MIDI Gamelan

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Gamelan has been extensively investigated. It has also served as a source of inspiration for composers like Steve Reich and Lou Harrison. Despite that, a direct transcription from gamelan notation to MIDI for synthesizers has not been done. Musicians like .*gif* have played *jungle* drum breaks as accompaniment to balungan players, and David Edren has been influenced in electronic compositions, but not a direct 1 to 1 transplant. It is in that space that I seek to place myself. This work follows in the footsteps of Wendy Carlos, who in the late 60s played Bach pieces through Moog synthesizers. This means that instead of trying to mimic acoustic gamelan instruments I create a new sonic space of gamelan. Furthermore, I insert cut up drum loops, in a *drum and bass* influenced style, and reggaeton rhythms in the form of *neo-perreo* artists like Arca or Tokischa. The project is an effort to place gamelan in a timbral space closer to a Western listener in order to explore the question of what makes foreign music sound foreign.

The second purpose of using *drum and bass* and *neo-perreo* style drums is to approach gamelan composition from a different perspective. The compositions of Lou Harrison and Jody Diamond approach gamelan from a classical perspective. The fusions they make are more suited for the concert hall than the basement rave. Despite that, a connection between gamelan and rave culture is not far-fetched. Jaranan is an art form that heavily involves "a state

in which the dancer loses his identity and believes himself to have become possessed by a spirit from the other world" and dancers move in a coordinated fashion that can lead to a different state of consciousness (Clara van Groenendael 2008, 18). Rave music does not necessarily seek to entrance listeners, at least in a mystical or spiritual way, but dancing to a repetitive beat in a sweaty room does cause one to think in different ways. Most relevant to the gamelan is when the angklung pauses and the gamelan takes over. The leg-shaking movement the hobby-horse dancers engage in are similar to the stomping one can see at raves.

In theory gamelan notation provides all information needed to arrange a particular piece, but it is a form of shorthand and much of the individual elaborations and drum patterns are oral knowledge. For that reason I used notation made for each individual instrument. The information comes from the 2024 article "Notation of Javanese Gamelan dataset for traditional music applications". The researchers take lead melody notation and break it down for balungan and colotomic instruments. This made the orchestration of the music easier. Regardless I used pieces of knowledge that I gathered from classtime use of the gamelan. The best show of this is a delay on the balungan synth, which replicates the off-beat strikes I played during the music workshop segments of MUS 439. There is a strange feeling in hearing all these instruments play after only pressing my space bar. In a way it reminds of the concept of *perinta halus*, the "giving of orders in polite and indirect language" (Anderson

1990, 54). Though there is a lot of effort in the background, the sleek nature of digital music can perhaps lend itself to other properties seen as *halus* like slow deliberate movements.

One great challenge was the tuning system slendro. By default Ableton, my digital audio workstation (DAW) of choice, programs MIDI in twelve tone equal temperament. "Srepegan Nem Slendro Nem" is in *slendro* so if I wanted to recreate it in a faithful way, I would have to program MIDI in *slendro*. Fortunately, there were many solutions to this problem. The one I chose was to use the Surge XT open-source synthesizer. I don't quite understand it as well as, for example, the synths that come with Ableton, but I was given a diverse choice of presets to sculpt an adequate soundscape. I got the actual tuning system file from Scala's library. Scala is a program for the creation and editing of tuning systems. The particular version of slendro I reference is from Surjodiningrat et. al 1997, "Tone measurements of outstanding Javanese gamelan[s] in Yogyakarta and Surakarta". It is the average of 30 different gamelans. This felt like a necessary step. Writing gamelan from 12 tone equal temperament (12TET), which is heard on a piano, felt wrong simply because it did not sound like gamelan. I also did not want to write something similar to gamelan using 12TET as it would mean failing in my goal of turning gamelan into electronic music.

For the first segment I wanted to use a modern style of reggaeton, or *neo-perreo*, drums. *Neoperreo* is a style of deconstructed reggaeton that comes out of interactions between reggaeton and other club genres like hardstyle. I consider that aesthetic to be in vogue, very avant-garde, and would make for a

special combination with more classic gamelan pieces. The individual drum sounds are heavily distorted and occasionally affected by reverb to contrast with the cleaner sounding synthesizers. It too adds a queer aesthetic, since *neo-perreo* is popular and born out of queer subcultures. It seems to pair well with gamelan given the matters of gender that were covered in the course. It would be interesting to explore rougher, more distorted timbres with pieces that involve that gender performance, like Beskalan Putri. The slower tempo also seemed to work well with the inherent swing in *dembow*.

For the second section I used a chopped-up drum sample. It is a technique often seen in music like *drum and bass* and *jungle* and I associate it with sonically dense music. I chose to cut it with a relatively slow speed in mind, but the stutters and loops in the drums still offer a lot for the ear to pay attention to. The unpredictability in just what the drum will do next mimics what I hear in the drumming that accompanies the gamelan. Since properly understanding the drumming in gamelan

would take far longer than a couple weeks, I thought it would be most appropriate to try to recreate the feeling within my knowledge of electronic music.

Playing the digital gamelan shown in my piece through physical instruments, perhaps something similar to the work by Gamelan Elektronika, could be a way to engage with traditional musics without necessarily having to bear "the burden of upholding nationalist gender ideals, and promotion of the tourist economy on the shoulders" that has been already been placed on young girls who play Balinese Gamelan (Downing 2019, 94). Similar expectations may be placed in places like Java,

where I source my data for my computer gamelan. Such a mixture of traditional and popular elements could be seen as the "reversal of a strategy of the purification of otherness, typical of the politics of folklorisation" described by Martínez García when talking about Rodrigo Cuevas and his own use of electronic and traditional music in the face of Spain's own dictatorship (Martínez García and García Flórez 2022, 97). It is essential that such is done through popular, often urban, musics. That is part of the reasoning behind my use of the *dembow* rhythm. I interact with gamelan outside an academic or bourgeoisie point of view.

Taking music for gamelan and putting it into a computer does so much more than just change the way the ensemble sounds. By doing so the music is placed into dialogue with all the other music that is made with a computer. Additionally, it allows me to interact with gamelan in a more nuanced and personal manner. I may not fully understand just how a gamelan works together, but wanting to interpret it through my computer encourages me to learn more and integrate more aspects into my computerized gamelan.

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