

MA Commercial Music Production PG Cert Assignment

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**Tileyard Education,
University of Wales Trinity Saint
David**

*“Without restraint,
emphasis is lost”*

FOUNDATION ELEMENT 2 - ESSAY

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MY STARTING POINT

It was pretty clear from the beginning what I wanted to focus on for my development through this task: clarity, or making more with less. With my background as an avid composer and arranger for stage shows, orchestra, and intricate jazz fusion ensembles, I thoroughly enjoy the instrumentally, harmonically and rhythmically complex, and therefore tend to have lots of things going on in my production style as well. But one of my focus points for my year at Tileyard is learning how to make my music more commercially appealing, and a clear skill I was lacking was how to take fewer and simpler elements, and just make them sound really, really good. To be more specific, this means: Crisp vocal mixing, tight and clear musical arrangement, and mix these fewer elements so they all have a clear role in the soundscape.

I want to be able to answer yes to this question: Could I hear this track being played on the radio or a popular playlist?

And what better way to learn than to look at some of the most commercially successful tracks of the last 5 years? My chosen songs, “Hello” by Adele, “Don’t Start Now” by Dua Lipa, and “bad guy” by Billie Eilish are very different from the point of view of production style, but all have over a billion streams on Spotify alone. So how exactly do you produce a billion stream hit? I’m going to try and get closer to finding out.

For each song discussed I have chosen to emphasise not every single step of my process, but rather focus on the aspects that proved to be most interesting, surprising, or frustrating. For an overview of all major aspects of production gone into each track, see Appendix B.

“HELLO” BY ADELE¹ vs.

“SURRENDER” BY IMOGEN HALSEY

I have recently been working with the artist Imogen Halsey on producing her debut EP, and prior to this essay we had already tracked the piano and vocals² for her song “Surrender”, but the track was otherwise left untouched until she clarified that she wanted it to sound like “Hello” by Adele: perfect for this assignment.

“Hello” and “Surrender” are similar mainly in that they are slow ballads, using diatonic harmony and melody (with exception of the bridge in “Surrender”), they feature strings, and are sung by a powerful female lead. But they are also different in key ways: “Surrender”, as per the composition of Halsey, features two instrumental sections where the cello takes the lead, and it is significantly slower - 42 BPM versus “Hello”’s 79 BPM.

¹ Please refer to Appendix A for a more thorough discussion of the Pop Ballad.

²Piano using Spectrasonics’ Keyscape, and vocals recorded on my Neumann U87. This is worth mentioning, because on previous recordings of her voice using a Warm Audio 47, I often had problems with harshness that was really difficult to get rid of using EQ. With the U87, much less so. You can however still hear a bit of what I’m talking about in the phrase beginning at 2:20 in the song. I have attempted to sort it with EQ, Oeksund’s Soothe, and by removing Decapitator on that phrase, but some still remains.

For “Hello”, the instrumentation is acoustic (with a few sounds which could either be electronic in nature or manipulated samples), and the arrangement is simple. The chords in the piano and the groove in the bass and drums are minimal, and the drums and bass are not introduced until the first chorus. The backing vocals don’t come in till right before the second chorus, and strings and synth-like effects are sparse: We never get the feeling of an actual string orchestra, only individual strings, consisting of a low cello matching the bass, a violin playing tremolo on one note, and then a high violin drone. If there is ever anything that can draw your attention away from the lead, it is the backing vocals, which mostly function as an echo of important words.³⁴

Regarding production, the most prominent technique is definitely reverb, which is used to create an expansive space, that fills the soundscape with the otherwise sparse musical arrangement. A different reverb has been used for Adele’s voice than for the strings and textural effects in the background, with Adele’s reverb having a much shorter decay time, a bit of pre-delay, and a smaller room size.

But the more sophisticated technique is arguably the low-pass filter on the drums and bass: nothing is allowed to interfere with the frequency range of her voice until the last chorus, where the filter is lifted (at least with a higher cut-off), and the drums emerge as if for the first time to great effect.

So my challenge to myself was to apply a sparse musical arrangement, never let anything distract from the vocals, employ low-passed drums for subtle drive, and use reverbs to create space.

Halsey arranged and recorded the cello tracks and wanted them in, so along with the piano, which she also performed, that was the only given. Although Adele’s song is slow, it never loses momentum, and I had to find a way to achieve the same thing for “Surrender”. One element was having a bell synth with an airy delay effect perform 32nd notes consistently from the second verse onwards. Thus, despite the slow tempo, there is still a sense of urgency and movement.

Another part is of course the drums. I employed a low-pass filter, and a gentle heartbeat-like groove. But it was too empty, so I let the rimshot come through with a higher cutoff frequency to have more percussion to latch on to. A key learning is that with the slower tempo, and thus more space between the melodic phrases, I couldn’t simply do exactly as in “Hello”. I also debated to which degree I should let the drums come alive towards the end when the filter is finally lifted, and to emphasise the effect when they vanish completely before the last chorus, I decided to arrange a more energetic groove from the instrumental onwards - also considering variation to the fact that we have already heard that string part in the opening bars.

³ With “Hello” being her first single in 3 years, it is possible that the producers wanted everything on the record to be about her, her voice, and nothing else, clearly stating “Adele is back”.

⁴ Sam Smith’s “Stay With Me” deviates only with a slightly more prominent rhythm section, 5 BPM faster tempo, and with the backing vocals sometimes carrying the melody. The strings are also more fleshed out. But these are small details.

