

# **DISPLACED**

**FOR CELLO, DOUBLE BASS, HARP, PIANO, AND COMPUTER**

**BY CHRISTOPHER BIGGS**

**2016**

**7-8 MINUTES**



## PERFORMANCE NOTES:

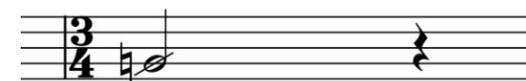
### • GENERAL

- ACCIDENTALS ARE APPLIED TO ALL SHARP AND FLAT NOTES; HOWEVER, ANYTIME THE SAME NOTE BECOMES NATURAL IN THE SAME MEASURE, A NATURAL SIGN IS INDICATED.
- SPECIFICS RELATED TO EACH INSTRUMENT APPEAR BELOW, BUT ALL INSTRUMENTALISTS, WITH THE EXCEPTION OF THE COMPUTER PERFORMER, MUST PRETEND TO PLAY THEIR INSTRUMENT IN DIFFERENT FASHIONS THROUGHOUT THE WORK. THIS IS A THEATRICAL ELEMENT THAT MUST BE HANDLED CAREFULLY AND THE PERFORMERS ARE ENCOURAGED TO ADD DRAMA TO THE THEATRICAL COMPONENT BY CONSIDERING THEIR BODY MOVEMENTS AND FACIAL EXPRESSIONS IN RELATIONSHIP TO THE EXTRA-MUSICAL CONTENT. THE IDEA IS THAT THROUGHOUT THE PIECE THE PERFORMERS ARE SOMETIMES DISPLACED FROM THEIR INSTRUMENTS. THIS IS REPRESENTATIVE OF PEOPLE WHO ARE DISPLACED FROM THEIR HOME AS FOLLOWS: THE INSTRUMENTS ALLOW THE PERFORMERS TO FUNCTION APPROPRIATELY IN THE PERFORMANCE CONTEXT AND WHEN THE INSTRUMENTALISTS ARE DISPLACED FROM THEIR INSTRUMENTS THE SAME BEHAVIORS NO LONGER HAVE THE DESIRED RESULT, BUT THOSE ARE THE FAMILIAR BEHAVIORS FOR THE PERFORMERS. ALL NOTES THAT ARE NOT ACTUALLY PLAYED, BUT ARE ATTEMPTED, WILL BE NOTATED WITH A SPECIAL NOTE HEAD. IT IS IMPORTANT THAT THE PERFORMERS CONSIDER THE ABILITY OF THE AUDIENCE TO SEE THE PERFORMERS DOING EACH TECHNIQUE WHEN DETERMINING THE PLACEMENT AND ORIENTATION OF THE INSTRUMENTS ON STAGE. FOR ALL THESE FIGURES, THE PERFORMERS SHOULD EMPHASIZE THE INDICATED ARTICULATIONS IN THE NOTATION AND PLAY AS THEY WOULD REALLY PLAY. THE PERFORMERS CAN ALSO OVER EMPHASIZE THE SPECIFICS OF THE FIGURE FOR DRAMATIC IMPACT.
- THE COMPUTER WILL OUTPUT SOUND FILES THAT OCCUR AT THE INDICATED TEMPI, SO IT IS IMPORTANT THAT THE PIECE BE PERFORMED CLOSE TO THE INDICATED TEMPI; HOWEVER, SINCE THE COMPUTER PERFORMER TRIGGERS ALL THE SOUNDS FILE, THERE IS ALMOST ALWAYS SOME DEGREE OF TEMPORAL FREEDOM. THE ONLY EXCEPTION OCCURS TOWARDS THE END DURING COMPUTER CUE 193 ON PAGE 27. THE PERFORMERS MUST INTERNALIZE THIS PRIMARY CHANGES IN THIS SOUND FILE AND FOLLOW IT APPROXIMATELY.
- THERE ARE NUMEROUS SOUND FILES THAT PRESENT DISTORTED VERSIONS OF THE FIGURES THAT THE PERFORMERS PRETEND TO PLAY. THESE SHOULD BE COORDINATED AS BEST AS POSSIBLE.

