The Vinyl Diary

Day 1

For me, learning to beatmatch with vinyl feels a bit like learning a sport that I’ve watched, but never played before. I know what it is I have to do in my mind, now I have to translate that knowledge into physical action. Not only has the process been explained to me by numerous people, but I find it rather intuitive and self-explanatory: Let record A play, cue up record B in your headphones, hold the record and maneuver it to the beginning of a bar, let go of the record so it corresponds with record A, crossfade from record A to record B.

What I’m not yet sure about is how to find out which records have similar tempos and how to handle those that don’t. I’m used to relying on DJ software telling me the BPM of every track, which is usually the first factor I consider when deciding which tracks to combine. I know I have to adjust the pitch faders, but how can I possibly get it exactly right like the computer does? Will it sound acceptable if I only get it approximately right? Will I waste a lot of time trying to beatmatch two records whose tempos were never even remotely compatible in the first place?

I don’t know where to start, so I decide to just jump right in and try to mix some random tracks. My first obstacle is one that never crossed my mind before I started practicing: Finding the right track on the record. With some records, it’s surprisingly difficult to figure out which side is which. Not all of them indicate which is side A and B (or 1 and 2) on the label. Through trial and error I discover that in those cases, the more official-looking label with the majority of text on it tends to be side A. The next step is counting the broad grooves on the record that mark the pauses between songs to determine the location of the desired track, not to mention placing the needle in that exact spot. This is relatively easy with singles that tend have only two to four tracks on each side, but actually a bit of a chore with LPs.

As expected, I quickly get frustrated because I can’t properly mix any of the tracks. Even when I feel like I started record B at just the right time, it doesn’t line up with record A at all, and I can’t tell which is the faster one. I keep trying different ones, hoping to stumble upon two tracks that will magically line up with each other. I hesitate to use the pitch faders too much because the harmonies start to sound skewed. This has never been an issue for me with software, which allows you to change the tempo of a track independently from the pitch.

Eventually I realize I need to work more systematically, and to focus longer on the same two tracks to make any initial progress. To keep it simple I decide to work only with instrumentals for a while, so I can fade between tracks at any given place along the track structure. Luckily most hip hop singles include the pure instrumental track, a practice that was probably established to enable DJs to create mashups and for rappers to freestyle over. I attempt to mix Jaylib’s “The Red” with The Pharcyde’s “Passin’ Me By”. The latter starts with a sample and soft, unobtrusive drums, which I deem aesthetically suitable for a transition. But as it turns out after about 15 minutes, I’m too far ahead of myself. A lack of clear, distinct drums also means a lack of reference points for me to rely on. I replace it with “Jazz” by CPS, but now my ears are overwhelmed by all these drums overlapping, so I tend to move the crossfader across very quickly every time to get it over with, hoping for the best. After about 15 more minutes my brain starts to get stressed out by the hectic cacophony I’m producing, so I call it a day.

Day 2

For my second session I am determined to become fluent in mixing at least one pair of tracks, no matter how long it takes. I’ve picked two new tracks between which to mix and back and forth repeatedly to get into a rhythm, “Gotta Understand” by Jurassic 5 and “’93 Til Infinity” by Souls of Mischief. There are two ways I want to approach practice differently this time: First of all, instead of the start of a bar, I want to use the snare drum as my jumping-off point. I figure it makes more sense to focus on such a structurally important drum beat because in most hip hop beats it’s in the same place, plus it’s clearly audible on top of everything else. Second of all, I’m going to use both hands. Yesterday, I did everything with just my right hand – letting go of the record and then moving the crossfader. Today I want to keep one hand on the crossfader, the other on the record. Hopefully I won’t be too clumsy with my left hand on the record.

