike most audio engineers, by being in Big Brothers Big Sisters. The role model from that association happened to be one of the most notable electronic drum machine inventors: Roger Linn. As Austin relates:

Roger Linn had a studio at his house and as a kid, I was around 7 years old, I would go over and cut songs at his studio. I did it for fun as a kid...to use a computer and sync it with MIDI, etc...I’ve been a drummer since I was 5 years old, but it wasn’t my only talent because I liked making music; so there’s a producer and engineer aspect that still is on par with my drumming.

Austin, growing up, had played with many musicians that he performs with today including Kamasi and the West Coast Get Down, but in the beginning, he played with Kamasi’s father Rickey. Austin mentions it was like a gravitational feeling when you played with the same people all the time and eventually you meet up outside of the events and become more than bandmates but friends.

Tony Austin revealed that before the recording of Kamasi’s, everyone’s recording options were scarce and Kamasi would record on limited gear. Austin had a studio at his house specifically catered to recording the drums, but the rest of the melodic instrumentation were recorded in an unwanted way. This type of recording was similar to mixtape recording in hip hop where quality isn’t the biggest priority. Kamasi would push CDs to customers outside of a venue in order to give them something to listen to before the show. One day while the whole band met

up to talk, Kamasi mentioned that he was going to pay for studio session time at Kingsize. Fellow bandmates Miles Mosley, Cameron Graves and Tony Austin all thought to pool their money together in order to rent out a studio for a whole month. “Kingsize cut us the deal that we needed” says Austin. He adds:

Kingsize didn't look pretty but they had the gear a bunch of outboard gear, decent mics, etc. It was very reminiscent of an older time because we didn't B.S. our time. It was like a Motown-esque feeling because we were like the house session band and someone from our band would come in and cut a record.

“You're always at the whim of what you can afford and what you have” says Austin. When asked about his philosophy of recording, Austin responded by saying:

Recording processes and the technology has change tremendously and as an engineer you don't just read from a book, you don't necessarily abide by what the older folks did. It's half mixing and technological and the other half is philosophy which is based off of what you think recording is to you and you get close as you can to that philosophy. It's more of a feeling and general belief of what you want to create. My philosophy is the same as an engineer for kind of blue capturing the energy of the room and vibe of the artist and it's been missing from albums for a while.

Austin's recording process had to have been tedious due to the fact he, Kamasi and the rest of his bandmates all had albums to record, mix and master within 30 days of renting studio time at Kingsize Soundlabs. Austin suggests that engineers have a template setup for the sessions in the studio and the control room, so they can record and output as quickly and efficiently as

possible. Engineers should be able to pick out microphones, preamps and other equipment and think about how to meld sounds together. For example, Austin referred to the horn section:

There was no isolation in the horn ensemble, and you don't want them in separate rooms because you want the magic of them being in the same room as if they're playing in the same section on stage. Why would you take that away? If you have a horn section that plays well, don't isolate because the improvisation aspect vanishes if you have things separated.

Tony Austin prefers to use a U47 on vocals but again stresses that every voice is different and microphone choice should cater to the performer's voice. The same goes for providing a comfortable studio setting for the performers. Austin believes that fifty percent of the work is done when you have musicians in an environment in which they can perform their best.

I asked Austin how in the sessions he dealt with duplicate instrumentation such as Miles Mosley on acoustic bass and Stephen "Thundercat" Bruner on electric and how they share the same stage acoustically. How did he deal with instruments lying in the same range and avoiding muddiness? Austin responds:

Kamasi's ultimate band," involves two keyboard players, two drummers, four horns, two bass players and vocals...We've been playing together in that arrangement for a while. The interesting thing is that, yeah, they're both bass players (Miles and Thundercat), but they play extended range on their instruments and neither player is always down low or always high. Even their individual tone differentiates in the lower register and they both don't facilitate a bass player role all the time. Miles will be down low laying down a groove, and Thundercat will be on top playing chords or playing lines that are

complimentary. They don't naturally, in their playing, fight with each other so therefore in the mix I didn't have to worry about it.

When asked about the nature of all these instrumental parts in the album like the choir and strings and pianos and basses all are competing for space how to approach the situation, Austin thinks of it more as a performance rather than technical issue. In the West Coast Get Down, there are plenty of ways to play something that's different from the rest of the parts and could in turn, change how other players are playing their patterns are around you. Austin recommends that engineers have any band be aware of being on the same page and constantly listen to each other in order to be balanced within the performance of the song itself.

The Epic session was interesting sonically because all of the instrumental parts were separated and cramped with multiple musicians inside one room. An older jazz approach, like Van Gelder's or that of the engineers at Columbia's 30th Street studios, is to boast that a bigger studio room equals a bigger sound. Reverb qualities, length, timing, depth, attack stem from within the studio acoustics itself, but in today's home-studio lifestyle, audio engineers often turn to hardware or software in order to emulate certain studio sounds, sizes and feels. Austin offers an interesting take on how to deal with involving reverb when the band members aren't playing together in the same room:

Reverb is a tricky thing in which it should match the music and its style. The horns are soloing so fast, and with the wrong verb, it will muddy up the notes and diminish the clarity of the horn player's phrases. It would be different if it was a ballad and they were playing these long tones because spatially a reverb will augment the tone. Don't just put reverb because everyone does it. Ask yourself does it need it? On any plugin? We had a

plate reverb and recorded it to just have it if we needed it; but we didn't want to wash out the music but to show case that it sounded pretty and beautiful by itself.