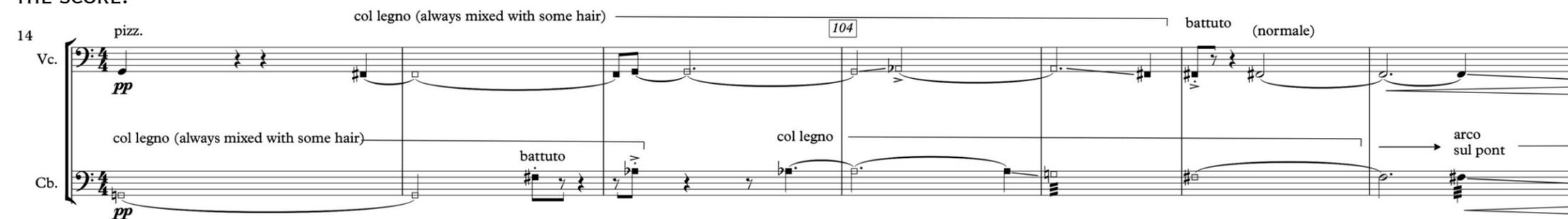
### • CELLO AND DOUBLE BASS

- RATHER THAN WRITING INDICATIONS TO RETURN TO NORMAL BOWING WITH A “NORMALE” INDICATION, A VISUAL INDICATION GENERALLY TERMINATES ANY SPECIFIC PLAYING TECHNIQUE. HERE IS AN EXAMPLE FROM THE DOUBLE BASS PART IN M. 5:

scratch tone



- THE ABOVE GRAPHIC ALSO DEMONSTRATES THAT SPECIAL NOTE HEADS SOMETIMES DUPLICATE THE MEANING OF TEXT IN ORDER TO PROVIDE AN ADDITIONAL INDICATION REGARDING A FEW PERFORMANCE TECHNIQUES. THE NOTE HEAD ABOVE IS FOR SCRATCH TONE. THE AMOUNT OF SCRATCH TONE IN EACH INSTANCE IS LEFT TO THE DISCRETION OF THE PERFORMER, BUT THE GOAL IS TO MATCH THE ENERGY/DRAMA OF THE CONTEXT IN WHICH THESE EVENTS APPEAR.
- A SPECIAL NOTE HEAD ALSO APPEARS WITH ALL COL LEGNO AND BATTUTO INDICATIONS. ALL COL LEGNO BOWINGS SHOULD INCLUDE SOME HAIR. HERE IS AN EXAMPLE FROM PAGE 14 OF THE SCORE.



- ALL SUL PONT INDICATIONS SHOULD BE INTERPRETED AS MOLTO SUL PONT.
- HARMONICS ARE WRITTEN AT THE PITCH THEY ARE PLAYED, NOT THE PITCH AT WHICH THEY SOUND, AND THE APPROPRIATE STRING NUMBER IS INDICATED.
- THE CELLIST AND DOUBLE BASSIST PRETEND TO PLAY THEIR INSTRUMENTS IN A FEW WAYS. FIRST THEY ARE ASKED TO “PIZZ” AWAY FROM THE FINGERBOARD, WHILE FINGERING THE NOTES WITH THE OTHER HAND ON THE FINGERBOARD. HERE ARE SOME EXAMPLES:

**(TOP OF PAGE 4)**

finger the indicated note and "pizz"  
about 6 inches above finger board

**(PAGE 19)**

**G**  $\text{♩} = 144$ , precise and intense

finger the indicated note and "pizz"  
about 12 inches above finger board

gradually lower hand towards  
finger board

move hand away from  
finger board

**O SIMILARLY, THE CELLIST AND DOUBLE BASSIST BOW ABOVE THE STRINGS, WHILE FINGERING THE INDICATED PITCHES. HERE IS AN EXAMPLE FROM PAGE 24.**

**O LASTLY BOTH THE CELLIST AND BASSIST PLAY WITH BOTH HANDS DISPLACED FROM THE FINGERBOARD. HERE IS PAGE 28 OF THE SCORE.**

**HARP**

**O ALL NOTES CAN BE ALLOWED TO VIBRATE, UNLESS THERE IS A DAMP SYMBOL (SEE FIRST EXAMPLE).**

**O SLURS INDICATE THAT THERE IS A PEDAL CHANGE WHILE A STRING IS STILL VIBRATING AND THE NOTE THAT IS SLURRED TO, WHICH WILL BE THE SAME STRING THAT WAS PREVIOUSLY PLUCKED, SHOULD NOT BE PLUCKED. THE PEDAL CHANGE SHOULD BE COMPLETED WHEN THE NOTE IS INDICATED, BUT CAN HAPPEN GRADUALLY; THEREFORE, A GLISSANDO INDICATION IS PRESENT (SEE FIRST EXAMPLE).**

- THERE ARE NUMEROUS PEDAL BUZZES FOR THE METAL STRINGS. THEY ARE INDICATED WITH A Z ON THE STEM OF THE NOTE (SEE FIRST EXAMPLE).
- PEDAL CHANGES ARE ALL INDICATED BELOW THE LOWER STAFF.