To create texture and atmosphere, I used mainly string samples and soft synthesiser pads. In “Hello” the backing vocals are the only elements allowed to star alongside the lead vocals, but “Surrender” has no backing vocals. Naturally, we could have recorded some, but I decided that the cellos would fill that role, which leads me to talk about reverb and delay. For the above mentioned texture and pad elements, both hall and shimmer (Valhalla Shimmer, to be exact) reverbs were used to fit the space, but what about delay? With all the space in the song, there would be plenty of opportunities to use throw delays to repeat the last words of the sung phrases, but I resisted that temptation, allowing only a little amount of slap delay panned to the sides to make the lead vocal take up even more space in the now. This is because I wanted the focus to be on the story, and only by allowing the space for each phrase to properly sink in in almost silence did I feel that that could be achieved. The song is already so slow that if you make it past the opening cello section, you are probably okay with a little pause here and there⁵. Instead, I blended the space of the vocals and the cellos by having them both send to the same slap delay, which in turn is sent to the same reverb as the strings (a concert hall reverb with long decay time). The vocals send independently to a room reverb aside from that. This way, the vocals are allowed to stand out, but still with elements of the same spacial universe as the cellos.

Overall the song ended at a really satisfying place to both myself and the artist, borrowing production elements from “Hello”, but always allowing the song to be its own. It might be too slow to be played on mainstream radio, but I could see it featured on prominent playlists with a similar vibe - e.g. “The Most Beautiful Songs In The World” on Spotify.

SONG 2 - “DON’T START NOW” BY DUA LIPA vs. “THEN I MET YOU” BY TAYLOR RETTKE AND MICHAEL DAHL RASMUSSEN

I chose to work with “Don’t Start Now” both to dive into the work of one of the most popular pop stars at the moment, and also because the drums and bass “give me life”, as the kids say these days. I have written “Then I Met You” for the occasion with fellow musician Taylor Rettke, who also stars on the vocals, with the aim to produce a song that was carried mainly by a strong bass groove, solid drum beat, and clear vocals. The disco elements in the song - the accented string melody especially - likewise appealed to me.

The bass groove in the beginning is, contrary to what I and others thought, not actually played by a real bass player. It is a synth bass programmed by the producer, Ian Kirkpatrick, using the Scarbee MM-Bass, and later on it is doubled with slap bass sounds from Trillian.⁶⁷

⁵ This is meant in relation to the impatience of the average music consumer - I think the tempo of the song is perfect!

⁶ Sound On Sound <https://www.soundonsound.com/techniques/inside-track-dua-lipa-dont-start-now>

⁷ I was so committed to achieving the same results that I purchased both those packs for the task.

When jamming for the right bass groove, I accidentally ended up in the same key as “Don’t Start Now”, B minor, and I chose a similar tempo - 123 BPM versus her 124 BPM. When writing a song I will usually either start with the lyrics, or compose directly with chords and melody by the piano, but for this I decided to start with the bass line. Rettke, who plays the bass, recorded the part at home (again, due to lockdown restrictions), and I initially achieved a satisfying result by doubling the track, and low passing the first one while boosting the bass around 60hz, and high passing the other and using a different amp to give it the feel of a real bass. The result can be heard in the portfolio as “Fonky Chonk” - an early placeholder title. I ended up discarding that completely, however, seeing as the part was both too busy, and not quite sounding right. It was only when I limited the notes in the bass line more, and used the Scarbee MM-Bass alongside some more realistic bass sounds from Trillian that it had the same tightness as “Don’t Start Now”. I might have been able to achieve a similar result by getting another bass recording and either gating it or heavily editing the part for any release envelope and fret noises, but I was keen to get to know how to use a new instrument.

Next came the kick, and with this I arrived at a satisfactory result a bit quicker. I found an 808 on Splice, which I low passed, and doubled with an identical track with Soundtoys’ Decapitator on, which I mixed in for a bit of distortion. Initially I couldn’t get this quite right, but after setting the Decapitator’s style to T, the low end of the kick was tight, with just the right amount of the upper harmonics. This distorted track I low cut around the fundamental frequency of the low kick so that only one kick track was allowed the low frequencies in order to avoid the low end getting muddy. To emphasise the transient of the kick I doubled with a different sample that had more emphasis on the click. This track I also low cut.

For the recording of the vocals I was on a Zoom call with Rettke, who shared his screen with me on Zoom and sound via Audiomover. He has his own microphone (a Røde NT1-A), and thus I guided the recording session from the comfort of my home before he sent me the stems. To get vocals clean in the mix, I first of all added a low-cut around 180hz, a little dip around 1khz to get rid of a nasal quality, a boost in 4khz for more presence, and a shelf EQ boost from 10khz upwards to boost the breathiness. To tackle a bit of harshness occasionally yielded by these boosts, I employed Oeksund’s Soothe. To try something new, I used Waves’ Scheps Parallel Particles, which adds parallel effects to the sound, and upped the “THICK” and “AIR” knobs.⁸ To create space for the lead I furthermore created a dip around 3.5-4khz in most accompanying instruments like pads and keys. Finally, along with regular compression to even out the volume and to add colour, I also added a compressor at the end of the chain with a medium ratio and threshold, fast attack and release, which was side chained to the kick, so the lead vocal ducks out ever so slightly on each kick. This is a trick I learned from reading the above article interviewing Kirkpatrick, and although it technically makes the kick rather than the vocal stand out clearer, it also makes it feel like the two parts are “interacting”⁹, in his own words.

⁸ To be honest, I’m not sure how they work, but they make the sound a bit thicker and a bit more airy.

⁹ Ibid

For the final result I am especially happy with the drum groove and bass¹⁰, and the vocals are tight in the mix. Before releasing the final product I am probably going to have Rettke record a few more vocal ad libs to fill spaces, but apart from that, after listening to it on multiple devices, I have a good feeling that this track could be played on mainstream radio.

SONG 3 - “bad guy” BY BILLIE EILISH vs. “ACHE” BY MICHAEL DAHL RASMUSSEN

For my final song I wanted to push myself into the for me unknown territory of alt pop¹¹. Billie Eilish’s “bad guy” is a great challenge for me in several ways. First of all, in its minimalism. Most of the time it is led by the vocals, and supported only by the absolute minimum bass and percussion groove necessary, and yet it never feels empty. Second in its vocal production - I have never mixed vocals to sound like they are whispering in your ear and simultaneously sound loud and clear in the mix. And third, I have never neither written nor sung in this style before (I was trained as a big musical theatre baritone), and I decided to write it, sing it, and produce it all myself for this assessment.