The snare is easy to capture. Right after the snare I hold the record and rewind it a little bit, hearing the snare play backwards slowly until I arrive at its beginning. I keep holding the record as “’93 Til Infinity” plays, waiting for the moment I feel confident enough to let it go in time with the other snare. I manage to accomplish this a few times, but I can hear the tracks don’t have the same tempo as they quickly drift apart, so I finally decide to adjust the pitchfaders and worry about harmonies later. Maybe it doesn’t sound as bad as I think it does and I’m just not used to altered pitches. I can’t tell which track is the faster one, so I take a long time figuring it out through trial and error. My turntables display the percentage pitch change digitally. I arrive at -2.5 for “’93 Til Infinity” and +3 for “Gotta Understand”. I could also alter just one of them by 5.5, but this way the pitch change is equally distributed, so each track is only as distorted as necessary. It’s easier to transition from “’93 Til Infinity” into “Gotta Understand” than vice versa because the latter is an “emptier”, more minimalistic instrumental track with a clear, simple drum beat. I suppose it’s more important for the incoming track - the new impulse - to be easily processable by my ears as they have gotten used to the first track and need to suddenly deal with two sources of input.

Side note: The right turntable feels heavier and more resistant than the left. They are only slightly different variations of the same model. Maybe it’s the records themselves that feel different? It never occurred to me before that some records might possess different physical qualities than others. I suppose I’ll find out as I use more records.

There are two basic tasks that have emerged: Matching the tempo and aligning the beats. There is no hierarchy or chronological order between them – they depend on each other. Obviously the tempos need to match in order for the beats to align properly, but the latter is equally important for the former: I have to make sure to start the second record in sync with the first one to compare their tempos as they start to drift apart. If I don’t start record B perfectly on time, it’s hard to tell to which extent the deviation between them is due to a difference in tempo and not just a shift between the beats. At this point in the learning process, there’s always the possibility that I’m mistakenly changing the tempo when it really already matches up just because the beats weren’t properly lined up.

In a way, the two aspects represent different levels of this whole operation: Dealing with the tempo adjustment is a cognitive task, as opposed to the physical dexterity required to cue up the record at the right position and start it at the right time. I need to improve my hand-ear-coordination to make the process of tempo evaluation more efficient. That’s why, even after I manage to match a pair’s tempos, I keep repeating the “hold-rewind-let go”-routine, mixing back and forth between the pair, until it feels somewhat fluent.

Several times – about one out of three - I succeed in getting the two tracks matched up for the length of one or two bars until they start to slightly drift apart – long enough for a quick blend. After 35 minutes and with new confidence I decide to take on yesterday’s match-up of “Passin’ Me By” and “The Red” again, except this time with “The Red” as the incoming track because it has the clearer drumbeat. I manage to come a bit closer than the last time, but they are still far from perfectly matched. Maybe this pair just isn’t very compatible.

But “The Red” seems to be an adequate track for practicing, so I decide to stick with it and combine it with something else. Since Jurassic 5 proved to be easy to transition into earlier I choose “Future Sound”, the B-side of “Gotta Understand”. This time it doesn’t take me long to figure out that “Future Sound” is the faster track. I manage to slow it down to a point where I can occasionally match them up for the duration of one to two bars if I can get the second record to start exactly on time. But the closer I get, the harder it becomes to perceive the increasingly smaller deviations. I go back and forth between the two for about 25 minutes with mixed success.

I move on to the next pair, “Likwit Fusion” by Lootpack and, again, “Jazz” by CPS. It takes me several minutes to get the tempos somewhat close in my headphones before I even dare move the crossfader. This is usually the case. Since I always need a few attempts to release record B on time so I can compare and adjust the tempos and, once I’ve matched them up, a few more until I can finally fade in the track, sometimes it takes me so long that the first track finishes before I’m ready to fade in the second one, so I have to start it from the top.

Out of sheer impatience, I introduce a new method into the process: Adjusting the records temporarily by either giving them a little push to speed them up or putting a little pressure on them to slow them down. This opens up new options for tempo matching and beat alignment alike. First of all, I can use it to evaluate whether a divergence is caused by different tempos or mismatched beats. If the latter is the case, a quick speeding up or slowing down can suffice to get the beats aligned. If the former is the case, they will still drift apart. Second of all, after I’m done matching the tempos and just practicing my hand-ear-coordination for a while, it enables me to make adjustments when I’m slightly off as I release record B. However, I’m not yet exploiting the full potential of this approach by any means, as all of the above is still accomplished through pure trial and error – I have not yet rewired my brain to discern consciously and consistently which track is faster than or ahead of the other. More often than not, it doesn’t help at all or only makes things worse, but occasionally I get lucky.