**PAGE 1:**

(l.v. is always fine except where damping indications appear)

slurs and glissando markings are indicated when pedal changes cause the note to change and the string is not re-plucked

- A PLECTRUM IS CALLED FOR AT DIFFERENT TIMES THROUGHOUT THE WORK. THE TYPE OF PLECTRUM IS LEFT TO THE DISCRETION OF THE PERFORMER. VARIOUS PLECTRUMS OR A SINGLE PLECTRUM MAY BE EMPLOYED.
- A FINGERNAIL SYMBOL APPEARS WHEN THE HARPIST SHOULD PLAY THE NOTE WITH THEIR FINGERNAIL. AN EXAMPLE OCCURS ON PAGE 6 OF THE SCORE.
- THE HARPIST IS ASKED TO PRETEND TO PLAY WHILE HOLDING HIS OR HER HANDS VARIOUS DISTANCES FROM THE STRINGS. THE NOTE HEAD THAT APPEARS IN SUCH CASES IS ALWAYS THE SAME AND THE DYNAMIC INDICATION IS NIENTE. THE FIRST EXAMPLE OCCURS ON PAGE 5.

"play" with hands about 6 inches away from the strings

- TOWARDS THE END OF THE WORK, ON PAGE 27 OF THE SCORE, THE HARPIST IS ASKED TO SET THE HARP DOWN, MOVE HIS OR HER SEAT AWAY FROM THE HARP, AND SIT BACK DOWN. THIS SHOULD BE ACCOMPLISHED WITH SERIOUSNESS AND SOME DEGREE OF DRAMA.

**PIANO**

- THE PIANIST IS ASKED TO SCRAPE ON A STRING OR VARIOUS STRINGS, ALWAYS IN THE LOW REGISTER, WITH HIS OR HER NAIL OR AN IMPLEMENT OF HIS OR HER CHOICE. THE IDEA IS TO CREATE SCRATCHY, GRANULATED SOUNDS SIMILAR TO THE PEDAL BUZZ OF THE HARP AND/OR THE SCRATCH TONES OF THE CELLO AND BASS.
- WHEN A SINGLE STRING IS PLUCKED INSIDE THE PIANO A + INDICATION APPEARS ABOVE THE NOTE.
- WHEN A HARMONIC CIRCLE APPEARS THE NOTE INDICATED IS THE KEY TO BE PLAYED ON THE KEYBOARD AND THE HARMONIC ITSELF IS UP TO THE PERFORMER.
- THE PIANIST IS ASKED TO PRETEND TO PLAY IN VARIOUS FASHIONS. IT IS VERY IMPORTANT THAT THE POSITION AND ORIENTATION OF THE PIANO MAXIMIZE THE NUMBER OF AUDIENCE MEMBERS WHO CAN WITNESS THESE PHYSICAL GESTURES. THE PIANIST IS ASKED TO MIMIC PLAYING THE NOTATED FIGURES ABOVE THE KEYBOARD, BOTH WHILE STANDING AND SITTING. THE FIRST INSTANCE OCCURS ON PAGE 13 OF THE SCORE.

"play" with hands about  
12 inches above keyboard  
(minimum distance will be based on piano  
position/orientation relative to the audience,  
make sure your hands can be seen above the keyboard)

A musical score snippet in 4/4 time. The top staff is for the piano (Pno.) and the bottom staff is for the computer (Comp.). The piano part has dynamics *pp*, *n*, and *pp*. The computer part has a *6:4* ratio indicated under three measures. A dashed line above the piano staff indicates a hand position of 12 inches above the keyboard.

- THE FIGURES THAT ARE “PLAYED” WHILE THE PIANIST IS STANDING OCCUR WHEN THE PIANIST IS TRANSITIONING FROM PLAYING ON THE KEYS TO PLAYING INSIDE THE PIANO AND VICE VERSA. THE FIRST EXAMPLE OCCURS ON PAGE 15 OF THE SCORE.