The writing process was surprisingly smooth. I had a terrible headache on the day I was to begin, and I figured that that was a fitting theme for a song in this style. Within a couple of hours I had all the lyrics and melody for “Ache”. The first melody that came to me was for the chorus: “When you’re here you’re the realest things there is / When you’re gone I don’t believe you.”, and the song, groove and music was built around that.

It was initially difficult for me to not have a clear chord progression or bass line to navigate through. Everything I tried felt wrong. For the riff I ended up one chord fewer than in “bad guy”, using a simple Fm-C progression, with Eilish’s song going from Gm-Cm-D, for example. With this rough scaffolding, I started laying down the vocal tracks, and producing them as I went along to find the right sound and feel. Only when it was clear what the vocals were doing and were going to sound like was it clear what needed to happen in the rest of the soundscape. Predictably for me, I had to scrap back musical and rhythmic ideas in the accompaniment several times to keep it minimal. It was important that it had to work with only the vocals in focus. Through experimentation I used Soundtoys’ Little Alterboy to pitch shift and formant shift some vocals up the octave for harmonies, and it sounded like it was an actual female singing it (several listeners asked who the girl was), and I decided to make that a feature. Thus, the chorus is sung by a choir of my altered voices, and for contrast the verses, bridge and pre-riff are sung by me without significant formant shifting. I also doubled some vocals down the octave using Little Alterboy to fill out the low end and give it a more menacing character.

¹⁰ One of my classmates asked whether it was a real bass playing(!)

¹¹ Once again, see Appendix A for a discussion of the genre.

In the punchline of “bad guy”, when Eilish sings “I’m the baaaad guy” before the riff, a special effect is added to the voice. According to Dr. Joe Bennett of Berklee College “That gritty stutter processing slices the voice up into tiny ~64th-note audio fragments, adding a flanger effect on the upper frequencies”¹². Through a happy accident, I think I might have found another way of achieving the same thing. I wanted to auto-pan the vocals in the chorus to see if it could make it sound wider, and by turning the speed up too high, the vocals began stuttering very much in the same way as in “bad guy”. I had to use this, of course, and it became an effect used in the chorus to emphasise the words “gone” and “believe you”.

I had a moment in the process where I wasn’t sure about the direction of this song, but after watching a snippet of a video called “How To Produce & Write A Billie Eilish Style Track”¹³, I was reminded to simply pan the vocals, and suddenly I was inspired. I didn’t even finish the video.

The defining moment was when I got the idea to make the bridge (“You keep me awake, ache”) sound like played on an old record player. From then on the song had a clear identity, and it felt like my own rather than an imitation.

To bring the vocals as much forward as possible, I employed Oxford Inflator to add harmonic loudness and Slate Fresh Air to add more air to the already breathy quality. This I found worked really well for the chorus of female-sounding Michaels, and also for the verses, but less so. It seems for this style of singing - multiple layers of half-whispered melodies relatively low in the voice - it is harder to get the vocals to sit comfortably forward in the mix without getting harsh or filled with too much vocal fry. Here it seems Eilish has an advantage, maybe both in her sex and in her vocal skills. However, after doing takes with less vocal fry and tuning and panning all the vocals carefully with Melodyne, everything blended much nicer, albeit allowing very slight clutter in the timing between the vocals as is the style on my reference.

“bad guy” significantly features a contrasting section in the end which musically seems to have little to do with the rest of the song. A grand drop in tempo after a long pause sees us into a trap-like world. I debated for a while whether I wanted a similarly contrasting section in “Ache”, and I decided to go the opposite way: Accelerate the tempo culminating in a manic rap section with the riff being sung innocently by the female choir. The hope was to subvert expectations by simultaneously satisfying the listener with what sounds like both a climax and a drop in tempo (which reverts to the original 126 after speeding up to 136).

Overall I’m very pleased with how this turned out, especially as it was furthest from what I do daily. In the end it was probably the song I enjoyed the most, and with Billie Eilish paving the way, there could maybe even be space for a song like this on the radio. In terms of production, at any rate, I certainly learned a lot.

¹² Tidal Magazine: <https://tidal.com/magazine/article/billie-eilishs-bad-guy/1-55394>

¹³ https://www.youtube.com/watch?v=IO_Fub9onUs&ab_channel=MakePopMusic

IN CONCLUSION

Upon listening back to the tracks I am overall pleased with the result. It is possible that further trimming of the arrangements could make the mixes even clearer, and then of course there are the things that I don't know that I can't hear. But to my ears I have gotten the tracks up to as high a commercial standard as I can manage with the tools at my disposal including books, videos and articles, and beyond this I will need further guidance from an industry professional or mentor to take things to the next level. The biggest thing has been to learn that I can get comfortable in a broad range of musical styles, and to write, record and produce the songs from scratch in a short time-frame.

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APPENDIX A - DISCUSSIONS

Discussion: The Modern Pop Ballad

“**Pop ballad**, form of slow love **song** prevalent in nearly all genres of **popular music**. There are **rock** ballads, **soul** ballads, **country** ballads, and even **heavy metal** ballads.”¹⁴

This excerpt from Britannica formulates a rather broad definition for a pop ballad, and probably rightly so. Most people seem to agree that a ballad is a relatively slow song, with an emotional lyric - typically love.¹⁵ “Yesterday” by the Beatles seems like an obvious choice according to Britannica, but John Seabrook mentions Katy Perry’s song “Firework” as a “smash ballad”: a dance-friendly, four-to-the-floor anthem about believing in yourself. “I Don’t Wanna Miss A Thing” by Aerosmith is considered by some the greatest power-ballad of all time¹⁶, and that with its grandiose arrangement featuring orchestra, electric guitars and love-struck vocals stands in some contrast to the sometimes melancholic, sometimes aggressive narrative about greed in the guitar-driven “Stairway to Heaven” by Led Zeppelin, which Rolling Stones readers has crowned the best ballad of all time.

