

Workshopping the libretto for composition of The Measurer

Character Study with Dani

The workshops were recorded and fully transcribed. I shall now outline the decisions made during the collaborative workshops which lead to the development of the short film based on the introduction to The Measurer.

Workshop 1

During this first workshop we discussed what sort of material to use for each character, based on Dani's study created from the data. We discussed their musical characteristics in relation to the text and science.

Before this workshop I researched into some possible uses of extended vocal techniques. Particularly I was making use of Michael Edgerton's textbook on 21st Century Voice. I recorded an example of myself using multiple techniques which could be experimented with for the voice of the Measurer. (see file below)

This workshop was extremely useful in generating a collaborative understanding of how the music will be structured for each character and scene. We decided on the tonality and techniques which should be used in the composition of the music for The Measurer, Xoe and the Mother Star. This included testing some of the ideas during the session. This also led to feedback on the libretto as Dani was able to request some extra dialogue in sections where the Mother Star would be speaking and not singing.

Beyond this invaluable discussion of the music we also discussed the importance to have some artistic licence with the science and data. As we are engaging in a collaboration it is very important that both the text and music leave space for the other to breath and exist. If we both approached our different roles with focus only on the data, then there would be no space for us to create a response to each other within the work. The early workshops we had on the short story were very helpful in ensuring I was able to incorporate Dani's responses into the developed script, and this workshop was very helpful in making sure that Dani was responding to the script within his music.

Some key decisions are listed below.

- We will present for character videos making use of the introductory arias for each character. These will be watched by the audience prior to attending the show. We could also add an epilogue for what happens to Xoe and Pantele after the collision.
- There will be an overture with an introduction to each character. They can just use the opening lines from their introductory arias.
- Xoe will be a female, character soprano. It is a light-hearted character. Maybe a bit like a funky granny. It will use the material from planets h and b as it is travelling throughout the whole system.
- The Star will not be lyrical and will explore many different vocal and sonic techniques. It will be an SATB chorus. It has 3 chords made from the alignment material. It will not need to have melody as it is a static object. It will make use of

rhythmic recitation. During the Brutal mother duet it will speak the words and sing the numbers. The composition will make use of hocketing to create an interference and also to replicate the bombardment.

- Pantele could be two singers or one. It will be lyrical.
- The Measurer will make use of ASRM sounds, whispers, sprechgesang, muffled words (cupping the hand over the mouth) and more. They will use a microphone and move close or far away from it depending on the vocal technique in use. This will all give the effect of being inside the mind of The Measurer. At the moments where The Measurer is clearly interacting with the outside world the text will be fully sung.

Workshop 2:

During this workshop we discussed the music for Xoe, Pantele, the way we are collaborating and some ideas about the Mother Star chorus. The key ideas that came out of this discussion are listed below. Prior to the discussion on the material for Xoe Dani voiced some initial concerns about how to make sure the piece feels unified despite all the different harmonies and melodies created through the data. Part of the discussion was also used up on ensuring the music will work cohesively for all characters.

- During the discussion on the material for Xoe we came up with a good solution to this problem. I suggested that Dani could use the material from all the planets in Xoe's music as Xoe is passing by all of them at different points. The position of Xoe in the TRAPPIST system at different parts of the story could be reflected in which material is being used musically at that point. Dani had already decided that Xoe should also always make use of planet b (as a representation of Mercury/Hermes) and planet h (as the outermost point of the system). In this way Xoe would be going on a musical journey which would culminate in the climatic moment where Xoe and Pantele collide. Up until this point Xoe's music would never be mixed with planet e (Pantele's) music. This will give more journey to the character of Xoe, as well as making the other characters appear more static, thus reinforcing the entrapped nature of Pantele within the system.
- Next we discussed how to make the audience aware of these different themes. We decided that at the start of the piece (the introduction from each character), and throughout the overture, the audience will be shown representations of each character along with their musical theme. This will signpost each character's music and so allow the audience to follow the whole piece more fluidly.
- We then turned our focus to Pantele's music. For this Dani had decided to use the music developed for planet e. Initially Dani had some fears that it might not be enough material to generate score for the whole of the characters parts. However upon further inspection of his study he realised that there are in fact 2 chords and 2 inversions (4 chords in total). Of these as well there are both major and minor. This gives the perfect accompaniment for Pantele's two halves. We both felt that the darker side should be associated with the major chord, as this side is more open and has a broader, brighter experience of the universe. The light side will take the minor chord as this side is constrained to always face the star and as such is almost a prisoner of the star. The music will move through these chords and inversions showing Pantele's internal psychological journey and growth, as opposed to Xoe's physical journey across the system. Only at the point of trauma