After practicing with “Likwit Fusion” and “Jazz” for about 10 minutes, I exchange “Jazz” for “Raise It Up” by Homeliss Derelix, a more minimalistic beat with fewer layers and elements. I’m starting to feel more comfortable holding and moving the records. To get a rhythm, but also to kill the time as I wait for the next transition possibility, I start to move the cued-up snare back and forth in time with the other beat instead of just holding it at the beginning and letting go when the time comes. This has an interesting effect on my technique: Not only does the rhythmic movement help me release record B in terms of timing, it also makes me give the record a sort of “guided push” as I start it, instead of just letting go of it by lifting my hand.

The last pair of the day, “Don’t Feel Right” by The Roots and “Urban Legends” by Masters Of Illusion, provide the answer for the question that arose earlier concerning the physical qualities of the records. “Don’t Feel Right” feels extremely different from all the other records I’ve used today. It feels lighter and starts slower. I have to give it just the right push. If I push it too hard, it starts too fast. It’s as if it resisted the pull of the slipmat underneath and took longer to follow its movement. I have to be careful when making on-the-go adjustments because they are amplified by the record’s lightness.

Day 3

The plan for today is to start making an entire mix out of the pairs I’ve used so far:

1) Gotta Understand – ’93 Til Infinity

2) The Red – Future Sound

3) Likwit Fusion – Raise It Up

4) Don’t Feel Right – Urban Legends

So, I have to try to combine tracks from different pairs with each other and slowly determine the order of the pairs. I record everything, since it’s hard to judge whether or not a mix sounds good – stylistically and harmonically - while I’m distracted by the demanding task of beatmatching. The only thing I can tell while I’m actively mixing is whether or not I’m technically able to beatmatch the tracks. Evaluating the track combination from an aesthetic perspective is a task on another level that I don’t yet have the simultaneous capacity for. Sometimes I have a vague impression that two tracks aren’t compatible, but for all I know in that moment, it could just be because I’m not mixing them well.

I choose most of the combinations intuitively, based on what I think might work well together in terms of tempo and style. When my intuition fails me and I don’t suceed in mixing two tracks from different pairs, I first try the other track from the pair, then an entirely different pair, and so on until I find a combination that works. Everytime I succeed in connecting pairs this way, I write down the pitch changes I come up with. I’ll listen to the recordings tomorrow with fresh ears.

Day 4

Before I start mixing, I listen to yesterday’s recordings, taking notes of which combinations don’t sound good at all, but also which ones simply need more practice. I’m a bit irritated by the sound quality of the recordings. I’m aware that a lot of people enjoy the familiar crackle of vinyl, even so much so they’re artificially adding it to music as a sound effect. I like the sound, too, but this is a bit too much. It looks like I really need to clean my records, which I’ve never done before and will have to do some research on. It’s interesting how this is the first time this is bothering me. Before, when I only used my records to listen to them, the crackle blended in perfectly with the whole listening experience, so that I barely even noticed it, or simply took it for granted. Every now and then I had to remove some fluff that had accumulated on the needle, but it never occurred to me to dust off the records. Now, in the context of DJing, listening to it on a computer, it suddenly becomes audible, a disturbance, a problem that needs to be solved.

On top of that, there’s a distinctly audible background noise, a constant low hum, particularly noticeable when there is no music. The turntables are properly grounded, so there must be some other issue. Maybe I need to exchange some audio cables. A quick google search reveals a variety of possible reasons, one of them being the proximity of the plug to other plugs on a power strip. Both of my turntables and the mixer are plugged into a power strip next to other things. I get an extension cord and use it to plug in one of the turntables in a different, single outlet on the wall. I put on a record to try it out, but as soon as the needle touches the record the hum reappears. There must be some other problem, which I will need to figure out in what could become a lengthy process of elimination. I’ll deal with it some other time. For now I need to focus on practicing and putting this mix together.