These variations aside, it seems clear that a ballad is typically of slower character musically, and lyrically on the melancholic and vulnerable side. What is interesting, perhaps, is rather to look at some of the current trends for the modern British pop ballad. Adele and Sam Smith, some of the most commercially successful ballad-makers in the last decade have some interesting things in common.

Structurally, they typically follow the common verse-chorus flow of ABABCB¹⁷, and their lyrics are personal - often depicting personal relationships that didn’t go as hoped. So far, this is what you would expect from a ballad. In a vacuum, you would not think anything unique about the production of their songs either: They are vocal-focused, accompanied by acoustic instruments like piano or guitar (typically adding strings further in the song), rhythm section and backing vocals. What makes it curious is rather all the things that are *not* featured in the recordings of these artists’ catalogue: elaborate orchestral arrangements, practically any electronic instruments at all, contrapuntal melodies from other instruments, instrumental solos with no vocals, and you are certainly not meant to more than slow-dance to them.

¹⁴ <https://www.britannica.com/art/pop-ballad>

¹⁵ “Very often, a ballad is a song with a lyric about love – or lost love. Usually slower in tempo (there are also mid-tempo ballads), most ballads are based on a fairly predictable song form with lyrics written from either the first or third person, often sung directly to the person who evoked the sentiment of the song or telling a personal story with some kind of emotional punch.”

<https://blog.dismakers.com/2013/08/breaking-down-the-pop-ballad/#:~:text=Writing%20and%20recording%20a%20compelling,listener%20in%20a%20meaningful%20way>.

¹⁶ <https://www.loudersound.com/features/the-40-greatest-power-ballads-playlist/4>

¹⁷ On popular music songs: “The verses build up the tension, and the choruses release it, letting the joy in. After two choruses, there’s usually a bridge, also known as “the middle eight,” which is a variation on the verse melody, followed by the final chorus and coda.” John Seabrook. “The Song Machine: Inside the Hit Factory”. Apple Books.

What is important, then, is simply the lead vocal. There is nothing to distract the listener from the voice, and when strings and ear candy are introduced it is not till later in the song when the ears are accustomed to the chorus, and even then, these elements are never allowed to draw attention to themselves. The harmony has likewise been kept simple, staying within a diatonic major or minor universe - something which cannot be said of “Yesterday”, “Stairway to Heaven” or even “Firework”, which goes to a VIIb chord in the second bar.¹⁸

Discussion: Nu Disco and Pop

“Don’t Start Now” could be called both nu disco and pop, depending on your angle. Nu disco is characterised as “[...] incorporating the funk, house and some sort of elements of disco”¹⁹, and pop, as the case with the ballad, is a very broad term indeed. To narrow it down, Pablo Contraband, who founded Disco Deviant blog, emphasises that nu disco is “groove-led”²⁰, and “Don’t Start Now” opens with what can only be described as a very groovy bass-line. Other elements reminiscent of 80’s disco are string glissandos, synth pads, string stabs and crowd samples.

But there are also elements which remind us that it is a pop record from the past 10 years: vocal chops, chiefly, and a vague notion which I can only seem to qualify as a “modern production value” - the overall punch and presence of the elements in the song, without the dip in the midrange frequencies often pertaining to 80’s masters.

Moreover, the term nu-disco is often used in the context of instrumental music, so it can easily get confusing. Therefore, I am going to treat “Don’t Start Now” as a pop song with musical elements idiomatic of the 80’s.

Discussion: Alt Pop

“**Pop music** that has broad appeal but that is produced by performers who are outside the musical mainstream and that is typically regarded as more original, eclectic, or musically or intellectually challenging than most pop music”²¹

I recently discussed Billie Eilish with my wife - who is in marketing, and not in the music industry - as I was figuring out what to work on for this essay. She had downloaded “bad guy” [sic], and loved the music, but she told me that maybe it would be a better challenge for me to focus on something more commercial, given the name of the course I’m undertaking. I then continued to show her that the song has over 1.5 *billion* streams on Spotify alone, and she surprised conceded that it was indeed commercial enough.

¹⁸ It should be noted that Sam Smith’s songs are often harmonised in partly harmonic minor, making them not quite diatonic, but still within a simpler realm of harmony.

¹⁹ Jim Baron in “The Joy Of Nu Disco” - <https://www.prsformusic.com/m-magazine/features/groove-is-in-the-heart/>

²⁰ Ibid

²¹ Merriam-Webster: <https://www.merriam-webster.com/dictionary/alternative%20pop>

It is truly fascinating that something called “alternative” can be much more commercially successful than more mainstream artists like Adele, who only just scrape 1 billion streams on Spotify, as an example. The question begs: If it is so popular, is it then truly alternative? Program Director Guy Zapoleon notes that popular music typically rotates in three stages. First we have “pure pop”, the most mainstream of pop music appealing to the masses (New Kids on the Block). Then that becomes “the doldrums”, a tedious and predictable kind of pop music that drives the young people away (Michael Bolton’s *Timeless: The Classics*). Then to “the extremes” (Nirvana and 2Pac), which drive the older generation away, for which reason programmers start leading us back again towards “pure pop”.²² With the emergence and massive success of Billie Eilish, it could be tempting to say that we according to Zapoleon currently find ourselves in the “extreme” part of the cycle.

If this discussion will allow it, I also found this comment on Reddit by the user “animalprofessor” to supply some interesting points:

“Alternative music (or alternative rock) distinguished itself from pop by having distorted melodies, lyrical content that was more edgy or subversive, and generally appealed to a smaller audience of people who thought of themselves as outcasts. However, this style became very popular over time, to the point where many “alt” songs are very popular and thus very “pop”. Today it is mostly a marketing term, which ironically labels the music as being non-mass-appealing in order to actually give it mass appeal. It turns out basically all teenagers think of themselves as “alternative” rather than “popular”, and thus some of the most popular songs are alternative.”²³

To put it simply, alternative pop remains catchy and accessible, adhering to common pop tropes, but distinguishes itself with lyrics and alternative production techniques commonly considered too left-field for mainstream pop music. In this case, “bad guy” remains pop’y with an extremely catchy instrumental riff, and a repetitive 3-chord progression, but subverts by lyrically diving straight into the subject of domestic violence and sexual power play, and in production by the right-in-your-ear panning and mixing of the vocals, unnerving stutter and flanger effects, and by completely switching musical tempo and gear in the outro, leaving us with a section which could potentially be called alt-trap.