A musical score snippet in 4/4 time. The top staff is for the piano (Pno.) and the bottom staff is for the computer (Comp.). The piano part has dynamics *f*, *mf > p*, *n*, and *p*. Annotations include "stand up" above the first measure, "play the figure while standing" above the second measure, and "pluck string inside piano while depressing the key" above the third measure.

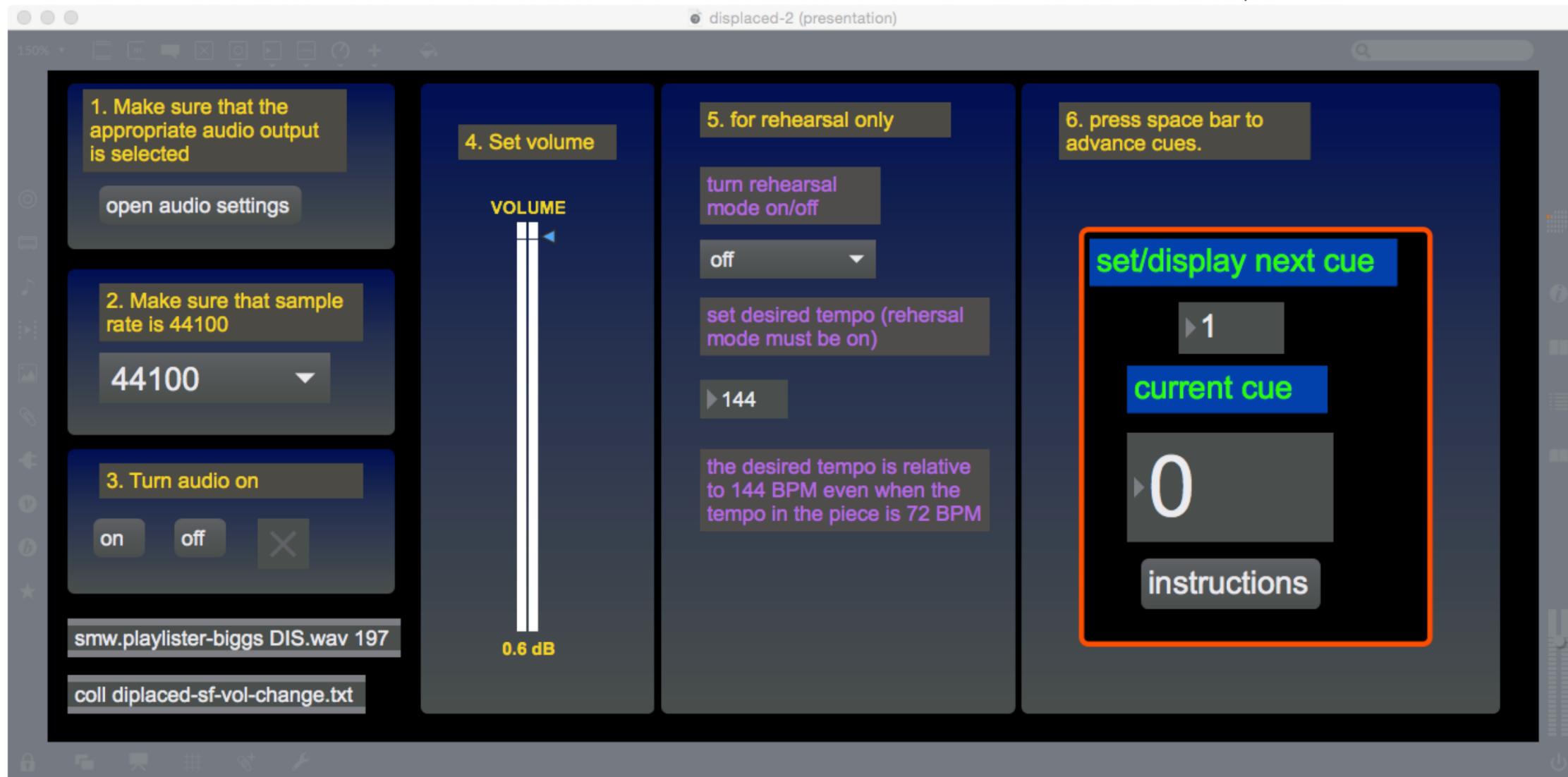
- WHEN ACCENTED FIGURES APPEAR THAT ARE SONICALLY EXPRESSED IN THE COMPUTER PART, PLEASE COORDINATE THESE AS PRECISELY AS POSSIBLE AND STRONGLY EMPHASIZE THE PHYSICAL GESTURE THAT FAILS TO MAKE A SOUND. THESE OCCUR LATER IN THE WORK ALSO, BUT FIRST OCCUR AT REHEARSAL E ON PAGE 16 OF THE SCORE.

