2024-10-13 Supp Mats to update

Supplementary Materials III-F. Recent Patents and Trademarks Issued by the United States Patent and Trademark Office (USPTO)

Supplementary Materials IV-H-4: CantoVario’s Three Current Projects – **update links too**

Supplementary Materials IV-J-2: The Engineers’ Conductorless Orchestra website Hub **- LZ**

Also add new Appendix II-B-3 for ESA assignments

Add new Appendix II-B-4 for Signals assignments

Add TEO best paper

Just add I-Corps abstract to Appendix IV-H-3

Add PFI-TT abstract to new Appendix IV-H-4

Appendix IV-K-1: A Sampling of my Orchestral Arrangements **– add mussorgsky arrangement analysis + video to this appendix IV-K-1 and add score to appendix IV-K-2**

Analysis of Mussorgsky reorchestration for 10 players: 2 flutes, clarinet, alto sax, tenor sax, trumpet, 2 trombones, piano, and one violin.

As with all my reorchestrations (orchestral arrangements), OCO students select the repertoire they want to play; I then re-orchestrate the pieces for whatever instruments we have for that semester.

The students selected pieces from Mussorgsky’s *Pictures at an Exhibition* in the Ravel arrangement for large orchestra (including a sizeable string section, e.g., 38 violins, 14 violas, 12 cellos, and 8 double basses, as well as 2 flutes, piccolo, 3 oboes, 2 clarinets, alto saxophone, bass clarinet, 2 bassoons, contrabassoon, 4 horns, 2 trumpets, 3 trombones, tuba, timpani, and percussion).

Since Olin is a small school, we’ve never had standard instrumentation in the orchestra. Up to this point, I had made 135 orchestral arrangements for all combinations of instruments, trying to achieve the best group sound possible with unbalanced wind, string, and brass sections. But I’d never tried to balance one violin with 8 wind-brass and a piano for a work that requires a big orchestral sound, as I would have to do for the Mussorgsky/Ravel. I wasn’t even sure it could be done.

Though the prospect of balancing that one violin was daunting, in some strange way I felt challenged and wanted to see if it could be done. So I got to work on each of the 5 pieces selected by the students (Promenade, Il vecchio castello, Tuileries, Cum mortuis in lingua mortua, and La cabane sur des pattes de poule). I managed to balance the single violin with the other instruments, sometimes by writing parts that would allow the violin to soar above the other players, e.g., by creating harmonics, or integrating its timbre into the mix, e.g., by inserting tremolos.

While re-orchestrating their last selection (Baba Yaga’s Hut), I found myself wishing we had a bass drum player and a timpanist, especially for its big beginning and subsequent recap. I was able to use every instrument in OCO to create a big group sound for the opening of Baba Yaga, with the exception of our 2 flutes. In their low range (where I needed them), they wouldn’t be heard. So why not have one flutist play timpani and the other play bass drum for the big beginning? I decided to turn them into percussionists just for the opening and recap, then give them a few measures to rush back to their seats, pick up their flutes, just in time for descending flute passages with grace notes.

To achieve more color throughout the orchestration, I gave the pianist not only a piano part but also parts on the glockenspiel, which she would learn to play. I also gave a trombonist a short parts on the xylophone. I then hired Sam Solomon, a gifted percussionist and teacher at Boston Conservatory, to give all of them a lesson on how to play their respective new instruments. The students took to their parts. After making this last re-orchestration, I felt we were in good shape for the final performances of the semester – Olin’s Exposition Day to be held May 9. I could clearly see a path forward to the end of the semester which would require work but all would be doable. So what could possibly go wrong?

On April 20, at the end of our rehearsal, the navigators (leaders) of the orchestra were reminding students of the times for the Expo concerts. Suddenly the pianist said, “wait, wait, what date are these concerts?”

“May 9,” replied the navigators. “I’ll be in China.” Her grandmother was gravely ill.

I really didn’t think we could do any of the Mussorgsky without the piano. Maybe the navigators would be able to find someone, but I wasn’t sure that would be successful given the piano technique required to play all pieces, especially that required for the last piece (Baba Yaga’s Hut) and given the time of year: end of semester finals. Also, the pianist would have to learn how to play the glockenspiel and move quickly between the two instruments, even playing one with the right hand (the piano), while playing the other with the left hand (glockenspiel).

The next week, at our OCO meeting, one of the navigators asked if I could do the piano parts. There was no other choice. So I learned all the piano and glockenspiel parts, and learned how to play the glockenspiel in the process. Here’s a clip that shows the Baba Yaga choreography with the flutists moving to timpani and bass drum and the trombonist moving from xylophone back to trombone (long link <https://youtu.be/7aBcnsstQkM> ). It’ll also show the 2 seconds I had to switch from piano to glockenspiel and then another 2 seconds to switch back to piano and place my hands 3 octaves apart to play a quick passage (quarter = 152). And it’ll show the group sound I created with an eclectic combination of 10 instruments. All five movements can be heard on Olin’s YouTube channel ( <https://www.youtube.com/watch?v=9icbmaUdWTA&list=PLvexLOJGQ74v0aFpdDdshzQHL2JAbwPXj&index=1> )

With hindsight, all’s well that ends well, but frankly, the easiest solution would’ve been to simply cancel the Expo concert. But that option didn’t occur to us.