You could begin to argue that this would plant the seeds for a new genre altogether, so why call it alternative *pop*? Because even though it diverts from pop, it always relates back to pop, even if she is turning it on its head. In the words of Dr. Joe Bennett of Berklee College of Music: “Is she trying to subvert pop? Duh.”²⁴

Maybe one day we will not just see Billie Eilish as the new kid on the block, but rather in the same light as New Kids on the Block: The distinction between “pure pop” and “the extremes” gets blurrier by the decade.

²² Page 106, John Seabrook. “The Song Machine: Inside the Hit Factory”. Apple Books.

²³ Reddit: https://www.reddit.com/r/explainlikeimfive/comments/3slm3k/eli5_what_makes_alternative_music_different_from/

²⁴ Tidal Magazine: <https://tidal.com/magazine/article/billie-eilishs-bad-guy/1-55394>

APPENDIX B - SONG OVERVIEWS

An empty slot indicates no change from previous slot. Also, only mentionable changes from previous sections are described.

HELLO - Adele	Intro	Verse 1	Verse 2	Bridge 1	Chorus 1	Instrumental	Verse 3	Bridge 2	Chorus 2	Middle 8	Chorus 3	Outtro
Instrumentation	Piano	+Vocals		+Synth	+Bass, cello, drums (kick)	Piano only like intro.	Piano, vocal, bass, cello, drums (now with toms and snare), backing vocals.	Piano, percussion, backing vocals for the first time singing homophonically with lead in harmony. To transition into chorus there is a distorted guitar or string synth on a high note along a suspended cymbal.	Like first chorus + snare drum, backing vocals, tremolo strings, ambient synth or strings.	- tremolo strings. + shaker, bells/organ/synth pad.	Like previous chorus + bells	Piano, tails of reverb from synth and backing vocals from the chorus.
Arrangement	Diatonic chords in simple rhythm			Synth pads for subtle texture.	Kick and bass follows the piano's same rhythm. Bass plays root notes only. Synth adding texture in the background and in the higher frequency spectrum.		Kick, bass and cello follow same rhythm as previously in unison. The backing vocals are subtly in the background on a quiet "ooh" at the beginning of every 4 bars.	The drums and cello fade out to focus on the piano and vocals.	Backing vocals are mainly in a rhythmical echo of the lead vocal, except the end of the chorus where they sing homophonically with the lead.	Lead ad libbing on "ooh" and "anymore". Backing vocals rhythmically repeating the words "highs" and "lows" on quarter notes. The shaker repeats a 16th-note pattern till the end of the song. The bass continues the previous pattern, but the kick slightly elaborates the groove.	Like previous chorus + drums slightly more elaborate groove and fills. Bells on the downbeat of every other bar.	Like the intro.
Mix	Low passed piano	Leads vocals dead centre and forward.			Low pass on drums and bass to allow vocals to penetrate undisturbed.		Backing vocals wide, cello panned right. Lead vocals still the absolute main focus. Still low pass on drums and bass, but the cello as allowed a little bid of mids to be heard.	Same as before, with the backing vocals panned to the side	Still lead vocals in focus, but the backing vocals are now next in line, panned to the sides, with plenty of breath (possibly emphasised with an EQ).	Lead still in focus, but more space for backing vocals. The synth/bells are still in the background, but further forward than previously. The shaker has a high pass, and might also be pitched down.	Low pass is finally lifted from the drums, allowing the snare and toms to come through. Lead and backing vocals still the most important parts, with the drums and bells being right underneath.	Like the intro.
FX	Reverb	Reverb	+More expansive reverb	Reverse piano into chorus	Still reverb.			Longer reverbs on the lead.	Main one still reverb, potentially also some slap delay on backing vocals.	Slap delay on backing vocals, big reverbs on the synth. Reversed piano into chorus.	Still a lot of reverb	Flanger effect and long reverb on the final F minor chord.
Tempo	79 bpm											
Time Signature	4/4											
Key	F minor											