A musical score snippet in 4/4 time, marked with rehearsal mark **E**. The top staff is for the piano (Pno.) and the bottom staff is for the computer (Comp.). The piano part has dynamics *ff*, *p*, *pp*, *pp*, *pp*, *ff*, *p*, *pp*, *n*, *n*, *pp*, *sub. ff*, *p*, *pp*, *n*, *n*, *p*, *sub. mf*, *pp*, *sub. ff*, *n*, *n*. The computer part has dynamics *ff*, *p*, *pp*, *n*, *n*, *pp*, *sub. mf*, *pp*, *sub. ff*, *n*, *n*. Annotations include "sit down" above the first measure, "play violently, 12+ inches above keyboard" above the second measure, and "sim." above the last measure. Rehearsal marks 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, and 125 are indicated in the computer part.

- ON PAGE 26 OF THE SCORE THE PIANIST IS ASKED TO MOVE THE PIANO BENCH BACKWARDS FROM THE PIANO WHILE HE OR SHE STANDS UP. IT IS APPROPRIATE, BUT NOT NECESSARY, FOR THIS TO CREATE A SOUND AND THIS MOTION SHOULD BE FAIRLY DRAMATIC.

- **COMPUTER**

- THE COMPUTER NOTATION IS FAIRLY IMPRECISE IN TERMS OF PITCH, DUE TO THE TYPE OF MANIPULATIONS OF THE SAMPLES, AND THERE IS LITTLE NOTATION IN TERMS OF TIMBRE. THE RHYTHM IS ALMOST ALWAYS PRECISE. THEREFORE, THE COMPUTER PERFORMER WILL NEED TO HAVE A SENSE OF WHAT THE SOUND FILES SOUND LIKE SO THAT HE OR SHE KNOWS FOR SURE THAT THE CORRECT CUE HAS BEEN TRIGGERED AT THE CORRECT TIME. THERE IS ALSO AN INDICATION OF THIS IN THE COMPUTER PROGRAM, BUT IT IS BEST TO BE SURE WITHOUT HAVING TO LOOK UP AT THE COMPUTER.
- THE COMPUTER PROGRAM WAS WRITTEN IN MAX 7. THERE ARE TWO WAYS TO SETUP THE COMPUTER PROGRAM.
  1. IT CAN BE RUN WITHIN MAX 7, WHICH REQUIRES THAT MAX 7 BE DOWNLOADED AND INSTALLED ON THE COMPUTER. THEN THE FILE LABELED “\*\*\*DISPLACED.MAXPAT” CAN BE OPENED. IF YOU DO THINGS THIS WAY, THE FOLDER CONTAINING THIS FILE AND ALL THE DEPENDENT FILES MUST BE INDICATED IN THE FILE PREFERENCES IN MAX 7. TO DO THIS OPEN MAX 7, SELECT “FILE PREFERENCES” IN THE “OPTIONS” MENU AND A DIALOGUE WILL APPEAR. CLICK ON THE + BUTTON IN THE LOWER LEFT-HAND CORNER. A NEW PATHWAY WILL APPEAR. CLICK ON “CHOOSE” AND SELECT THE DISPLACED FOLDER ON YOUR HARD DISK. MAKE SURE THAT THE BOX UNDER THE “SUBFOLDERS” HEADING IS CHECKED. NOTE THAT MAX 7 IS FREE, BUT THAT YOU WILL NOT BE ABLE TO SAVE CHANGES, WHICH IS NOT NECESSARY IN THIS CASE.
  2. ALTERNATIVELY, YOU CAN PERFORM THE WORK WITH THE DISPLACED APPLICATION, WHICH IS THE SAME THING, BUT YOU DO NOT NEED TO DOWNLOAD AND INSTALL MAX 7. HOWEVER, ANY PROBLEMS THAT ARISE CAN NOT BE PROBLEM-SOLVED BY SOMEONE WHO KNOWS WHAT IS HAPPENING BECAUSE THE APPLICATION HIDES ALL THE PROGRAMMING: THIS SHOULD NOT BE AN ISSUE BECAUSE EVERYTHING SHOULD WORK FINE.
- THE INTERFACE FOR THE DISPLACED PROGRAM IS PICTURED BELOW. EACH NUMBERED SECTION OF THE INTERFACE IS EXPLAINED SEQUENTIALLY.



