

# Artists Statement: The Sonnet

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Gray Thomas

## Abstract

The Sonnet is a 4:18 minute track representing a semester's worth of research into the dubstep genre of electronic dance music, synthesizer programming, poetry melodization, multi-track-recording based music composition techniques, and multi-instrumentalism. The work combines a jazz influenced keyboard groove over a dubstep influenced shuffled half-time vocal percussion rhythm with a bass drop section featuring a heavy wobble bass instrument programmed from scratch in the Csound open source sound programming language. The whole song accompanies the processed singing of Dante Gabriel Rossetti's "The Sonnet." Aside from the lyrics, all composition and recordings were produced by the author, including an additional saxophone solo, all singing, all vocal percussion, all keyboards, and the bass.

## Context

As with any piece of art The Sonnet does not make complete sense without reference to the works which provided the foundation for its creation.

## [First of the Year \(Equinox\) by Skrillex](#)

Foremost among the contextualizing works is this immensely popular dubstep track, released by Skrillex on his More Monsters and Sprites EP from 2011, from which I drew my compositional form: Rhythmic introduction; sung melody; piano solo; bass drop; piano solo; and conclusive bass drop. Beginning with drums and a syncopated piano riff emphasizing the shuffle aspect of dubstep rhythm, Skrillex creates a driving rhythm and suspense simultaneously. The Sonnet's opening rhythm was not quite so fulfilling on its own, and was abbreviated because of this. Skrillex then introduces a sampled singing melody line, which has undecipherable lyrics and acts mostly as a melody instrument. This is imitated in The Sonnet where the voice enters at the start of an eight bar phrase. Both songs feature a relatively sparse instrumentation in this section, as well as an eight bar phrasing structure. Before the initial bass drop Skrillex mutes the vocals and drums and begins a piano solo, which builds suspense by leaving the void in the sonic spectrum which will be filled by the low bass. Since the Sonnet piano solo is not quite as full as the one in Equinox, the drums do not fade entirely, but the parallel is clear. Both songs drop bass with no harmonic distractions and bring them back later, and both songs also break into a second piano solo before re-dropping.

## [Black Books by Doctor P](#)

The rhythm in First of the Year does not transfer well to the jazz influenced beginning of The Sonnet, it is too sparse to support the chords in the keyboard part. Black Books provides a good example of a dubstep song with a high energy beat and wobble bass continuing throughout. I use a variation of this beat to position the opening groove as a halftime dubstep groove compatible with the rhythms in the drop. This beat played a key role in the development of The Sonnet's groove section, pulling it away from its original, fully jazz oriented rhythm—a difficult task when using multi-track recording to compose a piece. The main rhythmic components in Black Books are the mixture of triplet shuffle and dotted eighth note pair syncopation, which highlights count three to generate a halftime feel, and the heavy quarter note kicks. The beat in The Sonnet does not accomplish nearly the intensity of that in Black Books since it lacks a deep and powerful kick, which is a limitation of my vocal percussion kit. The

half-time rhythm is replicated well in both the initial groove and in the expression of the wobble bass instrument during the drop. That is, the music can be interpreted in both sections as four beats per measure at 136 bpm, and as two beats per measure at 68 bpm. The slowness of this alternate interpretation is a key feature when wobble bass is included in the mix because it emphasizes the dynamic rhythmic density of the wobble bass, which goes from extremely slow half note pulses up to triplet pulses. Fast pickups to the 1 beat and the 3 beat emphasize this half time interpretation by making these beats more significant than the 2 and 4. Additionally, beats 2 and 4 are frequently omitted or lost beneath syncopated or triplet based kick, snare, and ride rhythms. This is not the case with all dubstep, indeed emphasis on beats 2 and 4 represents syncopation in the halftime feel and can be used to invoke a halftime jazz rhythm. In *The Sonnet*, however, I follow the rhythm without half time syncopation.

### [Robertaflack \(Feat. Dolly\) by Flying Lotus](#)

An example of previous work incorporating Jazz into dubstep, Robertaflack brings dubstep down to the chill energy of a jazz groove rather than bringing the jazz up to the intensity of a Skrillex bass drop. Instead of a high, rambunctious bass drop, this song features a solo by a subtractive synth, and brings in a crunchy bass to back up that. The vocal effects on this song were delightfully visible overtop the laidback rhythm section. The soft, muted trumpet and chill saxophone punctuation in the beginning and verse add to the atmosphere by directly recalling the sounds of jazz. And the wah guitar riff carried the harmony in a very, very low energy fashion. The original vocal sample had reverb and delays added to it in a way that made it more of an instrument than an information carrying device, though you could still follow the story. The style of this track represents perhaps a better thought out incorporation of jazz and dubstep but lacks a bass drop and the high intensity which I want to emulate. However, *The Sonnet* would benefit from more influence of this track on the initial jazz groove section, especially with respect to instrumentation.

