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# The DJ and the Orchestra: Fusing Art Music and Popular Music

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**THE DJ AND THE ORCHESTRA**  
*Fusing Art Music and Popular Music*  
By Joseph R. Bozich

The marriage of electronic music and instruments to the traditionally acoustic symphony orchestra has been a much sought after goal for twentieth century composers. Olivier Messiaen used the Ondes Martenot (a sort of cross between a theramin and a piano), John Adams has regularly used the synthesizer, and this is to say nothing of the use of pre-recorded sounds and effects (though not a symphonic work, Steve Reich's string quartet *Different Trains* comes to mind here). Most recently, and of integral interest to this project, has been the work of Mason Bates, composer-in-residence with the Chicago Symphony Orchestra, graduate of the Julliard School, and part-time professional DJ, who has gained prominence especially of late with his collaborations with Michael Tilson Thomas and the YouTube Symphony Orchestra.

The reason Bates is of such great interest is his use of the live musician to call up recorded loops and samples, in the way that a DJ might, in service of the printed score. In this way, just as with an electronic synthesizer, the recorded parts of a work become "tangible," and flexible (to some small extent) to the orchestra and the player, in a way that a prerecorded track is otherwise not. This research focused directly on this aspect of integrating the DJ and the orchestra, with the hopes that using a "DJ" might be a way of maximizing the expressive potential of electronic music.

That is, of course, the great drawback to electronic instruments, and in my opinion the reason that they have not caught on more in mainstream orchestral

composition. Whatever demands we can make for an orchestra to play "exactly the printed page" of a piece of music, to crescendo and diminuendo at the explicit instructions of the composer, acoustic instruments and their players will never produce the exact same performance of a piece of music twice. Some composers of the avant garde have lamented this fact and sought out the strictness of wholly-electronic music, but part of the reason classical music is so interesting is the whole act of "interpretation." Again, to some composers this has seemed a great worry, but to some others, it has been just another accepted part of their work, and it is for this sort of music, the kind that is open to interpretation, that this project is committed. Part of the magic of the romantic compositions of Tchaikovsky or Wagner is the "human" element of expression, which until this point has been mostly incapable of being reproduced by electronic means outside of a few areas (such as the synthesizer family). The DJ gives us an avenue of creating expressive, interpretable compositions with electronics at the service of the performer and conductor, rather than the performer and the conductor always at the service of the composers' electronics.

This project firstly focused on the technicalities of Bates' integration of the DJ and the orchestra, since for the most part his pieces do a good job of marrying the two without making it seem as though the DJ is a grafted-on appendage from another organism. Included with this paper are the full notes on his "electro-orchestration," but following here are some highlights, and the overarching themes pulled from those notes.

Throughout all five works I studied, I noticed that Bates' use of the electronics can be split into two categories, which to some extent reflect the greater forms of electronic music in general: padding, where a set of tones or "soundscapes" are used to create a background texture across which melodic or otherwise more interesting material passes; and beats, where a set of percussive sounds (and occasionally electronic bass lines) supply the rhythmic backbone to a piece of music. Interestingly, the more percussive the electronics got in each studied work, the more the actual percussion players in Bates' pieces were playing on mallet instruments or instruments not from the drum family. When the percussionists were playing full out drums, such as in his work *Liquid Interface* to conjure up the image of a jazz band, the electronics stopped altogether. In regards to the padding aspect of his use of the electronics, they were almost always accompanied by sustained pitches in the orchestra, so as to create a smooth blend between the electronic and the acoustic before proceeding to more complicated orchestra gestures.

The question of the DJ as mere "beat-maker" is an interesting one, which I unfortunately did not explore as much as I might have otherwise liked. Suffice it to say that it is clear from Mason Bates' works that the DJ can do far more than supply electronic rhythms, and it is the use of these pads and soundscapes that has far more ramifications for the expressiveness of the electronics than the beats, since beats are by their very nature inflexible and based on what was initially recorded. In the piece that I wrote to synthesize the techniques I observed in Mason Bates' compositions with my own, I tried to allow space for the electronic

voice to "sing" rather than merely play percussion in the background. I consider the DJ to not be another member of the percussion section, but a whole new section to the orchestra, in the manner of winds and strings.

Of further interest to me was Bates' use of the acoustic instruments in a fashion that would otherwise conjure up images of electronic music. This includes the dove-tailing of chords so that a sort of "cross-fade" effect is created, and also hitting notes in repetition and diminuendoing at a constant rate, to create the illusion of electronic delay. These, I think, help maintain the blend between the two worlds, though I do not think that their employment is a necessary technique, and one which I did not employ as directly as Bates in my final composition.

