KAAN EMIREL - 01240358

This paper aims to define different mixing approaches and demonstrate their effects and cognitive process'. The intended perspective of this paper will consist of both sound engineers' and listener's perspectives, meaning this research will have different depths of information which create technical and listener observation. From basic fader movements to working with more efficient workflows (Such as using channel strip plugin to increase the effectiveness, efficiency and practicality. To be mentioned later), and contrary to most audiophile's taste, compressing and decreasing the dynamic range with using multiple side-chain compressors and of course, for individual and more surgical shaping of the dynamic range, direct compressors as an insert of the channels.

While this paper focuses on implementing different mixing tools options, the intended focal point is further than outlining a couple of methods.
First, this research is directing its gaze, perhaps, in this case, ears, to a Grammy-award-winning sound engineer Andrew Scheps. It would be an understatement to mention him as one of the biggest motivations and reference/learning sources in this practice-as-research project.
Hence, aside from some technical tangents and reflecting the appliance of the methods on the production made to support the effectiveness of these methods, this paper will consist of three main themes used actively by Scheps.
"Subtraction into adition" mixing approach, "Scheps Omni Channel" plugin, and finally, Schep's "Rear Buss Compression" technique.

Secondly, after channelling our focus into Scheps' chosen methods and workflows, there will be a recap and emphasising chapter where the author outlines how he understands these methods, analyses how parallel or adverse these practices are, and finally to wrap

up this section and to resume on the research, to build up a bridge part into the third section.

The third section will consist of the production made by the author. From the pieces' writing process to how the demos have influenced the final result. From planning the recording phase to how these plans smoothened up the mixing process. Moreover, most importantly, detailing how these freshly explored and comprehended approaches broadened these productions and made the author a much better listener and creative production practitioner.

This research methodology is, first, going through the mentioned methods and defining them through analysing a track mixed by Scheps, hearing what the outcome of this process and how it is related to that specific track or album; or even how they are related to that song/album's distinctive soul. Second, going deeper into the technical aspects(especially for Andrew's rear "buss compressor" method) to understand the back-end processes of those audible or emotional effects. Furthermore finally, illustrating all of these assembled sound mixing philosophies on writer's production for this research. Three hard-rock/post-grunge/post-punk songs are personally composed and produced; combined with, again, produced and engineered by the author, three acoustic singer-songwriter blues/country songs by an up-and-coming solo artist.

Part-1: Discovering the methods to experiment with

RIVAL SONS - TOO BAD (MIXED BY SCHEPS)

The track starts with a feedback noise from the guitar amp. This is a great approach to set the mood for a rock and roll piece. It is also a great way to emphasise how confident and nostalgic freedom is wanted to be amplified right from the first seconds of the song. It is a parallel approach from Andrew, who seems to have researched the character of their overall sound and, of course, their image of the band.

As it can be seen in Scheps' narrative in his mixing, he likes to create excitement through what I like to call his "subtraction into addition ". This is a mixing approach where you do not use all of the potentials of the tracks or even do not use some of the tracks at all until it is time to pull the listeners' attention. This approach can be heard at the start of the track; after the feedback and counting of the drummer, the song is started with the drums combined with a single guitar channel panned all the way to the right, leaving the left of the stereo spectrum empty and unbalanced.
However, after the build-up with the mixing approach explained above, from 0:08-0:33 stereo spectrum is filled with the rest of the tracks; the main ones are double-tracked guitars, bass guitar and drums. This song has captured the listener's attention from the start.

THE HOLY GRAIL OF CHANNEL STRIPS: WAVES SCHEPS OMNI CHANNEL

CHANNEL STRIP PLUGIN

“The Scheps Omni Channel is a special and new approach to the channel strip idea. It is not a copy of a classic desk but a rethink from the mind of Andrew Scheps – a modern, powerful set of tools that will transform the workflow of mixing in the box. I love the sound of all the individual modules and the flexibility of their application.” -Jacquire King

“Scheps Omni Channel is a true swiss army knife plugin. If there's one single plugin you need in your collection, this is it. It's so well thought out and designed, you can see the love that Waves and Andrew put into it. The Saturation and dual DeEssing sections are stand-out features for me. ” -Damien Lewis

From this point until the end of this section is an organized transcript of the tutorial highlights where Scheps detailed this plugin.

Pre-Amp Module

SATURATION SECTION:

- Even: Even harmonics. More open and the cleanest.
- Odd: Odd as the name calls. Different frequency sections.
- Heavy: Clipper- All harmonics all the time.

FILTERS:

- Highpass & Lowpass very straight without any colours.
- You can de-activate each.

Thump:

- Basically broad low end eq.
- Resonance that you get out of some of the older analog over-built circuts like fairchild, LA2A, Helios that sort of things.
- Shaping the low end.

Gate Module

- Full feature gate and expander.

THRESHOLD:

- Level at which you will start expanding when your auido is below that level.

FLOOR:

- Letting you define the noise floor also called as range in other plugins.
- How much am I going to turn you down, how much am I allowed to take you down.

CLOSE:

- Seperate threshold for closing part of the gate.
- When set to the lower ratio, it makes the sound die before the gate will close.

ATTACK and RELEASE

- Nothing special.

DS2 (De-Esser) MODULE

You can use external side-chain module of it. Listen the kick drum and sidechain into bass, then you can scoop some of the frequencies when the kick drum hits. And with this way, you did not ducked all of the bass freqs. Ducking out the boom, leaving all of the buzz (Which can't be done within a normal side-chain compressor).

EQ MODULE

- Every circut of the eq can be turned into a parametric mode. So you can do surgical edits on them.
- And if not use the P(arametric) mode, there are 2 different flavors for each eq sections (One is smooth traditional shelf. The other is highly resonant shelf, which gives you a lot of bite right at the corner of the shelf).
- Again, ctrl can be held down to listen as band pass to focus/listen and set the ratio.

Mid and Tone:

- They are the tone controls, which shapes different than other. Mostly each one of them can be selected as an idividual. Then, if needed, there is one more band to shape.