SURRENDER - Imogen Halsey	Intro	Verse 1	Verse 2	Bridge 1	Chorus 1	Verse 3	Verse 4	Bridge 2	Chorus 2	Instrumental	Bridge 3	Chorus 3
Instrumentation	Piano, cello	Vocal, piano, cello, drums	+bell synth, shimmer pads	+reverse piano synth, tremolo strings.	-tremolo strings. +legato cello, bass drum.	+more pads.		As previous bridge, with more strings and ambient sound.	As previous chorus.	Drums, piano, cello, pads.	As previous bridge + drums + horns.	Only piano and pads left with lead vocal.
Arrangement	Celli playing the melody, piano playing along to the melody and chords.	Vocal singing melody, piano playing chords on each bar, cello playing pizzicato on the 1 of every bar. Drums playing subtle groove	+bell synth playing 32nd notes on a D throughout the song with few breaks. Pads holding a pedal point chord. Kick begins steady heartbeat rhythm.	The reverse piano synth crescendos up to the chorus on a chord. Tremolo strings are doubling the chords in the piano.	The legato cello play sustained chords for each bar. Bass drum doubles kick on each bar.	The new pads double the other pads, adding some very slightly dissonant clashes.		As previous bridge, with the new strings doubling the previous ones for a latter sound. The ambient sound sweeps and crescendos before being taken away by the rimshot before the chorus.	As previous chorus, but with cello playing melodic countermelody instead of held notes.	Piano and cello as intro. Pads sustained as in the previous sections. Drums open up to more grand groove, introducing the snaredrum and toms for the first time.	The drums continue their groove from the instrumental, horns double the strings and piano.	Piano plays simple chords, pads continue as before, vocals sing softly.
Mix	Celli spread out	Lead centre, cello panned to the sides (with low frequencies in the middle) drums centre with rim shot to the right. Piano staying centre. Drums low passed with exception of rim shot. Low end compressed on cello to make room for kick - this has been applied to all instruments with any low end throughout.	Pads centre, bell synth auto-panning left and right.	Tremolo strings slightly off centre, final rim shot centre.	Legato cello panned to the sides. Bass drum in the middle, also low passed.	New pads high and centre.		Same as previous bridge. Ambient sound wide in the background.	As previous chorus.	Low pass on drums lifted and they are brought forward in the mix next to the cello, who are centre stage as in intro.	Similar to previous bridge, with the drums continuing as in the instrumental.	The low end has vanished. Bell synth continues panning right and left for a bit after the last chord of the piano, and the pads slowly fade.
FX	Reverb, little delay, Gullfoss.	Vocals have a few different effects on: Reverb, delay, compression, saturation, Oeksund's Soothe, and compression side-chained to the kick.	More reverbs, Valhalla Shimmer.	Reverb for the tremolo strings.	Reverb for the legato cello.	Reverb for the new pads.		Same as previous bridge.	As previous chorus.	Long reverb on drums, especially snare.	As previous bridge.	
Tempo	42											
Time Signature	4/4											
Key	G major											

DON'T START NOW - Dua Lipa	Intro	Verse 1	Verse 1 *	Bridge 1	Chorus 1	Verse 2	Verse 2*	Bridge 2	Chorus 2	Middle 8	Bridge 3	Chorus 3	Chorus 4 (Outro)
Instrumentation	Piano, synths, claps, string like synths, vocals	Drums, bass, lead vocals	+backing vocals, and synths in transition into bridge.	- bass and drums. + Piano layered with synths, strings, backing vocals, claps, shaker, rhythmic synth sounds (practically same as intro)	Bass and drums, lead vocals, backing vocals (breaths only). Cowbell.	Like verse 1 + synth pads, electric guitar, backing vocals.	Like verse 1* + synth bass, claps and new snare sound.	Like Bridge 1 + pre-ecco of lead from next chorus.	Like chorus 1 + crowd sample. Riser into Middle 8.	Bass and synth bass, drums, strings, synths, electric guitar, backing vocals, lead in the very end	Guitar continues. Claps, synth pad, synth bass, percussion, strings. Electronic drums in the end.	Like previous chorus + piano, synth, electric guitar, cowbell, shaker, strings, pads.	Like Chorus 3, but with vocals like Middle 8.
Arrangement	Piano playing diatonic chords, claps on 2 and 4, synths creating both pads and rhythmic texture.	Drums play four-to-the-floor with snare on 2 and 4, simple groove with occasional fills. Bass playing funky bass line plus fills.	+backing vocals for rhythmic breaths and harmonising with lead.	Like intro. Strings gliding up to high pedal point halfway through, where the shaker joins too. Backing vocals occasionally layering with lead.	Like verse 1, with added breaths for rhythmic effect. Cowbell for fills only.	Like verse 1 + backing vocals harmonising with lead. Synth pad is doing a side-chained rhythm to the kick drum. Electric guitar offers occasional funky rhythm on a note or two.	Like verse 1*, + alternate clap and new snare sound doubling the old one on beats 2 and 4 respectively. Synth bass is doubling the old bass.	Like Bridge 1. The Ecco-vocal is panned alternately right and left on the off-beats before the chorus.	Like chorus 1. Crowd sample is merely adding texture in the background.	Drums are playing similar groove to verse 1, basses play a slightly simpler groove. Strings play an accented disco like melody. Backing vocals repeat "don't come out" and repeat rhythmical sounds. Synth stabs play chords on 4 and 1 occasionally to mark the period. Electric guitar plays funky muted rhythms.	Guitar continues its rhythmic pattern from Middle 8. Synth and synth bass play same notes and rhythm as piano in Bridge 1. Claps on 2 and 4. Percussion doing varying rhythms. Vocal eccos or synths fill out the sides halfway through, where the bass, claps and percussion drop out. Strings play another disco-like melody leading into chorus. Digital drums play fill leading into chorus.	Like previous choruses + piano and synth are now playing the same chord sequence and rhythm as previous bridges. Guitar continues to play funky muted rhythm, cowbell plays fills like before. The backing vocals (or doubled/chorus'd lead vocal) are now singing the melody while the lead is doing echo ad libs of the melody. Other backing vocals are also harmonising with the melody. Strings and pads are creating texture with sustained notes in the higher spectrum.	Like Chorus 3, but with lead vocal singing "so" every 4 bars. The backing vocals from Middle 8 sing in a similar way, but with more delay.
Mix	High cut filter on lead vocal, piano and vocal centre, synths wide panning from side to side.	All elements are front and centre, nothing right and left.	Backing vocals and breaths panned to the side, slightly lower in the mix. Rest is the same.	Similar to intro. Strings and piano relatively wide, but centred. Rhythmical synth panned out along the backing vocals.	Like verse 1, with breaths panned to the sides (along the delays).	Like verse 1, plus pads wide in the mix, guitar panned right and soft, backing vocals again panned hard to the sides.	Like verse 1* + clap panned hard right, and new snare sound in the centre. The synth bass is likely low cut.	Like Bridge 1. Ecco vocals have varying filters and formant shifts.	Like Chorus 1.	Drums, basses, synth and most backing vocals front and centre. Strings panned slightly right, but forward. Other backing vocals panned right and left. Electric guitar is close to centre and not taking a lot of attention.	Vocals front and centre. Guitar hovering above. Synth and bass centred, but fairly wide. Percussion and extra vocals panned hard right and left.	Drums (except for fills), bass, guitar, lead vocals and most backing vocals front and centre. Other backing vocals panned hard left and right. Pads and strings panned wide.	As Chorus 3. The vocals are centre, but their delay effects are panned out right and left.
FX	Throw delay on lead vocals, reverb on synths, vocals, claps and piano. Vinyl effect before verse 1	Reverb on vocals, bass and drums are dry with the exception of compression. No obvious EQ	A bit of reverb on the backing vocals.	Reverbs, delay on vocals and rhythmic synth.	No reverb at all (except for the cowbell). Rather, a slap delay has been added to the lead vocal which is panned hard to the side, which creates space instead.	Back to reverb like verse 1. A compressor on the synth pad is side chained to the kick drum.	Same as verse 1*.	Like bridge 1 + formant shifts on ecco vocals.	Like Chorus 1. Throw delay on lead vocals before Middle 8	Reverb on strings, backing vocals, drums. Delay on backing vocals.	Reverb and delay like previous bridges. Low pass filter with rising cut-off frequency applied to synth.	Delay applied like in previous choruses to lead vocals and to backing vocals singing melody - no apparent reverb. Most drums, guitar and percussion no reverb. The pads and strings have long reverb to create and maintain the space.	A formant changer has been used to make the vocals sound like coming from man/woman with a bigger throat. Delay again of the vocal, with filters added to the echos.
Tempo	124												
Time Signature	4/4												
Key	B minor												