### [Jazz Dubstep by Silkie](#)

Another example of dubstep at the jazz energy level, this piece is so chill that one of the YouTube comments asks “where’s the dubstep?” The piece begins with a gentle piano solo over cymbal ticks, throws in a little bass drum and snare and guitar and then escalates ever so very slightly to a more dubstep-like section with a muted sub bass voice. A mid-range synth sweeps into the beginning of the section. But really the most noticeable difference is that a chord synth is now accenting 2 and 4 to obtain jazz half-time syncopation. So while the effect of the piece is a very effectively jazzy, the jazz energy level is really inhibiting the dubstep feel.

### [Jazzsteppa by Lion](#)

This piece uses a horn sample as part of the initial feel, neglecting a dubstep feel entirely. In fact it sounds more like the style of Thievery Corporation, a popular ambient band, as one of the comments pointed out. But between this and the introduction of a dominating bass sound they used a big band jazz sample repeating a simple unison horn line. They bring the jazz unison back after the first drop, but it still exists within their more off beat groove, not a dubstep one. The use of a full band sample is very interesting, as it keeps the jazz extremely recognizable.

### [Jazzstep \(Dubstep experiment\) by mgt](#)

An amazing track, *Jazzstep* would have been extremely useful early in the development process. Beginning with a classic jazz sample, it juxtaposes a wobble bass line to seamlessly continue the melody. It then brings the piano back to comp over the wobble bass, all of this punctuated by repeated cuts to the count-off of the original sample. The wobble bass 8 count phrases increase in intensity and then

drop out, cutting to a jazz ostinato, which by its simple repetition builds tension for a second bass drop. Over this ostinato is a sample of a man talking about the jazz composition process. The following bass drop is punctuated by rhythmic cuts to saxophone and the sample about the jazz composition process. As a whole this track represents a no sacrifices approach to the combination of jazz and dubstep, as it keeps both aspects extremely pure. It defiantly has appeal, and many of the techniques have great potential to improve The Sonnet. The cut to straight jazz during the bass drop, and the jazz ostinato in place of the piano solo preceding the drop are especially appealing.

### **[The Kiff by The Kiffness](#)**

A rather unusual track for its inclusion of strange folk vocals, the Kiff is much more dubstep embellished by jazz than jazz cutting to dubstep. Opening with a nearly dnb bass line, the synth instruments feature prominently from the beginning and only fade somewhat for the trumpet solo. Jazz horns make an entrance, and a rhythmic baritone sax line introduced after the trumpet solo backs up the bass drop with surprising effectiveness. A guitar solo is very well incorporated as well, even trading off with wobbles. The final bass drop remains reminiscent of drum and bass, but brings in the various samples used before rhythmically as is frequently done in dubstep.

### **[Jazzy Dubby by Momo Rashman](#)**

Jazzy Dubby is a jazz tune which switches to being dubstep halfway through. In the beginning it is a beautiful electric piano and caffeinated hi-hat track, and soon the jazz bass is replaced by a synth lead which backs up the piano. While the piano played a complex multi-key harmonic progression, or rather a solo over the implication of such a progression, the following dubstep stays on the tonic. A vocal snippet: "what do you know about dubstep?" leads into the bass drop and from there on out the piano is no more. The jazz is far more compelling than the dubstep section, so this is a great shame. This represents yet another tactic for merging jazz and dubstep which The Sonnet discards in favor of a more integrated approach.

### **[Jazz Dubstep \(drum and bass remix\) by Nick Britton](#)**

Another great track, Jazz Dubstep (the drum and bass remix) begins with the jazz, which I'm starting to respect as the more logical element with which to begin, sounding in an artificial resonance chamber, and with a distinctive emphasis on the jazz bass not seen in other tracks. The harmonic progression is complex and supported by piano comping and an amazing flute solo. String-choir synths build after the solo, and the jazz bass is still jamming away with the heavy drums, which drop out for sparse, quick dnb drums and flute. The bass and string-choir return, and the flute is still going. This is a really great track for the emphasis on a jazz style bass, but the transition to dubstep was never really made, so it is ultimately a very well executed vision of an electric jazz song which trades drum sections with dnb for the end. The jazz dnb worked exceedingly well, and is another avenue I would like to pursue in the future.

