Trio

for violin, cello, and bitKlavier

Dan Trueman

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~ Many Arrows Music ~
Movements

1. Tallboy (p. 5)
2. Slågedalen (p. 24)
3. Bariolage (p. 31)
4. Keening Machine (p. 65)

Each movement is about 4 minutes in duration. PDF page numbers above.

Program Notes

*Tallboy* takes a beautiful song called *Baltimore*, by Gabriel Kahane, as its starting point. A tallboy can be a number of things, including a piece of furniture, a bomb, a very tall glass of beer, a bicycle, or one of those giant wind socks that car dealers use. It's also referenced in *Baltimore*. Take your pick.

Slågedalen is where Salve Håkedal lives; Salve made the Hardanger d’Amore, a new kind of fiddle that I play. It’s a beautiful place, in a remote part of southern Norway, and Salve’s family has lived there for generations. A tall rock face towers over the door to his workshop (which his grandfather built), and in winter it is covered in ice, which slowly melts in the spring. I made this tune, originally on the d’Amore, after returning from a visit to Salve and his wife Inger.

We think of J.S. Bach as an efficient composer—every note is essential, carefully placed as part of a deep architectural plan. And yet… over and over in his music we encounter these self-indulgent, repetitive passages of bariolage, where the fiddler (or cellist) wanks away with impressive flying string crossings (think of the E-major Partita for solo violin, or the G-major Prelude for solo cello), or even in his keyboard music we find these extended sequential passages where the pianist just spins out a pattern over and over again for no apparent reason (think of the Presto in the C-minor Prelude of Book I of the Well Tempered Klavier). What’s the point? Of course there are lots of answers, though most usually depend on some circular notion that Bach is, well, great, so, well, naturally these passages are part of some grand plan. For me, however, the point is pretty simple: these passages are just so damn fun to play! After all the hard-earned intricate passage-work that precedes them, it’s just so pleasurable to let the arm do its thing—you get in a kind of zone, as you might with minimalist music. And it’s really quite depressing to imagine Bach’s music without these passages. All that said, *Bariolage* is a similarly self-indulgent homage to Bach and the bariolage, and I hope it is fun.

I’m imagining a machine that is sad, in mourning after the loss of… something, or someone. It keens, or tries to, in spite of its inner mechanisms which just want to keep doing what they were designed to do. Or perhaps it is a machine whose purpose it is to keen, another in the line of robots that we make to replace us and our jobs—there are professional keeners, after all, so why not?
Instrumentation, Tuning and Preparation Notes

bitKlavier, a kind of prepared digital piano, is available from bitKlavier.com. The preparation files for this piece are available here; this folder can be put in the Applications/bitKlavier/galleries folder.

The violin and cello should be turned in perfect, 3/2 fifths, and A4=440; do not compress the lower fifths of the cello to try to make the low C sound better relative to the violin E-string, or to match equal-temperament. This means that some of the open strings will appear flat on a digital tuner (the C-string, for instance, will appear about 6 cents flat, and the E-string will be 2 cents sharp to equal-temperament).

For all but Tallboy, I make use of Helmholtz-Ellis just-intonation notation (HEJI); see http://www.marcsabat.com/pdfs/legend.pdf for more information. Please don’t confuse this with quarter-tone notation!! It’s totally different! And mostly quite subtle, emphasizing just tuned thirds and sixths (though there is the occasional overtone 7th as well).

In Tallboy (the only movement that does not use HEJI), bitKlavier uses a new dynamic, adaptive tuning system called spring tuning, which enables all simultaneities to approach just-intonation; the string players should be able to tune to these by ear, though it may take some getting used to.

There are two different “pianos” in Slågedalen. They are identical other than their tuning systems, and bitKlavier will change automatically between them as you play; you will, however, need to manually select them if you are rehearsing and starting mid-piece (for instance, if you want to start at rehearsal letter B, you will need to select the “LowB” piano, and if you then want to go to the beginning you will then need to select the “HighB” piano). Otherwise, most of the notes in this one won’t sound when you initially press the keys! Rather, a slow, icy glow will emerge in the seconds after you press the key; it takes some getting used to.

Bariolage features short bursts of notes that begin instantly after a key is pressed. Slowly play through the keyboard and get used to them. Note that if you want to rehearse (or perform, for that matter) at a slower tempo, you can adjust the overall tempo in Gallery:Settings, with the “tempo multiplier” slider.

In Keening Machine, bitKlavier articulates a precise but unusual 3-bar warped meter:

![Warped Meter](image)

The best way to get used to this is simply to play the opening dyad and listen. The symbols are intended to provide an easy visual for tracking what kind of beat you are on at any particular moment, but this basic structure repeats throughout, with one short pause later on in the
piece. Please take some time to get comfortable with this. One way to do this is for everyone to play triplets along with bitKlavier, stretching and compressing them as needed. This metric feel is inspired by the warped dance meters of Norwegian dance music; it is meant to be felt rather than calculated. I have used similar techniques in previous pieces, with success; it just takes some time and effort to get it in your body!

For the strings, **non-vibrato throughout!** Except for the occasional moment that is indicated otherwise.
bitKlavier Trio

2. Slågedalen

Boxed courier text ("HighB" above) indicates which "piano" to be using in bitKlavier. These pianos will switch automatically as you play, though you may need to set them manually when starting mid-piece.
3. Bariolage
slow down independently from bitKlavier; don't try to play together...
but cello and violin should be together!

[4 min. 15 sec.]
bitKlavier Trio

4. Keening Machine

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These two measures should have the same rhythm as the prior three measures.

Note that the notated rhythm is not precisely the same as what bitKlavier is doing, but is a good approximation; listen, adjust...