Compressor Module

3 Different types of compressions.

VCA:

- Modern comp. Faster and cleaner.

FET:

- Little bit dirtier but it's pretty fast.

OPT:

- Very slow.

- When you expand it, you can apply side chain EQs MIX KNOB:

- Dry&Wet percent as an option.

Author Note: This section is one of the striking attributes of this plugin. No matter what type of compressor is chosen, it is always possible to adjust the attack & release settings of a compressor.

ANNOUNCE SECTION

- Input&Output fader can be linked or not.

- Useful monitor matrix: Stereo - Mono listening modes:

L-R or M-S. REGARDLESS OF HOW YOU PROCESSING THE AUDIO WITHIN THE PLUGIN (Means just to listen not decide where is getting effecting).

- You can correct the polarity of each channel, which is done by above each of the input faders.

Limiter:

- Traditional

Each module has their links as ST, DUO, MS modes:

ST(Stereo):

- Both channel knobs are linked.
- Each knobs are effected on the both sides but if there is a difference between the channels, it effects as an offset rather than making the both knobs the same.

DUO(Dual-Mono):

- It uses 2 left&right processors, unlike the stereo combines both and processes like that.
- It's almost the same with unlinking the stereo.

MS(Mid-Side Mode):

Example: Taking out the low end of sides of the drum kit to bring up the high end of the cymbals; while reinforcing the snare and the kick, which are in the middle.

EXTRA IMPORTANT ATTRIBUTE NOTES

- You can click the zoom icon at the top or bottom; You can see it as fullscreen and you can, now, play with the separate channels. (ST, DUO, MS)
- When you click with ctrl, on most of the knobs, it will band bass and you are able to listen what are you focusing.

SENDING LOVE TO MASTERING ENGINEERS: REAR BUSS COMPRESSION/SIDE-CHAIN PARALLEL COMPRESSION

I've got 20 parallel compressors. And almost all of them getting multiple things. And sometimes it's thing that makes sense: Oh, this is for the drum kit except from the kick and snare. OK fine.

But sometimes it's: OK, this is everything except the drums. This is except the bass, vocal, kick and snare. All post-fader sends at zero. Always lifting up a copy of whatever's going into the mix buss and shoving into a compressor.

Whatever I'm doing on in the inserts, and then whatever the balance is of those things, those things show up at the parallel compression sending exactly like they do in the mix buss.(Andrew Scheps 1 Hour Video! Recording Drums & Guitars to Mixing Tips, Production.., sec. 35:45)

One of the famous techniques of Andrew Scheps is using multiple compressors that are fed by different stem combinations. After getting enlightened with this approach, it became a habit or even an addiction for the author.

Why? It is because it sounds better. Especially listening with regular playback systems.

No second thought is that music with high dynamic range has its place. Even if a system can successfully reproduce some touches of that range, it is another thing for the listener to be trained enough to decide between 10 and 15 LUFS. Nevertheless, this taste is tough to acknowledge on typical speakers or headphones.

Moreover, when it comes to compression of the individual channels. Why have a religion that says it is bad if something sounds better?

The argument is the taste and being open to contemporary appliances. This can turn upside down five or even two years from now. But nowadays, carefully compressed pieces and tracks feed that song's emotional intention. Can understanding the compressors be a better way rather than avoiding them?

Part-2: Methods learned re-cap and author's personal production methods/approaches

What's taken from the method "subtraction into addition"?

When it comes to subtraction into addition method, it has multiple perspectives to learn and apply. The first one requires no technical knowledge. Perhaps a tiny bit of narrative and surprise knowledge can be handy. However, this is the perspective where we are using our tools with care. As one can know, in order to call something big, there should be something we can compare to. Without anything to compare, it is not possible to do it otherwise. Moreover, this technique is what the author chooses to call "Subtraction into Addition".

It is very similar to the example mentioned above. Generally, in music, in order to create excitement, whether it is positive or negative, saving our "elements" for a part where it will make more impact, compared to it/them being on all the time, is a valuable approach to have in our arsenal of creative music production.

Let us try to give a short example. Say we are recording a singer and songwriter. Simple acoustic song with a vocal recording and three different guitar takes. By this point, when we are editing(mixing) the tracks, we can choose to leave one of the tracks for the choruses and only use two of them to create an addition with subtraction.

The second aspect is a bit more technical. Here, while the mindset stays the same, some familiarity with the DAW and these methods are required.

An example of this “technical aspect” would be from a drum production(to keep it simpler at this stage. An In-depth production illustration will be given later in the paper).
Say we have a kick, snare, overheads, and room microphones recorded for the drum kit. Again, if we replicate our recent example with more technical knowledge, we can keep our room mics for choruses and then disable or lower the volume of room microphones on the other parts.

Waves Audio Scheps Omni-Channel Channel Strip Plugin; how does it help the author’s productions?

Across my music production path, I have always tried to reach to an outcome without worrying about what are the “best sounding” methods or “this is how it should be done” principles. This started with considering whether I should spend my saving on the analogue units or stay 100% in the box. Alternatively, even as a guitar player, should I be buying guitar amps or going extreme with using the guitar amp sims to have a high-end recording tier of guitar tones?
Thus, through my process of getting better in the hearing of mixes and masters, Andrew Scheps was my go-to source to search how something can be done, whether through tutorials and interviews I could find or simply by going back to the records he has produced to, at least, acknowledge what kind of end goals I should shape my mind with.
His simplistic and humble mindset has opened up my thought process in a way where I started to think anything can be reachable with a couple of useful tools if I have the sound in my head. Mentioning this was important because discovering and starting to use the Omni-Channel plugin was an internal statement saying look what is possible with less than 150 dollars.

Currently, when I am mixing, there is at least one Scheps Omni-Channel plugin on almost all of my channels. My many thanks to Andrew Scheps and Waves Audio.
The examples of the application from my own production for this research paper will be presented in the captioned “The Productions” section below.

As mentioned above, the utilisation of the guitar amp sim has a big part in shaping this project. At this point in the paper, it is best to mention it and demonstrate some of the approaches taken on the author’s three songs.
All of the guitars are recorded as DIs, and then with a software called BIAS FX2 by PositiveGrid, fundamental guitar tones were captured.