### **[Lon-don City by Caspa ft. Uncle Tom and Four Leaf Clover by Mr. Lager](#)**

These songs are representative of the lovestep subgenre of dubstep which incorporates the same main beat structure as dubstep without the high frequencies. They emphasize the sub bass, bass so low that you feel it instead of hearing it. Key here is the addition of vocals over the sub for the majority of the song. These songs have a Chorus instead of a bass drop, and they focus on emotional lyrics instead of filthy intensity. The genre demonstrates that running lyrics over dubstep can be very effective, and elements of lovestep would easily improve the transition from the groove section in The Sonnet to the bass drop as well as the audibility of the lyrics over the instruments.

## How the Piece was made

### Synthesizer development

The wobble bass used in the sonnet was built in Csound, an open source sound synthesis program which is programmed in its own language. I've included a figure of the code describing the wobble bass instrument. The code segment pictured below takes inputs from the zak patching system and outputs to it as well, bypassing the default output/input system for easy control and mixing. Without the rest of the 361 line program it won't do anything, but it offers an overview of what goes on to create this unique wobble bass sound. In lines 4 through 13 the program fetches control parameters from the zak patching system. The mapping between the keyboard and these parameters is complex, and beyond the scope of an artist's note, but the parameters as seen by the wobble bass instrument are the pitch, amplitude, and three expression keys.

```
01      /* qBASS */
02      instr $qBASS
03          ; zBASS = qBASS (xWOB_PITCH, xWOB_VEL)
04          wobControls
05          kPitch zkr $xWOB_PITCH
06          kVel zkr $xWOB_VEL
07          kAmp zkr $xWOB_AMP
08          if kVel > kAmp then
09              kAmp=kVel
10          endif
11          kExp1 zkr $xWOB_EXP1
12          kExp2 zkr $xWOB_EXP2
13          kExp3 zkr $xWOB_EXP3
14
15          aBass buzzclip kPitch, gks$sWOB_DIST , kPitch*(2+3*kExp2)
16          aBass gain aBass, gks3
17          aBassSub buzzclip kPitch/2, gks$sWOB_DIST , kPitch*(1+3*kExp2)
18          aBassSub gain aBassSub, gks4
19          aSub oscil 1, kPitch/2, 1
20          aSub gain aSub, gks5
21          aTonic oscil 1, kPitch, 1
22          aTonic gain aTonic, gks6
23          aBassOct buzzclip kPitch*2, gks$sWOB_DIST , kPitch*(1+3*kExp2)
24          aBassOct gain aBassOct, gks7
25          aBassMix = aBass+ aBassSub+ aSub+ aTonic+ aBassOct
26          aBassMix clip aBassMix*(1+30*kExp2) , 0, 1
27          aBassMix gain aBassMix, .75
28          kcf = 1000+kExp1*7000
29          aWob1 tone aBassMix, kcf
30          aWob1 tone aWob1, kcf
31          kcf2 = 200+kExp3*15000
32          aWob2 tone aBassMix, kcf2
33          aWob2 atone aWob2, 800*(1-.95*kExp3)
34          aWob clip (aWob1+aWob2)*(kAmp*(1+.1*kExp1)*(1+.3*kExp2)), 0, 1
35          zaw aWob, $zBASS
36      endin
```

The buzzclip opcode, which I wrote, is the basis of the sound. It takes an equal power harmonic signal, first order low pass filters it with a cutoff frequency at the fundamental, and clips it based on a distortion factor. The wobble bass takes three of these buzzclip signals, as well as two sine waves,

computes the weighted sum, clips them, and applies a double low pass filter of its own. The first and third expression keys widen the passing region of the filters. The second expression increases the depth of all clipping distortions throughout the instrument. Together the five weighting parameters allow for a wide variety of bass voices, from the heavy sub featuring mostly distorted sine waves to the very harmonically dense voices attainable by using high magnitude buzz clip oscillators. Once the second expression key is depressed the secondary stage clipping becomes very intense and high harmonic frequencies are added back into the spectrum. They are normally attenuated by the two filters, however by pressing expression 1 or 3 the filter cutoff frequencies are shifted higher to allow more high frequencies to persist in the final sound. Pressing the third expression key sounds like a high “wub”, and the first key sounds like a darker, lower pitched “wub”. Pressing the second expression key with no other expression keys produces an effect like a volume increase accompanied by a timbre shift towards a deeper, more distorted sound. Pressing a filter lifting expression key and the distortion key simultaneously however, results in an intense “waa” sound which sounds heavily distorted and absolutely filthy, to use the dubstep terminology for a successfully distorted bass line.

### Scratch track

In place of a formal score for this piece, I composed it using multi-track-recording, creating an intermediate device known as a scratch track which contains low quality and mistake ridden versions of all the main instrumental tracks which are ultimately merged to the deliverable track. The style allows for great ease in adding components to the sound, at the cost of flexibility. Since the artist listens to the existing tracks as he records the next, the tracks are inevitably inter-dependent and to implement a new rhythm or chord progression requires re-recording multiple dependent tracks.