During the course of my research, a few questions arose from fellow colleagues about the string and choir ensemble and how Kamasi and the engineers came to a consensus on how to record these parts. Austin mentioned in the first interview that the string and horn parts were recorded at a later date and punched in on certain parts of each track. My colleagues and I were also curious about how the orchestra and choir were guided throughout the album. Did they have headphones to listen to? Was it difficult to get that many headphones on performers? Were there a lot of mics used during the recording process and were they spotted, close or far? In regards to the headphone situation, Austin says:

It's not hard, actually, to provide that many headphones. The orchestra we had was actually a small chamber group and in the mix, we doubled the tracks in order to make it seem like it was a larger ensemble. The choir was about ten people, and I had to make a mix that everyone could share and listen to. In general, any choir listen with one headphone on and one headphone off so they can hear playback and hear themselves in the room and work out the timing themselves. You can't just have a conductor and you want everyone to sound tight. It's more about picking out a studio that can accommodate the group with headphone with the minimum a click track for everyone to listen to.

Luckily at Kingsize they were able to accommodate everyone even though the choir and ensemble were recorded in a medium sized room.

I asked Austin were there musicians, in or outside his band, that were unprofessional and had problems with the way they sounded within the mix? The reason for this question was to compare Austin's work with Laico's session with Miles Davis. Laico had to work with Miles,

notorious for wanting a certain sound for his albums and not being shy to let engineers know about his vision for all the album he's done. Austin retorted that it doesn't matter in the overall scheme what the individual bandmates want, because it was Kamasi Washington's project, and Kamasi had the final say on things. For instance, Kamasi wanted the two drum sets to be panned hard left and hard right from each other because it would be easier to hear the two drums distinctly. As Austin describes it, "At the end of the day, as a professional musician, you don't really get to have a say as to how you sound within the mix. When we were tracking, we got good enough sound to the point where no one questioned it." This is a great comparison between Farber and Austin in that they rely on the performers' musicianship skills, then the mics, preamps, EQs and compressors to help the tracking process pickup ninety percent of how the song will sound. Austin continues:

We trusted that Kamasi had the same aesthetic idea we all had. The music isn't just about him [Kamasi] but about the band and the sound we have; and at the end of the day, if you're being true to the music, then the music will tell you how to mix it. If you're listening closely to the music then that feeling will come naturally.

Lastly, I asked Austin about his sound. In the beginning did he draw from the likes of Van Gelder, James Farber, Fred Plaut or Frank Laico? If not what did he listen to in order to get an idea of how to approach recording in the modern-day recording era? "I followed different producers and listened to many records over the years," says Austin. He adds:

The thing that I started accepting is that the music will tell you what to do. As an engineer, you have all these tools and it's cool to use the tools and force them into being used but it's not the best thing all the time. Only if it is appropriate to the music and your artistic expression then that's when you use it. Like if I am mixing a pop record, I'm

probably not going to pan things hard left or hard right because that's not what the music calls for because it's made, sold and distributed differently. Pop was made to be squashed the fuck out of in mastering and played loud on the radio, and having cool interesting things happening within the mix or panning spectrum is not going to be right for that genre. Search within the music to tell you what is appropriate for the mix. Your job as an engineer is to service the music and make things sound good by utilizing your tools to communicate a sonic idea. Cater to your audience whether it's lively or simple and let the music tell you how to use your technical knowledge well. It's philosophical you know? I can't come to you with a bunch of technical data that proves what I'm saying is true but to me it's more of a philosophy.

Conclusion

All engineers mentioned in this paper had interesting approaches to making jazz records that will last for decades to come. Each engineer had a unique philosophy that shed light on their process as well as what the music means to them individually. To recap, each time period of recording a jazz record had a unique approach that started with using the room to your advantage and spotting mics to capture the performer and their surroundings. Farber's approach brought a more modern and technological perspective by using multiple mediums of recording and meticulous methods of setting up a session to have continuity. Austin continues that on a larger level with Kamasi's record. Austin showcases how to handle all the instrumentation and performers recorded in separate rooms as opposed to one huge room. From their panning preferences to their individual sound on a record, each engineer adapted other methods and innovated philosophies on how to tackle their client's song or album. Other takeaways are using

your hardware and software sparingly and using the room and microphone setup to mold your albums sound and to make the mixing process easier in the long run. Most importantly, be an engineer that wears multiple hats; whether you have a musical background or not, don't be afraid to guide the music, make suggestions when appropriate and help make the artist's vision a reality. There are plenty of engineers that were unmentioned but were so influential for specific record labels and for the sound of jazz. Hopefully this research paper leads to new discoveries in the realm of jazz recording.

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