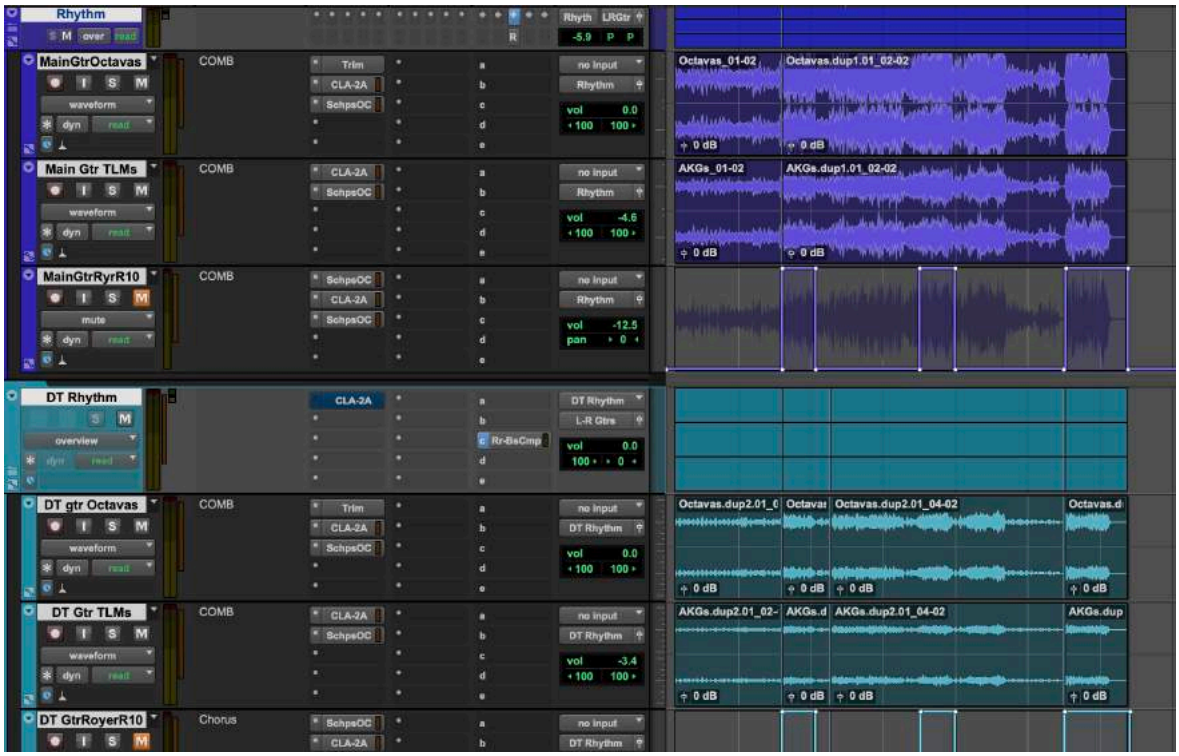
Finally, modellings of the legendary compressors such as LA2A, LA3A and 1176 were also widely used as inserts on individual channels as well as “Rear-Buss-Compressors”.

Part-3: THE PRODUCTIONs

SINGER SONG-WRITER; ACOUSTIC EP PRODUCTION

TRACK: WOMAN WITH CLASS

PRODUCTION OF THE ACOUSTIC GUITARS:



The guitars are recorded with five different microphones at a time. X-Y pair for close miking. One ribbon mic, behind the X-Y mics, as sides. And wide stereo pairs as room mics.

The implementation of the mixing approach started with multiple compressions, one for each of these instances.

Close mics are the ones that got the least compression due to their “close” nature. Afterwards, the room mics, combined with the ribbon, got a very heavy compression. The reason for compressing the room mics heavily is due to their far-sounding nature coming from a high dynamic range.
On the other hand, the reason behind the ribbon is FX based. As can be seen from the screenshots, this mic is only un-muted at the choruses.
X-Y Mics(below, single shot) needed the EQ before everything. This is due to clipping’s similar nature to compression. If any unwanted frequencies are going to be cut, that should be before compression. Why activate the compression with those frequencies if they will be cut regardless? After the compression, each channel got processed with the Omni Channel plugin.

You fix your problems before you get into dynamic processing, then once you are done with dynamic shape, you start adding your musical EQ (Mixing Masterclass with Andrew Scheps, sec. 28:30)

For the rooms(below on the left, double shot), the need to cut anything before compression did not occur. After clipping, creative tonal EQ took place for ribbon mic(below on the right, double shot), which only comes in at the choruses, only processed with the usual high-pass filter and creative tonal EQ.


1
Track
Preset
Auto
BYPASS
COMPARE
SAFE
Native
MIDI Node: Scheps Omni Channel 18
GATE
DS²
EQ
PRE
COMP
INSERT
No Insert
SCHEPS OMNI CHANNEL
THRESHOLD
FREQ
THRESH
FLOOR
CLOSE
ATK
REL
ATTEN
OUTPUT
SIDE CHAIN
EXT SC
FILTERS
SATURATION
ODD
EVEN
HEAVY
RATIO
ATTACK
RELEASE
LIMIT
INPUT
OUTPUT


2
Track
Preset
Auto
BYPASS
COMPARE
SAFE
Native
MIDI Node: Scheps Omni Channel 20
MIDI Node: Scheps Omni Channel 23
PRE
GATE
DS²
EQ
COMP
INSERT
No Insert
SCHEPS OMNI CHANNEL
THRESHOLD
FREQ
THRESH
FLOOR
CLOSE
ATK
REL
SIDE CHAIN
EXT SC
FILTERS
SATURATION
RATIO
ATTACK
RELEASE
LIMIT
INPUT
OUTPUT

PRODUCTION OF THE SOLO GUITAR:

Similar processing took place for the solo guitar channel when compared with the rhythms.

Compression. LA3A this time, then tonal EQ. However, on its aux folder channel, after the high(20kHz) and low-pass(208Hz) filter, de-essing took place in the mixing process.