I move on to rearranging the order of the beats, trying out new combinations to replace those that I judged to be a bad match based on the recordings. For a while I wonder if I should be concerned about using the same artist twice (such as Jurassic 5), which I usually avoid – concerning recorded mixes as well as live performances – but these are really considerations on another level that I can ignore for now. For the time being, I just need good beats to work with, and my selection of hip hop singles is limited. I continue to write down the pitch adjustments for each combination. At the end I attempt to record the mix in one take for the first time.

Starting record B at the right time is still somewhat of a hit-and-miss situation. If I start the track exactly right so it aligns with the other, I have to blend quickly before they drift apart. There’s no time to confirm they’re matched up in my headphones first. Either they are or they aren’t. If they are, I complete the transition, if they aren’t, I abort the fade and try again a few bars later. This results in me being a bit too hectic with the crossfader. I always take a chance and move it right after I start record B, hoping to get lucky and fearing they’ll drift apart before I complete the transition.

I’ll have to listen to the new recordings again tomorrow, but for now I’m quite satisfied with the order of the tracks, even though my mixing is still shaky.

Day 5

I start off today’s session with a little warming-up exercise by doing a quick run-through of my beat mix. I have to abort transitions a few times, but I try not to be too perfectionist and make notes of the match-ups that still need the most practice. After that I listen to yesterday’s entire take, paying particular attention to the bad transitions, which comes quite naturally because you generally notice them more than the good ones. This phenomenon is already familiar to me from my experience in mixing with a MIDI controller. When I “proof-listen” a mix I recorded to make sure the transitions work, I sometimes find myself not remembering the last transition because I got distracted or lost in the music while a track was playing, until I suddenly notice the next track is already playing and I forgot to pay attention to the mix. This is usually a good sign because it indicates a seamless transition. A bad transition draws your attention automatically - it disturbs the flow.

The pitch changes I wrote down are still far from accurate, so I start practicing some match-ups back and forth again and slightly adjusting the pitch faders, trying to get closer to the right values. I have to resist the urge to simply look up the BPM of the tracks in Cross DJ. So far I haven’t “cheated”.

Day 6

Today I want to work more on approaching the right pitch values. I’ve already figured them out for some of the match-ups, but there is one in particular that I’m struggling with: “Gotta Understand” and “Don’t Feel Right”. The latter record has become my problem child because of its aforementioned unbearable lightness that needs to be handled oh so delicately. I’ve momentarily considered anything from taking it out of the mix to smashing it to pieces with a hammer, but in the end I know I have to not only tolerate, but seek out the greatest difficulties in order to learn with maximum efficiency. After all, the path of least resistance is not the way to mastering a craft. However, in a moment of weakness, I cheat and look up the BPM of the two tracks in Cross DJ. Then I practice the transition between the two until I can’t take it anymore – for now. One day at a time.

Another difficulty I’m confronted with is finding a good place for a transition within a track. Since software displays the waveform, I can usually see where breaks and other suitable elements are located within the structure (usually the parts of a track where the waveform is smaller are ideal). This is not such a big deal as long as I’m still working with instrumentals – even though I do pay attention to the typical cycles of eight or even 16 bars – but later on I will have to anticipate the beginnings and endings of hooks, verses, breaks, intros and outros and so on. I’m relatively confident that I will get a feel for this quickly enough, since I’ve spent a big part of my life listening to music very attentively, and even working with software and controller has trained my understanding of song structure despite the visual aids. At the moment this is still sort of a luxury problem anyway, as I can’t yet deliver a clean transition anytime I choose. It still depends on when I can get it right at all. I’m still a slave to my lack of consistent skills.

Day 11

After figuring out the pitch change values for each pair of tracks and thus getting the cognitive challenge out of the way temporarily, the past few days have been all about improving my physical coordination. I’ve been working on my execution routinely: Every day I’ve recorded and even filmed myself attempting to go through with my beat mix in one flawless take, which I have yet to accomplish.