THEN I MET YOU - Taylor Rettke and Michael Dahl Rasmussen	Intro	Verse 1	Bridge	Chorus	Verse 2	Bridge 2	Chorus 2	Middle 8	Chorus 3	Chorus 4
Instrumentation	Vocals, vocoder, piano, pads, strings, claps, snare, disco strings.	Vocals, drums, bass, claps.	- drums and bass. + Strings, piano pads, rhythmic synth pad	Vocals, drums, bass, shaker, disco strings, cowbell.	Like verse 1 + shaker, synth pad, wood block.	Like bridge 1 + backing vocals.	Like chorus 1 + piano/e-piano.	Lead vocals, backing vocals, kick, claps, wave effect, piano, multiple synth pads and rhythmic synth instruments, vocoder.	Like chorus 2 + backing vocals.	Like previous chorus, with more vocals and breath sounds. Flutes doubling disco strings.
Arrangement	Strings and pads sustained notes, lead singing, vocoder doubling singing in harmony. Then disco strings play fill and snares play 8th notes into Verse 1.	Lead vocals sing melody. Drums and bass in tight funky groove. Claps on two and four with occasional fills. Also fills from drums.	Strings and pads either sustaining chords or playing rhythmic figure. Claps on 2 and 4.	Drums and bass like verse. Shaker accenting the off-beats. Disco strings playing short, accented melody. Vocals double tracked. Fills from the drums. Cowbell playing fills and off-beats.	Like verse 1 + shaker sustaining rhythm on off-beats, pads laying sustained chords, wood block doing fills.	Like bridge 1 with backing vocals in harmony with lead.	Like chorus 1 + piano/e-piano playing funky rhythm in gaps between lead melodic lines.	Lead and backing vocal sing melody and harmonies, wave washes in in transition, pads and piano sustain chords or rhythmic arpeggiated patterns, vocoder doubling melody in harmonies.	Like chorus 2, with pianos playing more elaborate groove, and disco strings playing more elaborate disco counter melody.	Starts with a quieter 2 bars with only pianos (playing like chorus 2) and strings (playing like chorus 3) and vocals. Then drum fills leads us into the full orchestra to play like chorus 3. The vocals pause on the third line, and instead we hear percussive breathing (with a tip of the hat to the BeeGees). The song finishes with vocals solo, and then the disco strings playing us out with a disco cadenza.
Mix	Vocals and claps centre, the rest wide. Snares coming in centre.	Everything front and centre.	Everything broad and wide except vocals and claps.	Vocals, drums and bass centre. Shaker off to the right. Disco strings wide. Vocal double tracks hard panned.	Shaker off to the left, pads wide in the background, wood block to the right.	Like bridge 1, with backing vocals panned to the sides	Like chorus 1, with pianos centre/ slightly off to the side.	Lead vocals centre, backing vocals to the side, pianos and pads broad and wide in the background. Kick and clap centre, but a bit back.	As chorus 2, with backing vocals panned to the sides. Low mids cut out of backing vocals so as not to muddy the scene.	First 2 bars lead vocals centre, backing vocals right, pianos slightly to the sides, drum fill coming in from the right to centre. Rest of chorus like previous chorus.
FX	Vocals filtered and with delay and reverb.	Delay, compression, saturation.	Reverbs and delay.	Reverb on strings.	Low pass on pads, reverb on wood block.	Like bridge 1.	Like chorus 1.	Phaser and flanger on lead vocals, reverbs and delays on most other things except kick.	Like chorus 2.	Little AlterBoy formant shift on backing vocals.
Tempo	123									
Time Signature	4/4									
Key	B minor									