1. MAKE SURE THAT THE APPROPRIATE AUDIO OUTPUT IS SELECTED.
    - CLICK ON “OPEN AUDIO SETTINGS” TO MAKE SURE THAT THE CONNECTED AUDIO INTERFACE, IF AVAILABLE, IS SELECTED AS BOTH THE INPUT AND THE OUTPUT. ON AN APPLE COMPUTER THE DRIVER SHOULD BE CORE AUDIO.
  2. MAKE SURE THAT THE SAMPLE RATE IS 44100
    - THE MENU DIRECTLY BELOW THIS TEXT WILL HAVE OPTIONS FOR ALL THE AVAILABLE SAMPLE RATES FOR THE ATTACHED AUDIO INTERFACE. MAKE SURE THAT 44100 IS SELECTED. YOU CAN ALSO DO THIS IN THE AUDIO SETTINGS DIALOGUE THAT YOU OPEN RELATED TO NUMBER 1.
  3. TURN AUDIO ON
    - YOU CAN TURN AUDIO ON AND OFF WITH THE “ON” AND “OFF” BUTTONS. THE SQUARE WILL HAVE A YELLOW X INSIDE WHEN AUDIO IS ON.
  4. SET VOLUME
    - YOU CAN TURN THE OUTPUT VOLUME OF ALL THE SOUND FILES DOWN BY DRAGGING ON THE TRIANGLE ASSOCIATED WITH THE LEVEL METER IN THIS AREA.
  5. FOR REHEARSAL ONLY
    - YOU CAN CHANGE THE PLAYBACK SPEED OF THE AUDIO FILES WITHOUT CHANGING THE PITCH BY TURNING REHEARSAL MODE ON. WHEN REHEARSAL MODE IS ON YOU CAN CHANGE THE NUMBER IN THE NUMBER BOX BELOW IN ONE OF TWO WAYS: 1) CLICK AND DRAG UNTIL THE NUMBER IS THE DESIRED TEMPO AND THEN CLICK SOMEWHERE ELSE OR 2) CLICK ON THE NUMBER BOX, TYPE THE DESIRED NUMBER, AND THEN PRESS RETURN. SINCE CHANGING THE PLAYBACK SPEED ALTERS THE SOUND QUALITY OF THE FILES THIS SHOULD NOT BE IMPLEMENTED DURING A PERFORMANCE UNLESS NECESSARY.
  6. PRESS SPACEBAR TO ADVANCE CUES
    - YOU PRESS THE SPACEBAR TO ADVANCE THE CUES. ALTERNATIVELY, ANY MIDI CONTROLLER THAT OUTPUTS A CONTROL CHANGE VALUE OF 127 WILL TRIGGER THE CUES. THEREFORE, A DRUM PAD CAN BE WORKED WITH, IF AVAILABLE.
    - THE LOWER NUMBER BOX DISPLAYS THE CURRENT CUE AND CAN NOT BE CHANGED BY THE USER. THE UPPER NUMBER BOX DISPLAYS THE NEXT CUE AND ALLOWS THE USER TO SET ANY CUE TO BE THE NEXT CUE. TO DO THIS CLICK ON THE NUMBER BOX, TYPE THE NUMBER OF THE CUE AT WHICH YOU WANT TO START, AND THEN PRESS RETURN.
- THE FOLLOWING KEY COMMANDS ARE AVAILABLE (THEY ALL ONLY WORK IF THEY ARE LOWER CASE SO DO NOT PRESS SHIFT OR THE CAPS LOCK KEY):
- TO RETURN TO THE BEGGING, CUE O, PRESS “R.”
  - TO START FROM THE LAST CUE THAT YOU TYPED INTO THE “SET/DISPLAY NEXT CUE” NUMBER BOX PRESS “L.”
  - TO GO BACK ONE CUE PRESS “P” FOR PREVIOUS.
  - TO JUMP FORWARD OR BACK TWO CUES AND IMMEDIATELY TRIGGER THOSE CUES, PRESS THE FORWARD OR BACKWARD ARROW. THIS IS FOR EMERGENCY CORRECTION DURING PERFORMANCE.
  - PRESS “K” TO STOP ALL SOUND FILES FROM PLAYING.
  - IF YOU FORGET THESE KEY COMMANDS, CLICK ON INSTRUCTIONS IN THE PROGRAM AND A LIST WILL APPEAR.
- WHEN PERFORMING MAKE SURE THAT ALL YOUR ENERGY SAVING PREFERENCES AND THE SCREENSAVERS ARE DISABLED. MAKE SURE THAT THE COMPUTER IS NOT CONNECTED TO THE INTERNET. MAKE SURE THAT ALL OTHER APPLICATIONS ARE CLOSED. IF YOU RECEIVE NOTIFICATIONS THAT BEEP, SUCH AS CALENDAR NOTIFICATIONS, MAKE SURE THAT THOSE ARE DISABLED.