I’ve arranged the records in the crate by the order in which they appear in the mix so I can handle them more efficiently. I remember how at first, the process of taking records out of their sleeves, placing them on the turntable and then putting them back felt like a holy ritual that struck me with awe. It didn’t take long for the holiness to be devoured by the laboriousness of it all through the sheer repetition of the gesture. It seems I’m becoming increasingly disenchanted with this symbolically charged storage medium as I encounter more and more impracticalities, such as uncooperative paper sleeves that refuse to gently slide back into the record cover. I’ve now placed the records so that both the cover and the paper envelope are open towards the top, which enables me to retrieve the record without having to take the entire package out of the crate and separate the pieces, although this open position probably slightly diminishes their protective function. Once in a while, the paper sleeve still clings to the record as I pull it out. I’ve also noticed the opening of the paper envelope being a bit longer on one side, which is presumably supposed to facilitate this procedure. I’ve positioned them all with the shorter side facing me.

Listening to the same tracks over and over again is also starting to take its toll on me as I long for mixing with my MP3s again whenever I listen to music outside of my practice sessions. But I can’t move on to different tracks until I’ve mastered this mix. I still haven’t achieved the strong grip and complete control over the record that I’m striving for.

Day 12

I’m starting to notice more flow. I’m quicker in getting record B ready to play, taking fewer preparatory back-and-forth movements to get into the right rhythm. The process slowly becomes more routinized, which often causes the transitions to happen in the same places. I’m also getting better at making adjustments on the fly. Trial and error has revealed that in most cases of mismatched beats, record B is ahead of record A. I suppose I am still too insecure and my eagerness to get it right makes me impatient, so I start the record a fraction of a second too early. Even if I’m not yet capable of perceiving this aurally, I can rely on this realization to a certain degree because usually, temporarily slowing down record B will rectify the misaligned match-up. As I proceed to try to avoid the premature release I intuitively develop a system to help me stay in time, using the offbeat before the snare as a reference point, or a trigger, the last point of hesitation, letting it guide me towards the snare. I manage to record my first presentable take.

Day 13

I manage to produce more complete takes, which are getting better. I’m more comfortable the more routinized my actions become, so much so that I catch myself whistling along to the beats (with which I’ve developed a love-hate relationship by now). For a while now I’ve been wearing sneakers for my practice sessions because it makes me feel more grounded, and it’s more comfortable in the long run when my feet are “cushioned”. I usually do the same when I’m mixing with my controller standing up as well, which is generally the case, although the mobility of the relatively small controller actually allows me to use it in a sitting position anywhere in the room, even in bed. Back when I first started using it, I was usually sitting down when recording a mix at home, until it occurred to me to emulate the club situation a bit more – not just for a more realistic practice setting, but also for a more fun experience. Making use of the time between transitions by dancing around to the tracks happens to be a good method for evaluating them for club play, even if the purpose of the mix I’m recording at the time isn’t necessarily related to dancing. (To point out that dancing is the best barometer for danceability a DJ can rely on is stating the obvious, yet I wonder how many DJs actually do it. Some people become DJs *because* they don’t like to dance or feel they’re incapable of it.) Anyway, that’s when I first introduced sneakers into the domestic practicing/mixing process.

Since the turntable setup is obviously more static because of its size and complexity, I have no choice but to stand up. However, I don’t dance around because mixing is requiring all my attention and I don’t waste any time letting the beats play any longer than it takes me to make a transition. The videos show my body going through the same phases of movement for each transition: I remain static when I’m preparing the record by placing the needle on it and adjusting the pitchfader, because those tasks demand concentration and a steady hand. As I move the snare back and forth, I begin tentatively bobbing and swaying to the beat in an extension of the movement of my arm, which helps me get into the rhythm. My movements then become more pronounced after I release he record and move the crossfader – I’m even bobbing my head up and down in time with the unified beat, something I often see DJs (especially vinyl DJs) do. Part of it has to do with the pure enjoyment of the music, especially in the form of the delicious mini-mashup one is creating at this very moment, but to me, it’s also a kind of placebo effect: Much like inexperienced video gamers who futilely twist their bodies and point their controller in the direction they want their game character to go (especially in racing games), something inside me seems to believe that if I just nod my head emphatically enough, it will force the beats to match up or stay matched up through sheer willpower.

Bad sound quality of records

Improved controller skills