The Sonnet’s scratch track underwent rhythm change, tantamount to starting from scratch, three times as the rhythm evolved from a very inflexible jazz groove to the bass drop compatible half time beat included in the delightful deliverable. The chord structure changed only slightly with each change. The scratch track format made it difficult to be completely consistent with the chord changes, since it is hard to determine what chords are being played from a recording—so they tended to vary from recording to recording with the exception of those that were easy to remember.

In the final edition of the song, most tracks are built on the vocal percussion track, which is itself based on a recorded click track which establishes the beats per minute for the song. The chord progression was developed alongside the vocal melody by successively recording keyboard tracks backing up existing vocals and vocal tracks backing up existing keyboard. Extra drum beats accentuate the bass drop and are recorded based over the original vocal percussion, keyboard, and vocals. The keyboard solo has its own track and is recorded over clicks and vocal percussion, both of which are muted for the actual track and replaced by another vocal percussion track recorded over the keyboard solo. The bass drop is recorded on top of the intense bass drop vocal percussion mix and a sparse piano riff illustrating the tonic and fifth of each main chord in the 8 bar progression which connects the bass drop and the groove sections harmonically. The saxophone is recorded over the nearly complete track, as are all vocals after the first bass drop. This complex web of interdependency explains some of the difficulty that would be inherent in changing anything about the beat structure, but also shows the power of the scratch track technique for composing complex music without tedious scoring and leveraging improvisational skill.

### Effectiveness of the work

As a vehicle for the transport of a poem The Sonnet has several successes as a track. First and most prominent is that the two stanzas of the poem are split between the groove and the drop and this emphasizes the thematic shift from glorifying the sonnet as a timeless monument to revealing the darker aspect of the sonnet as a rite of death. Secondly the quickness and consonant emphasis of the first words in the first stanza is intended to hint at the moment we are memorializing. The first stanza

ends with “impearled and orient” referring to metaphorical ornamentation on the sonnet furnished by time and this stanza is immediately followed by a keyboard solo, which is essentially ornamental. Finally, the word death in the last stanza is intended to be the intensity climax of the first bass drop section, and this is accomplished by softer repetition of the line. There are also potential areas for improvement in this area. The first section could do with being more grandiose to emphasize that theme of the first section more—it could have more elaborate keyboard lines, and the first keyboard solo could do with much more embellishment to better emphasize the impearled and orient line. Memorial from the Soul’s eternity should be punctuated by a sustained note which should end abruptly with a rhythm hit on dead deathless hour. Arduous fullness could use a really thick chord. The line “ivory or in ebony” could use contrasting sounds, as could “Day or Night.” As a joke, the word “toll” would be a great place to ring a bell. Most importantly, I think the climaxing on the word “Death” could be greatly improved, and it might even be better to drop everything and have the voice sing that alone. As for the lyrical content in the rest of the song, it could be made more relevant, but as it now represents only my favorite sonorous lines, I don’t feel inclined to change it.

As a song, The Sonnet succeeds at building a compelling groove in the beginning, and two bass drops which convey the intention of a dubstep jazz fusion. The bass drops use the wobbling capabilities very effectively bring the bass instrument into the rhythmic forefront and successfully obtain a really filthy sound for the final drop. The saxophone does an amazing job of tying the jazz and dubstep together in the end, and really goes well with the wobble bass. The rhythm if not the sound of the vocal percussion accomplishes the feel of dubstep very well. And most importantly, the song contains a clear and identifiable bass drop, which has long been an uncrossed hurdle for me artistically.

Of course the room for musical improvement is substantial, despite the successes. The vocals are hard to understand and stand to be improved both by better singing technique and better mixing. In addition, they could benefit from some well-done vocal effects, especially after the final stanza. The bass could be more brutal, especially in terms of its absolute volume level where it comes in, as this would improve the bass drops considerably. A kick is desperately needed to replace the weak low end of the vocal percussion, and the vocal percussion could benefit from replacement altogether since this would allow for more rhythmic variety and more synthetic sounding percussion. The piece presents several opportunities to lower the full wall of sound and highlight a subset of the instruments, and none of these opportunities are fully exploited. And finally, the wobble bass cuts out at some points due to a difficult aspect of the control system and really should be re-recorded.

Yet despite these limitations and areas which could be improved, the whole of the work is quite impressive considering how quickly it was constructed, the intricacy of the music, and the amount of work that was required to build all of it from scratch. I would label it a great success.