bad guy - Billie Eilish	Intro	Verse 1	Verse 2	Chorus 1	Riff	Verse 3	Verse 4	Chorus 2	Riff	Outro
Instrumentation	Kickdrum, bass, backing vocals		+Clicks	+Clear lead vocal, percussive synth noise, hi-hat-functioning tick, other percussive noise (maybe noise from a bass guitar)	+ Synth lead (with glide), hi-hat tick on consistent 16th notes, other percussive noise unclear.	-all non-human instruments. Vocals, clicks and claps remain.	Like verse 2	Like first chorus.	First half as before, then adding more backing vocals.	Kick, synth bass, hi-hat, alternating snare sounds, lead vocals, backing vocals, laughing sound effect, cowbell, subtle synth.
Arrangement	Kick four to the floor, syncopated baseline, vocals humming along to parts of bass melody	Backing vocals are gradually adding more harmonies.	Clicks on 2 and 4, more insistent harmonies.	+Percussive synth noise on every off-beat, Backing vocals part speech-singing, part delivering quiet harmonies. Accompaniment drops out on "I'm the bad guy"	Synth lead is persistently repeating a motif following the chords, lead vocal repeats "I'm the bad guy", and backing vocals add occasional breaths.	Vocals sing acapella only accompanied by clicks on 2 and 4 and simple clap rhythm occasionally.	Like verse 2. Bass leads in with a little fill from end of verse 3.	Like first chorus.	First half as before. The added backing vocals are cut for a stutter effect, lead repeats "I'm only good at being bad".	Kick and bass in sync on simple syncopated, heavy rhythm. Hi-hat alternating between straight 16th notes and trap-like 64th notes triplets. Cowbell joins on 2 and 4 of every other bar. Backing vocals add heavy breaths for effect, as well as unclear harmonies. In the beginning and end they also imitate the bass's descending notes. The subtle synth adds little gliding effects toward the end.
Mix	Low passed kick, with a bit of side chain compression on the bass. Vocals panned out to the side, with maybe slight auto-panning.	Vocals are panned to the side, leaving the kick and bass in the middle	Clicks in the middle, with subtle reverb on every fourth click panned hard left.	Synth noise, and lead vocal for the first time taking centre space.	Lead synth and lead vocal in the centre, backing vocals to the side, hi-hat tick slightly to the side.	All vocals again panned to the side.	Like verse 2.	Like first chorus.	Backing vocals panned alternately left and right.	Vocals spread out across left from right. Bass, drums and all percussion in the middle.
FX	Very dry.			Lead vocal is chopped into a stutter effect with added flanger on "I'm the bad guy". It is also doubled with a formant shifted (down) version of the vocal.	Bass now has some distortion. Reverb on lead synth.	Dry again.		Like first chorus.	Like first chorus. +Slight delay and maybe reverb on backing vocals.	Distortion on kick and bass. Formant and maybe pitch shifted effect on laughing vocals. Reverb on snare and cowbell
Tempo	135 BPM									60
Time Signature	4/4									
Key	G minor									

Ache - Michael Dahl Rasmussen	Intro	Riff 1	Verse 1	Bridge 1	Riff 2	Chorus 1	Riff 3	Verse 2	Bridge 2	Riff 4	Chorus 2	Riff 5	Outro
Instrumentation	Voice, pill container.	Kick, synth bass, snaps, snare, vocals.	Kick, synth sub bass, snaps, vocals.	Kick, snare, bass, vocals, glockenspiel.	As riff 1 with more subtle bass, shaker noise on off-beats and no snare. Hi-hat effect.	-kick and bass. Organ synth, vocals, percussion and snare sound. Vinyl-like whirling sound.	Like riff 1, with shaker and percussive synth, and percussive breathing.	Like verse 1.	Like bridge 1 with shaker and hi-hat sound.	Like riff 2.	Like chorus 1 + harmochord.	Like riff 3 with added vocals from previous sections, synth with drizzle effect. Riser.	Kick, claps, bass, vocals, percussive synth.
Arrangement	Moaning and the sound of pills being taken out of their container.	First kick, snaps, and bass alone. Then vocals singing melody with snare joining snaps.	Kick four in the floor, bass playing low sustained notes, vocals singing melody layered. Later snaps on 2 and 4	Kick pausing first 2 bars, then 4 in the floor and snare on 2 and 4. Low bass sustained notes with breaks. Glockenspiel doubling melody on every other bar.	Like riff 1, with shaker noise and hi-hat centre. Hi-hat on 16th notes.	Vocals singing melody double tracked, with multiple harmonies on "how cute!". Percussion and snare sound marking off-beats and 2 and 4.	Like riff 1 with shaker on off-beats, synth doubling bass melody in higher octave. Percussive breathing rhythmically.	The backing vocals are now consistently harmonising.	Like bridge 1, with shaker and hi-hat on off-beats and 16th notes respectively. Hi-hat slowing down towards end.	Like riff 2	Like chorus 1, with harmochord doubling organ, and backing vocals slightly more elaborate harmony (Eaugmaj7#9/C), with low-octave vocal leading us into riff 5.	Like riff 3 with added vocals from previous sections interspersed. Synth coming in halfway through to add texture. A dramatic riser crescendos into the outro. Gradual speeding of tempo.	Half-tempo feel. Bass playing calypso groove, kick on 1 and 3. Claps on 2 and 4. Synth playing melody still. Female vocals singing riff melody on "la". Lead vocals rapping
Mix	Quietly centre.	Vocals panned to the sides but front. Rest dead centre, also forwards.	Vocals panned to the side, with exception of the octave shifted vocals (both up and down), which are centre. Kick, bass and synth centre.	Drums, bass, glockenspiel centre, vocals panned as before.	Low passed bass and drums, gradually opening.	Lead vocals right and left, harmonies in centre, organ centre wide, percussion and snare centre.	Like riff 1, with synth centre. Breathing auto panned left and right.	Like verse 1.	Like bridge 1 with added percussion centre.	Like riff 2.	Like chorus 1.	Low pass on female vocals gradually opening up towards outro. All vocals panned out except low vocals. Riser coming in centre.	Kick, bass, claps and female vocals centre. Lead vocals panned out. Synth lead soft in the middle.
FX	Formant shifting on voice.	Formant and octave shifted vocals (pretty much throughout), Oxford Inflator, Slate Fresh Air also throughout on vox.				Everything is going through Izotope's Vinyl plugin, making it sound like coming from an old record-player.	Bass has saturation and drive on it, very light reverb on synth melody. Stutter effect on vocals achieved with auto-panning set to 32nd notes.		Hi-hat sound pitch shifted.		Like chorus 1	Vinyl effect on the vocals from chorus..	Pitch and formantshifted vocals doubling the rap. Distortion on bass.
Tempo	126											Gradual rise to 136.	Back to 126 (half-tempo feel).
Time Signature	4/4												
Key	F minor (sometimes harmonic minor, sometimes aeolian).												