Plugin: Scheps Omni Channel. It has full-band de-essing, which helps deal with unwanted frequencies efficiently.

After the de-essing, heavy compression took place to give the closeness that the solo guitar needed. Slow attack and fast release methods are applied here.

The third insert is, again, a Waves Audio plugin to give saturation to the solo guitar. At this point, every method in the author's arsenal is applied and selected when they suit the

sound in his head—following, clipper into de-esser. This choice is to clean up some harsh artefacts of that specific clipping. Finally, a tonal EQ can be seen.

As seen above, even the solo guitar channel's main reverb channel got processed and compressed. From the reverb plugin, into the high-pass eq to clear up unnecessary low end from the reverb, then finally, into the compression.

Apart from the reverb channel, the Solo guitar has got one of the two delays for each side of the stereo spectrum. These are processed similarly, the only difference being the delay time, which is decided by ear. Processing these delays starts with a high-pass filter and de-esser on the Omni-Channel plugin, then into the delay unit(Waves H-Delay). Then finally, to clean up the artefacts, if any are left after the high-pass of the delay plugin, a regular high-pass procedure as the third insert. Looking back to it, this does not make that much sense. However, in the latest process of mixing, a habit of mine, when clearing up the unnecessary frequencies, this kind of “clean-the-mush” type of EQs can be duplicated into multiple channels for safety reasons. A lot of compression and clipping is applied, and these are all inside of the computer. Chosen to stay safe rather than sorry in this case.

PRODUCTION OF THE LEAD VOCALS:

Lead vocals' mix process started with de-essing. Then follow-up, the Waves Audio SSLEQ plugin applies a hi-pass filter. From there, the third and fourth step is compressing with the author's one of the favourite processings, LA2A into LA3A. Such a great vocal chain which, in many instances, can compete with single 1176. An experiment is needed to decide which method will end up.

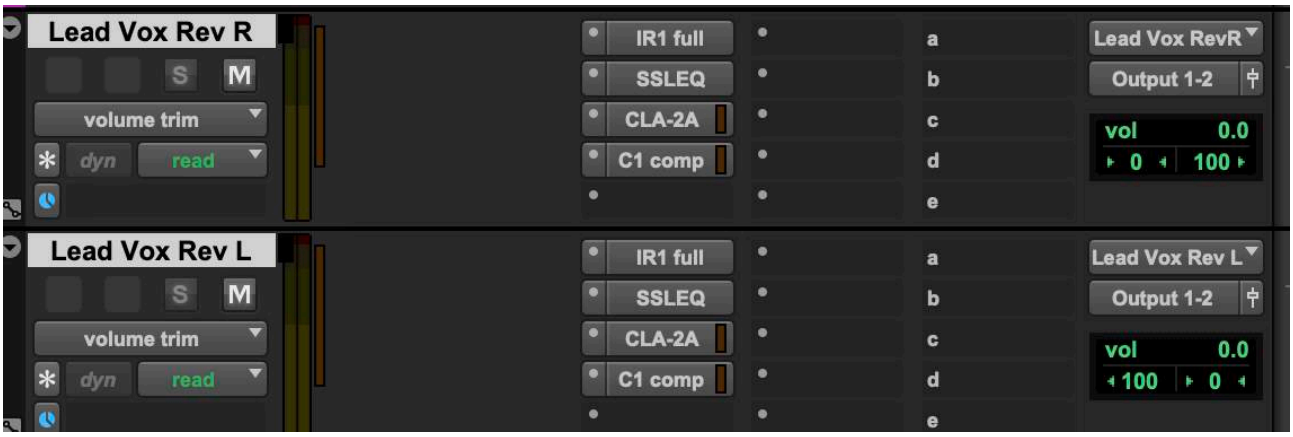
Finally, another Scheps Omni Channel plugin. Heavy clipping is chosen with 2dB of thump. Ended up with tonal EQ.

Both of the individual channels are processed the same.

Regarding the main aux(folder in this case), a mild compression from 1176 went into Omni-Channel. From there, clipping into a tonal EQ. Ending up with mild compression. This final step is the last dynamic range adjuster in the author's workflow.

After these, the main reverb plugin follows up. Waves Audio IR1 Full is used. After that comes the high-pass anti-mush EQ.

To have the ambient when the lead vocals stop singing comes from the same processing as the reverb with a different preset ending up at the side-chained compressor insert, which is fed from lead vocals. It can be seen below.



Backing vocals took similar processings, resulting in subtle EQ and gain differences.

REAR BUSS COMPRESSORS:

As defined before, rear-buss-compressors can be seen side to side. Each has a high-pass filter and high-shelf cut. This cutting and hi-pass processings are set with listening and feeling the sweet spot.

Each channel fed the rear-buss-compressors with a send on them. According to the needs of the mix, send gains varied.

As can be seen on the first rear-buss-compressor:
In theory, you can leave all of your transients and bring the RMS level up. So that the character of the transients doesn't change" Another glance and the aim of his slow-attack, fast-ish release side chain comp method. (Andrew Scheps 1 Hour Video! Recording Drums & Guitars to Mixing Tips, Production.., sec. 35:00)