It was at this point that, having gleaned as much as I could about the integration of electronics and orchestra, I turned to the techno duo *Daft Punk* to gather experience with actual techno forms and sounds. In general, I would say my discoveries were less than helpful, as (ironically) I had already observed much of them in Bates' compositions or otherwise found them unsuitable for my purposes. An example of the latter of these is the repetitiveness of techno compositions. As they are meant for dance, they can repeat a beat and phrase for a full three minutes without concern; for the concert hall, however, this does not stand as well (outside the sphere of minimalism). Still, I did not feel that this was a complete waste of time, as they confirmed the legitimacy of Bates' techniques and allowed me to progress without much further delay to the actual writing of the piece.

The reason that this piece is a concerto and not a work meant to merely showcase the orchestra is actually slightly counterintuitive. I chose the concerto to attempt to move the DJ out of the aesthetic focus of the work, which I felt in some places happened in Bates' compositions. Not that the DJ seemed to become aesthetically disjointed, but it did seem to become more important than I wished for my composition. By writing a concerto, I was able to (hopefully) keep the focus of attention on the saxophone soloist in front of the orchestra for the majority of the piece, using the DJ as a voice within the ensemble as I have already mentioned. The success of my work here is difficult to judge and depends a great deal on the subjective listener, but the first live reading of the work will hopefully expose those places (if there are any) where I was less successful than others.

The most unusual feature of this piece, electronics aside, is probably the use of the Baritone Saxophone as the solo voice. I selected it for two main reasons: firstly, it is an instrument that has to this point been not fully explored in the concerto setting, and I felt that as long as I was taking the time to write a concerto I might as well use that time trying to get the Baritone Saxophone to "sing" adequately as a solo voice. Secondly, the instrument is perfect to sample in real time and loop back as a bass line, as my work does in the third movement ("DUBSTEP"). In this way, the expressiveness and "entropy" of the piece is increased, allowing for a greater variety of performance and interpretation on the part of the performers.

The interior three movements of this work, "HOUSE," "DUBSTEP," and "BREAKBEAT," are named after traditional dance beats that I have "requisitioned" for the purposes of this work. In these places, I explored the side of electronic composition slanted towards beats, whilst still using pitched electronic sound effects for extra coloration. It is important to note that I have not written them to be authentic representations of their original form. These are stylizations and interpretations, placed within a setting where, if one is not greatly careful, such popular reflections can become sterile, cheesy, and otherwise undesirable. I believe that I was for the most part able to avoid such pitfalls, but only by taking some liberties with the forms and structures of the electronic beats. The two outer movements, "recitation and improvisation" and "abschied," are the slow, emotional movements, creating a more traditionally symphonic gateway into the explorations in electronic music. In these places I employed the padding side to the electronics, and hopefully created an emotional ground off which the audience can spring and to which they might return. Especially in regards to this is the title "abschied," which translates in German as "farewell." It is much darker than the rest of the work, and creates a pathos that will hopefully allow the audience to relate despite the more abstract ventures in the middle three movements.

With the piece now written, the question arises of whether or not this has any merit for further exploration, or whether it is to be considered just a gimmick, a dead end not truly fit for orchestral use. To answer this, I must first state that I do not believe that I have completely perfected the synthesis here. I think there is

much more space to explore in regards to the non-beat related use of the DJ, and also I think the way I used the electronics in this piece was not as elegant in a logistical sense as I might be able to eventually accomplish with further experimentation. However, I do believe there is merit to exploring this territory beyond mere novelty, and that is because of the great range offered by electronics, if the expressiveness can be harnessed. For unlike the logistical boundaries imposed by an orchestra, where each performer must be paid, each part must be learned, and each section rehearsed, the logistical boundaries of electronics are almost infinite. The polyphony of a Mahler symphony can be created with just a few acoustic players and electronic backing. Of course, the higher the number of electronic voices, the more difficult it is to employ them expressively. Also, it should be made clear that I do not think that electronics are superior to their acoustic counterparts, just that the two could be married in a very interesting and mutually beneficial manner. I do not at this time intend to retreat into the realm of the strictly electronic, for as it should be clear by now, my main goal as a composer is expression and expressive potential, and the strictly electronic is also the most strictly "inexpressive" in respect to its performance.

Regardless of the actual outcome of this work, there is little doubt in my mind that it has given me a firm ground upon which to build further electro-acoustic compositions with a DJ controlling the electronics. A purely symphonic form is the next logical step, with the goal of mastering the blend of strings, woodwinds, electronics, and percussion. This Concerto for Baritone Saxophone and Orchestra is as of this writing yet to be premiered or even slotted for performance, but with

luck it will be able to be played by a group of students in spring 2012. Only then will the true success of this project be measureable, and the effect of this piece be made real.