## TECHNICAL NOTES:

- THE FOLLOWING EQUIPMENT IS REQUIRED OR SUGGESTED:
  - THE COMPUTER RUNNING THE PROGRAM SHOULD HAVE AT LEAST 4 GIGABYTES OF RAM BECAUSE ALL 197 SOUND FILES ARE LOADED INTO RAM WHEN THE PROGRAM LOADS.
  - AN EXTERNAL AUDIO INTERFACE, PREFERABLY WITH A HEADPHONE PORT IN ADDITION TO THE MAIN OUTPUTS
  - A PAIR OF HEADPHONES FOR THE COMPUTER PERFORMER TO HEAR THE PLAYBACK OF THE SOUND FILES (SUGGESTED)
  - A STEREO SOUND SYSTEM, PREFERABLY WITH A SUBWOOFER AND AN ON-STAGE MONITOR. THE ON-STAGE MONITOR MY NOT BE NECESSARY DEPENDING ON THE PERFORMANCE VENUE AND THE PERFORMERS FAMILIARITY WITH THE SOUND FILES.
- IT IS STRONGLY SUGGESTED THAT THE HARP BE AMPLIFIED WITH TWO MICROPHONES.

- IT IS SUGGESTED THAT ALL THE INSTRUMENTS BE AMPLIFIED. ADDITIONALLY, IF POSSIBLE, ALL THE INSTRUMENTS SHOULD BE SLIGHTLY COMPRESSED WITH MAKEUP GAIN ADDED AND HAVE SOME REVERB APPLIED. LASTLY, THE INSTRUMENTS SHOULD BE PANNED SUCH THAT THE CELLO AND DOUBLE BASS ARE OPPOSITE ONE ANOTHER. THE HARP AND PIANO, EACH OF WHICH SHOULD HAVE TWO MICROPHONES—ONE FOR THE LOW AND ONE FOR THE HIGH STRINGS, SHOULD HAVE THEIR RESPECTIVE HIGH AND LOW MICROPHONES PANNED OPPOSITELY SUCH THAT THE LOW PIANO AND HIGH HARP ARE PANNED IN THE SAME DIRECTION AND VICE VERSA. IF EQ OPTIONS ARE AVAILABLE, THE HIGH AND LOW MICROPHONES FOR THE PIANO AND HARP SHOULD HAVE LOW CUT AND HIGH CUT FILTERS APPLIED AS APPROPRIATE.
- IT IS RECOMMENDED THAT A SOUND ENGINEER FAMILIAR WITH THE WORK RIDE THE FADERS DURING THE PERFORMANCE.
- IF SURROUND SOUND SPEAKERS ARE AVAILABLE, THEY SHOULD BE FADED IN RIGHT BEFORE CUE 193 IN ORDER FOR THE COMPUTER PART TO SUDDENLY BECOME IMMERSIVE AND OVERWHELMING WHEN CUE 193 IS PRESSED. THESE ADDITIONAL SPEAKERS SHOULD BE FADED OUT BETWEEN MEASURE 216 AND REHEARSAL K.

## **PROGRAM NOTES:**

DISPLACED WAS WRITTEN FOR AND IS DEDICATED TO ENSEMBLE DAL NIENTE. THE WORK REFLECTS ON THE CURRENT REFUGEE CRISIS AND THE INCREASE IN REFUGEES THAT WILL RESULT DUE TO CLIMATE INSTABILITY.