TRACKS: BLUES KITCHEN AND COME ON LITTLE BABY

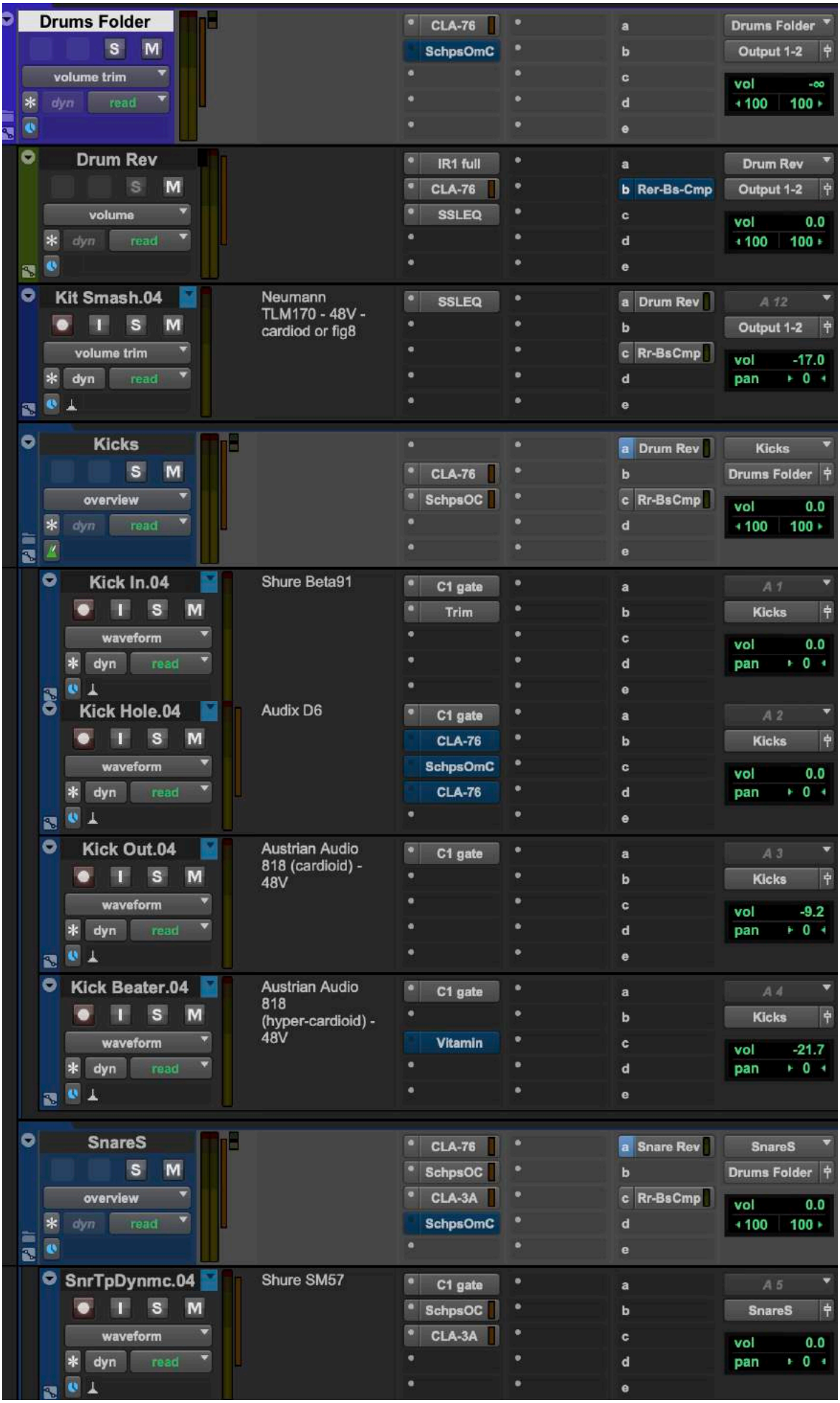
Both of these tracks received similar mixes. Where after the first one(Woman With Class) finished. Only slight processings were applied. If there are some audible differences, these are due to the different reverbs of the vocals and different gain combinations of the rhythm guitar microphone channels.