## Appendix A - Research Notes

### Note:

*For the below scores, I am less concerned with the specific form, orchestration, or compositional substance (though I am observing and noting these in a small way), and am more focused on the interaction of the electronic equipment with the orchestra and the any compositional tricks Bates seems to employ directly because of the electronic influence.*

### Liquid Interface

Logistical Notes (i.e., electro-orchestration): a drum pad rented out and a laptop, which makes this piece easier to program than a more complicated electro-acoustic venture

Structural Notes: a four movement piece, although it sounds almost more like a two movement one—the opening two bleed together fairly naturally, as do the final two, and there are similar attitude characteristics between each movement within a subgroup. There is little to say from a classical form point of view, since the piece seems to more evolve naturally in its own right, an "immersive experience," as we might describe a story without a concrete narrative thread. This is not to necessarily diminish the substance of the composition, but it is to point out that concrete formal events have been exchanged for a more improvisatory, evolving approach, almost like a soundscape or electronic pad.

The Substance of the Electronics: a series of electronic clicks and drum sounds that sound distinct enough from normal percussion to merit their use (rather than just using a percussion instrument). These are used in the first, second, and fourth movements to provide a sort of "beat" at times, though never overbearing—it doesn't feel as though Bates' composition is *leaning* on these electronic percussion sounds to provide momentum—indeed, most of the momentum comes from the orchestra, rather than the electronics. Interestingly, when the third movement evokes a large jazz band and the drum set hits full gear, the electronics are abandoned completely. When the acoustic beat control is established, the electronic one is turned off. Instead, we eventually are given the sounds of a thunderstorm, and then an electronic interlude with a warped dixieland recording. The opening and closing of this piece also begin with electronic soundscapes, the opening of glaciers calving and the ending of atmospheric wind. In every case where a soundscape is presented, the orchestra fades into or out of the soundscape and the soundscape visa versa, creating a definite fusion of the two sounds—it doesn't sound as though someone turned off a tape, it sounds much more natural and normal—as if it was an organic, expressive piece of the composition.

Other compositional observations: Bates' scoring of the orchestra shows a definite intent to evoke electronic effects and textures. The opening, for instance, presents us with large sustained pads alternating between instrument combinations, and gradual shifts between tonalities. These dovetailings, to me, sound like a "cross-fade"—where one music track is bled into and through

another until the other becomes the dominant track. Furthermore, there are repeated eighth-notes in this first movement that definitely sound like a delay effect applied to an initial attack. These occur throughout the work, and help fuse the orchestral, classical art form to the electronic one from which Bates is borrowing.

### *Mothership*

Logistical Notes: a single laptop with downloadable software

Structural Notes: a single movement piece, which displays almost a rondo-like quality in its returns to the opening feel between the solo sections (labeled in the score as "Docking Episodes"). Given this, we could probably label the form to be ABACA, with a brief introduction and conclusion tied to each end of the piece. In terms of motive or themes, or development of material, there is very little on the micro-level, and the sections of the work seem to be related more by their feel than the organic growth of motives.

The Substance of the Electronics: a variety of electronic drum clicks and sounds, along with a couple of "spaceship" sounds, such as that of the ship "booting up," "radio static," "docking bay doors," and the "docking signal" beeps. There is also a little bit of synth bass in the part. The electronics are generally taking a very "groove-ish" roll, although in the first solo section, when the acoustic percussion takes on greater prominence, the electronics drop out just as they did in *Liquid Interface* during the big band section.

Other Compositional Observations: again, as with *Liquid Interface*, the acoustic instruments display some characteristics of electronic composition. These include echo and delay effects—hitting a pitch and then rebounding off of it into the distance, as well as a sort of "beat mashing" effect—where a slow chord, in techno, would be sped up to become repeated sixteenths. Even the form, by repeating the A sections almost verbatim, could be said to be influenced by the repetitive refrains found in techno and popular musics.

### *The B-Sides: Five Pieces for Orchestra and Electronic*

The following work was slightly more difficult to study, since I was only able to obtain audio for one of the movements (*Warehouse Medicine*). Therefore, my notes are somewhat sparser, though I believe them to be accurate, as much as what I was seeing at this point I had seen in the first two of Bates' pieces (at this point, I have already reviewed a full thirty minutes of his work).