or anagorisis, where the collision occurs, will Pantele's harmonic material be combined with Xoe's, signalling a rebirth.

- After this we discussed the collaboration itself and the impact that these workshops was having upon the piece. Both Dani and I felt that in comparison to our previous experiences working together, this was creating a joint vision for the work. This would be valuable when it came to the actual production as we would both understand each other's poetic intentions.
- Finally, we had a quick discussion on the music for the Mother Star's introduction. In the initial draft I had suggested opening the chorus with a hum of the word M-Dwarf. Dani felt however that he wanted to open with some huge chords (like a Star Wars opening). We discussed the use of speaking and how this could be done at the same time as the chords to create a cacophony of sound. This would enable the audience to still grasp the sensation of filtering through until the text becomes audible and it is clear what the star is saying.

Workshop 3:

This workshop was focused on working on the Measurer's opening aria, and practicing and understanding all the sounds that Dani was imagining. Through this Dani was able to alter some of the score and change some of the sounds. We also discussed which visuals might be used and how they are making use of the art-science interface in their work. Key points are listed below:

- Initially we had a long discussion about how the work we are doing is not purely experimental. It doesn't just take the data or science and translate it directly into text and music but uses the science as a structure within which to make choices. In this respect there is a point at which it stops being just a representation of the science and becomes a more creative endeavour. The science is merely one of the tools being used to get to the final work. We also discussed how the science provides us with a nice joint end goal, however it is the personal and creative choices which will define how we get there.
- Many of the sounds I had imagined were not exactly as Dani had imagined, however this allowed Dani to hear some more sounds which he liked and then change various parts of the vocal line to include these. This was invaluable for me as well to understand what Dani really wanted to hear.
- We discussed the reasoning behind the characterisation of the Measurer in Sprechstimme and whisper. Dani was making a comparison to Schoenberg's choices of characterisation in Moses and Aron. The Measurer here doesn't sing, and is not operatic, as it is not as abstract as the other characters, however it is also not completely real as it is the voice of inside the mind of the Measurer. So, for this reason it is also not a clear speaking voice.

Discussion on the Parent Star

Dani was struggling to find how to set the vocal parts to the parent star so we had a phone call about this on Friday 28th August 2020. His main concern was that the parent star seems almost non-teleological. This was something I had also struggled with in characterising the star in the first place. The initial story didn't even have the star as a speaking character. It was only after the first workshops that I decided to follow the feedback of making the star have a

voice. However the star still felt very much like an object to me within the story. It does not have an arc, and the almost infinite feeling nature of its existence, separates it from the lived and dynamic experience of the planet, the comet and the astrophysicist. In this respect the star is really only defined through its interaction with the other characters in the piece.

The introduction to the star is an exploration of the interaction between the astrophysicist and the star. It expresses the way in which the data from the star is captured and filtered in order to develop a clear image of the transits. In this way the star is really just a backdrop for seeing the planets, and it's image is blurred until the data is managed and the transits become clear. Later on in the piece the comet mentions how the star has been destroying it on each orbit as it is a sungrazing or sunskirting comet. Finally the planet interacts with the gravity and the radiation from the star. All of these interactions have a causal function. The Measurer's vision of the transits changes the paradigm they see astrophysics through, Xoe's perihelion trauma gives it the courage to surrender all of it's mass to Pantele, and Pantele's seemingly painful and destructive interaction with the gravity and radiation helps to create the conditions of life and ultimately causes Pantele to be reborn a with stronger and brighter purpose.

Due to the purpose of the star as this causal object for all the other characters Dani decided to mix the music from the other characters with that of the star. This will also help to add cohesion and unity to the piece as a whole.