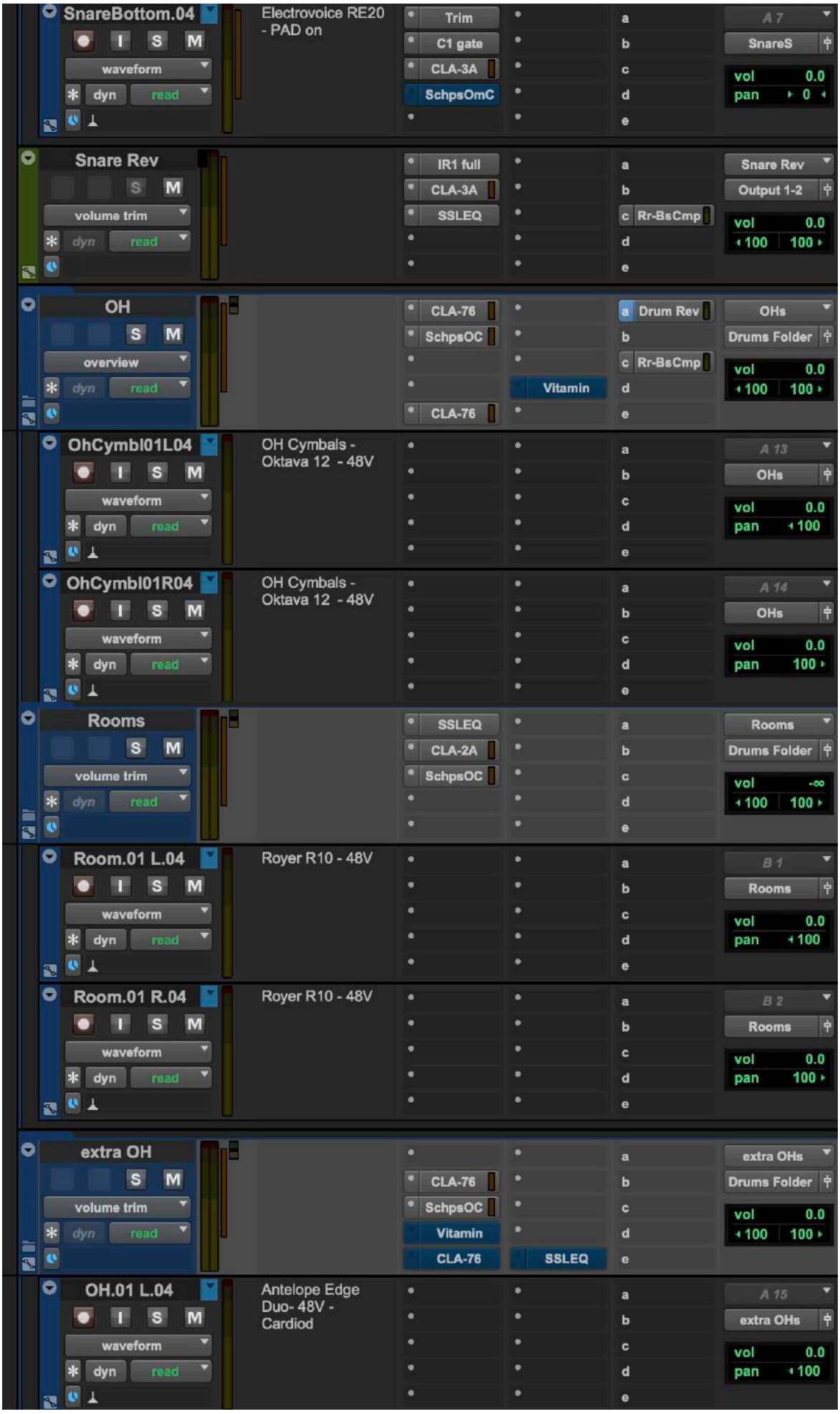
AUTHOR'S OWN THREE SONG EP PRODUCTION

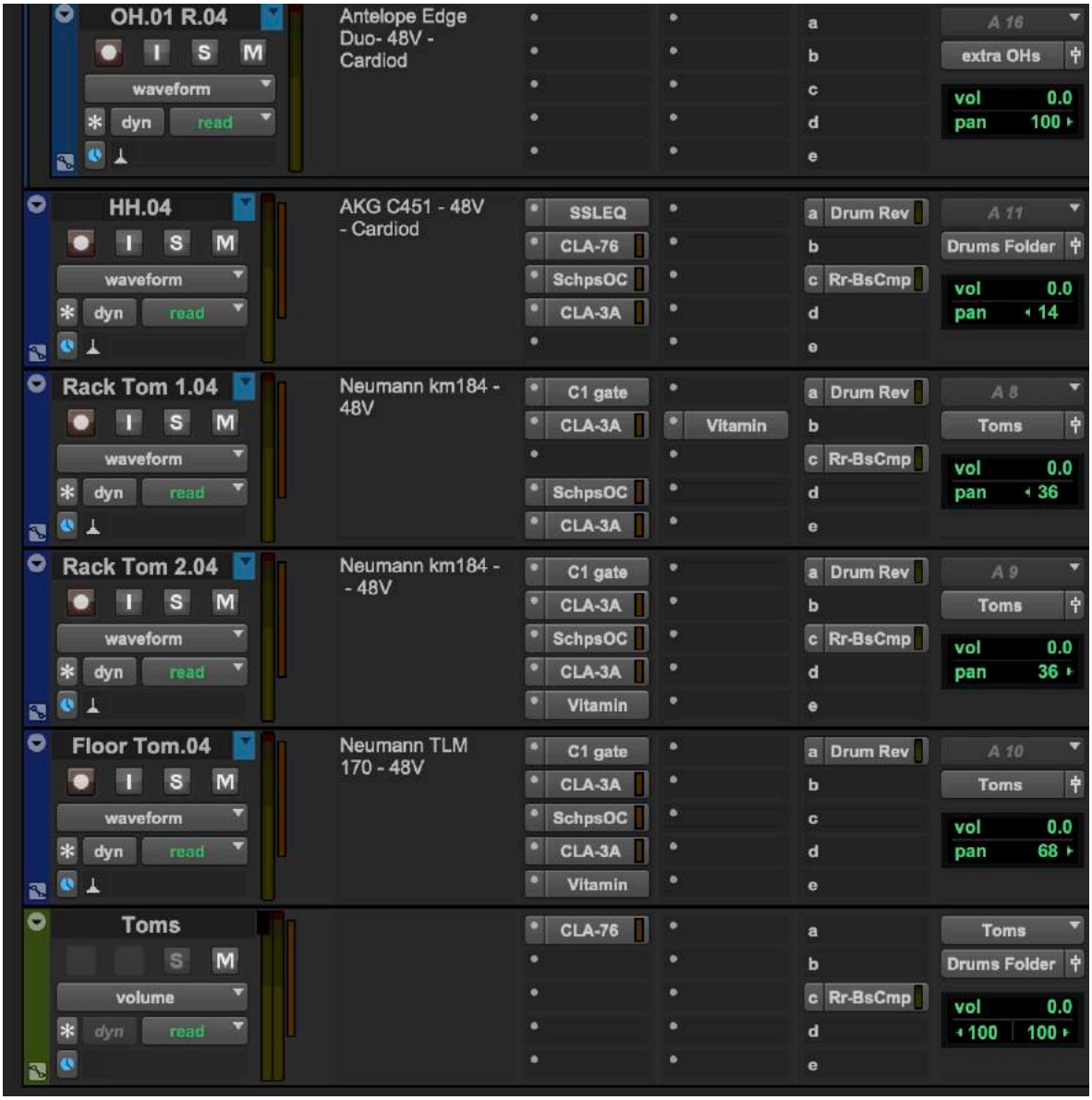
TRACKS: GM(SOURCE OF THE SCREENSHOTS), BM, AND ASHBORN

From this point, the overall approaches will be outlined with generalised descriptions due to minimising repetition of the same approaches.