Logistical Notes: a single laptop with downloadable software

Structural Notes: five pieces each written as studies in orchestral texture, though only the first, third, and fifth use electronics. There are little visible similarities between the movements, but they appear to be meant as a set of distinct pieces that complement each other aesthetically rather than theoretically. As with Bates' other work, he appears to be concerned more with texture and feel than with any sort of concrete motivic or thematic composition.

The Substance of the Electronics: as I do not have access to the recordings for most of this work, I must infer the electronics based off of markings in the score. There seems to be the same use of electronic clicks and techno drum beats,

and the last movement (the one I do have audio for) features a prominent "Juno Bass" (a synthesizer sound). The third movement, however, tells the musician running the electronics to load up a set of sounds based off of the Gemini IV mission—the first American spacewalk. In this movement, clips of the radio transmissions from both NASA Mission Control and Ed White, the spacewalking astronaut in question, are brought into the work and rearranged to create an image of the astronaut "seduced by the vastness and mystery of space." This is fairly different from the rest of the electronics I have thus seen.

Other Compositional Observations: The first movement of the work, *Broom of the System*, shows some of the same sorts of cross-fades I first observed in *Liquid Interface*. This movement also calls for a percussionist to play a "Broom"—as in, the actual thing used to sweep when cleaning. This sort of sound, in my mind, sounds similar to the sorts of swooshes and static that are present in many electronic pieces. The second piece, *Aerosol Melody (Hanalei)*, is one of the pieces without electronics, but there still is the mark of an electronic composer, including crossfades, wide glissandi (I imagine here the acoustic equivalent of a pitch-bend wheel), and markings for wide, strident vibrato on pizzicato markings in the low strings, another slightly synthetic sound. The third movement, *Gemini in the Solar Wind*, displays retreating eighth notes like an echo or delay effect. The fourth, *Temescal Noir*, uses such odd percussion as a typewriter and oil drum, which definitely harkens back to a DJ sampling real-world sounds and then incorporating them into a piece of electronica in a rhythmic fashion. The final movement, *Warehouse Medicine*, has dense chromatic clusters crescendoing from *piano* to *fortissimo*, which to me has the sound of electronic feedback (remember that for this movement I actually had a recording).

#### *Music from Underground Spaces*

For the following work, I literally had no audio reference, so the synthesis of electronics and orchestra is slightly harder to judge. However, Bates' methodology is fairly clear at this point, so any observations are mostly just reinforcing what has been already seen.

Logistical Notes: a single laptop with downloadable software and an optional drum pad available with the rental of the parts

Structural Notes: four movements with little formal linkage, though the thematic material between movements seems to be far more related than in the other works observed. The motives themselves are not exactly reinterpreted, but more paraphrased in the loosest sense, and there are recurring rhythmic patterns across the entirety of the work.

The Substance of the Electronics: there is substantial use of recorded audio in this work, including subway sounds in the first movement and recordings of earthquakes in the last. There is the typical Mason Bates techno drum patterns, including electronic bass drum and high clicks. The second movement shows a greater use of a synth bass part than I've yet observed in these works, provided a great deal of interesting material just in itself. In this way, it leaps from a percussive, support role, to a more melodic, leading one.

Other Compositional Observations: All of Bates' typical scoring is present, though there is a great deal more cross-rhythmic activity in this work. Indeed, on many occasions he seems to be mimicking the idea of "Looping," where a single phrase is repeated at a certain interval, across which more material moves at a different interval or at no interval whatsoever.

*Rusty Air in Carolina*

For this work, I was able to find a recording of the second movement, *Katydid Country*, but the rest of my analysis is based off of only what I can see in the score.

Logistical Notes: a laptop with drum pad, or laptop alone

Structural Notes: a four movement work with some unifying rhythmic, textural, and thematic material between the movements, including the fluttertonguing in the flutes that appears almost immediately, and the repeated eights that occur partway through the first movement. Bates' conception of large scale form (very little actual classical influence) is the same as in his other works.

The Substance of the Electronics: the work opens with ambient sounds of Katydid, and the second movement shows Bates' typical electronic drum backing. The third movement introduces us to "predawn rustling" and bird sounds, which illustrates a far more ambient, soundscape-like function to the electronics in this work as opposed to his other, more beat-oriented works.

Other Compositional Observations: There is little to say in this work that has not been seen elsewhere. Bates seems to toy more with jazz harmonies here, but that has little bearing on the intent of this research.

### Appendix B - *Score and Audio Recording*

The accompanying audio file is a realization of the complete work as one track, running around 35 minutes. The electronics have only been partially represented as they will only be able to be fully applied in live performance. The included score does not display the use of the electronics, but by pairing it with the included MIDI recording, a general picture of the sounds I am hoping to achieve can be deduced.