PRODUCTION OF THE DRUMS:


Drums Folder
S M
volume trim
dyn read
CLA-76
SchpsOmC
Drums Folder
Output 1-2
vol -∞
100 100
Drum Rev
S M
volume
dyn read
IR1 full
CLA-76
SSLEQ
Rer-Bs-Cmp
Drum Rev
Output 1-2
vol 0.0
100 100
Kit Smash.04
I S M
volume trim
dyn read
Neumann TLM170 - 48V - cardiod or fig8
SSLEQ
Drum Rev
Rr-BsCmp
A 12
Output 1-2
vol -17.0
pan 0
Kicks
S M
overview
dyn read
CLA-76
SchpsOC
Drum Rev
Rr-BsCmp
Kicks
Drums Folder
vol 0.0
100 100
Kick In.04
I S M
waveform
dyn read
Shure Beta91
C1 gate
Trim
A 1
Kicks
vol 0.0
pan 0
Kick Hole.04
I S M
waveform
dyn read
Audix D6
C1 gate
CLA-76
SchpsOmC
CLA-76
A 2
Kicks
vol 0.0
pan 0
Kick Out.04
I S M
waveform
dyn read
Austrian Audio 818 (cardioid) - 48V
C1 gate
A 3
Kicks
vol -9.2
pan 0
Kick Beater.04
I S M
waveform
dyn read
Austrian Audio 818 (hyper-cardioid) - 48V
C1 gate
Vitamin
A 4
Kicks
vol -21.7
pan 0
SnareS
S M
overview
dyn read
CLA-76
SchpsOC
CLA-3A
SchpsOmC
Snare Rev
Rr-BsCmp
SnareS
Drums Folder
vol 0.0
100 100
SnrTpDynmc.04
I S M
waveform
dyn read
Shure SM57
C1 gate
SchpsOC
CLA-3A
A 5
SnareS
vol 0.0
pan 0


SnareBottom.04
Electrovoice RE20 - PAD on
Trim
C1 gate
CLA-3A
SchpsOmC
A 7
SnareS
vol 0.0
pan 0
Snare Rev
IR1 full
CLA-3A
SSLEQ
Rr-BsCmp
Snare Rev
Output 1-2
OH
CLA-76
SchpsOC
Vitamin
CLA-76
Drum Rev
Rr-BsCmp
OHs
Drums Folder
OhCymbl01L04
OH Cymbals - Oktava 12 - 48V
A 13
OHs
OhCymbl01R04
OH Cymbals - Oktava 12 - 48V
A 14
OHs
Rooms
SSLEQ
CLA-2A
SchpsOC
Rooms
Drums Folder
Room.01 L.04
Royer R10 - 48V
B 1
Rooms
Room.01 R.04
Royer R10 - 48V
B 2
Rooms
extra OH
CLA-76
SchpsOC
Vitamin
CLA-76
SSLEQ
extra OHs
Drums Folder
OH.01 L.04
Antelope Edge Duo- 48V - Cardiod
A 15
extra OHs
waveform
volume trim
overview
dyn
read
vol
pan


OH.01 R.04
I S M
waveform
dyn read
Antelope Edge Duo- 48V - Cardiod
a
b
c
d
e
A 16
extra OHs
vol 0.0
pan 100
HH.04
I S M
waveform
dyn read
AKG C451 - 48V - Cardiod
SSLEQ
CLA-76
SchpsOC
CLA-3A
a Drum Rev
c Rr-BsCmp
A 11
Drums Folder
vol 0.0
pan 14
Rack Tom 1.04
I S M
waveform
dyn read
Neumann km184 - 48V
C1 gate
CLA-3A
SchpsOC
CLA-3A
Vitamin
a Drum Rev
c Rr-BsCmp
A 8
Toms
vol 0.0
pan 36
Rack Tom 2.04
I S M
waveform
dyn read
Neumann km184 - - 48V
C1 gate
CLA-3A
SchpsOC
CLA-3A
Vitamin
a Drum Rev
c Rr-BsCmp
A 9
Toms
vol 0.0
pan 36
Floor Tom.04
I S M
waveform
dyn read
Neumann TLM 170 - 48V
C1 gate
CLA-3A
SchpsOC
CLA-3A
Vitamin
a Drum Rev
c Rr-BsCmp
A 10
Toms
vol 0.0
pan 68
Toms
S M
volume
dyn read
CLA-76
c Rr-BsCmp
Toms
Drums Folder
vol 0.0
100 100

The main difference with drums comes from everything being recorded in the same room. Because of that, multiple gates are used. If not the gates when processing, phase relationships of all channels should be considered to avoid comb-filtering or unwanted timbre changes.

Lenghtening, under normal circumstances clipping, the kick and the snare with mixbus limiting. Which has slow attack and fast-ish release.This is actually a big part how I'm lenghtening the kick and the snare. Kick and snare are very very loud in the mix without this. And without the limiter they just come poking out; they are too loud and too short. They are not really helping. (Mix Buss & Drum Processing with Andrew Scheps, sec. 2:35)

Since this was a hard-rock piece, every drum track is much more compressed to have defined and possible close sounds. The dynamic range of each element is limited and memorised to define a dynamic range spot in the mix. This is due to having in-your-face guitars. Highly-distorted and loud.

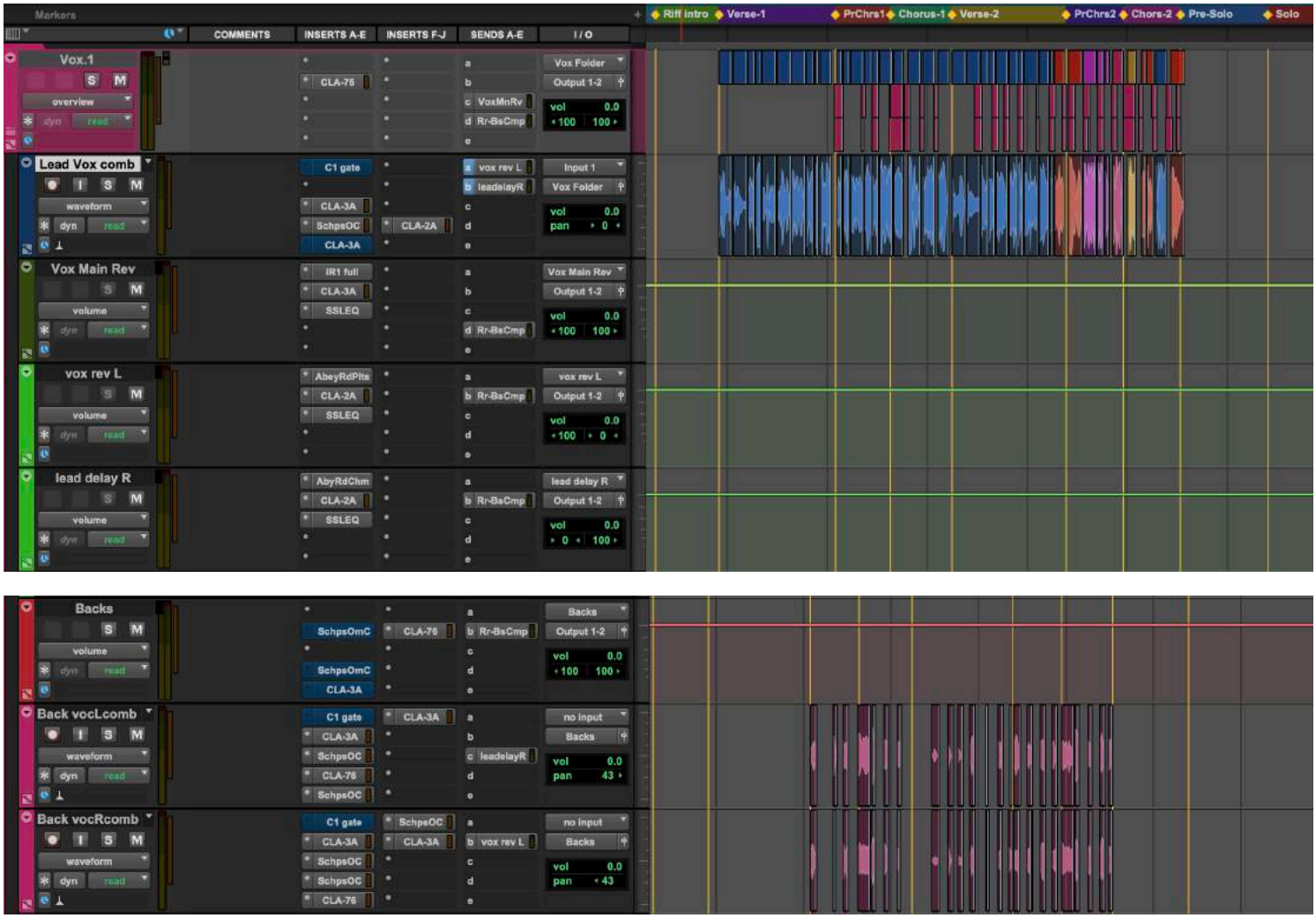
While there were multiple ways to look at the definition of "in your face" guitar tone, one of the most understandable explanation is made by Mark Mynet, continued:
The energy created by low frequencies is powerful enough to go straight through solid objects, and can therefore reach us from great distances. Conversely, high-frequency sounds dissipate substantially with distance, being absorbed at a faster rate than low frequencies as they move through the air or more solid substances. Consequently, if a sound source contains considerable high-frequency energy— as with distorted electric

guitars—the brain infers an apparent lack of air absorption, and therefore a seeming lack of distance, and perceives the sound as being proximate.

This sense of “in your face” proximity means distorted guitars are observed as harder, more intense, and therefore heavier. The relationship between high-frequency content and perceived heaviness is often overlooked and extends to many of the other sounds involved (Mynett 2017, p. 13)

The overall screen-shots of the processings can be seen above.

PRODUCTION OF THE VOCALS:



Identical approach with the acoustic EP's production. The main differences are the dynamic range, different reverbs, and pan positions.

PRODUCTION OF THE BASS:

As seen above, for the bass, the solution was using multiple amps to have the intended tone. Nevertheless, perhaps, the most unusual approach was to use Waves Audio's Studio Rack plugin to split the bass frequencies as a multi-band, which were split as the bass and the tone. It can be seen below.

The basis behind this approach is controlling the bass' low-end as compressed and less dynamic while having a more dynamic tone for the higher parts, where the bass player might want to get a bit louder. Moreover, while the bass has a dynamic range to act at different parts, the low-end stays static.

Also, the sonic weight plays an important role rather than sounding only heavy and "metal-ish". To get a broad and understandable approach; again, Mark Mynet's explanation continues:

Sonic weight and heaviness are related in numerous ways but can be differentiated. The perceived heaviness of an individual instrument or overall production is greatly impacted by high-frequency energy, whereas the concept of sonic weight is specifically concerned with low frequencies, and more precisely the perceived "size" and "mass" of this spectral region.

The world we inhabit has consistent physical laws. These laws are reflected in the way sound delivers information about the size of the source. When we hear and feel low frequencies, we tend to associate the production of these sounds with larger and weightier entities. For example, we wouldn't expect a household cat to roar like a large lion. Low frequencies also tend to be associated with sounds that are produced through high impact (i.e. an object forcefully striking another object). For instance, the sound produced by substantial thudding, such as kicking a door, compared to light tapping, such as a fingernail on a table.

For musical purposes, the term "sonic weight" refers to low-frequency qualities associated with high levels of energy, power, impact, and loudness, creating the perception that the sound source is large, dense, and powerful. It is unlikely that sonic weight would be apparent if, for instance, the bass or guitar performance involved a very soft attack from

the picking hand (i.e. a lack of energy, impact, and loudness) or if the instrument/amp/cab combination sounded thin and weak. It would also be highly unlikely that a dense, big, powerful sound could be achieved simply by boosting the low frequencies of this example. For these reasons, the term “sonic weight” refers to both the quantity and qualities of low-frequency energy. (Mynett 2017, p. 15)

PRODUCTION OF THE GUITARS:

REAR BUSS COMPRESSORS:

Since this was a track which enabled less dynamic space and more compression. Three different rear-buss compressors are used in different settings. Each track had their sends with varied levels.

Conclusion

This paper defined the approach of knowing how to put more by calling it “Subtraction into Addition”. Then took the Channel Strip Plugin of Andrew Scheps and broke down the modules and qualities of these parts. Finally, after exploring the rear-buss-compression, this paper dove into the author’s revelations. From that point, what is learned was what was revealed in the last part of the production journey of the writer and his most recent production to fulfil his practice-as-research project.

Bibliography

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- https://youtu.be/VEuWcuQPumQ

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-Mynett, M. (2017). Metal music manual : producing, engineering, mixing and mastering contemporary heavy music. New York ; London: Routledge.