

Tremor Transducer

Music for chamber ensemble and live electroacoustics

Dedicated to the memory of Jonathan Kramer
Written for NeXT Ens

By
Douglas Geers

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Tremor Transducer (ca. 15 minutes)

Notes:

Instrumentation:

Tremor Transducer is scored for the following instrumentation:

- Flute, doubling piccolo
- Percussion (marimba/drum set)
- Violin
- Violincello
- Piano
- Computer (operated by pianist)

If possible, all instruments in the ensemble should be close miked and amplified, to mix the acoustic and electronic sounds thoroughly.

Notes on the percussion:

The percussion part is written for a single player, doubling on marimba (with gong) and a set of drums (small and large toms, snare drum, and bass drum).

A five-octave marimba is ideal for the piece (C2 to C7), but it has been written to allow for one with a range of four octaves and a fourth (C2 to F6). A number of places are indicated in the score where one ought to transpose the marimba up an octave if playing a five-octave instrument.

The allocation of drums on the staff is as follows:



The bass drum may be played either with a hand mallet or foot pedal-operated mallet (as when playing a jazz or pop drum kit).

The gong is only played in the coda of the piece, and should be played via a soft mallet attached to a bass drum foot pedal, so that the percussionist may continue using both hands to play a marimba trill throughout.

Technical Needs for Computer and Audio Amplification:

This piece includes a live computer part, created by a Max/MSP instrument written by the composer and obtainable from him. The computer listens to the ensemble performance via a microphone and synthesizes its material from this audio.

Computer/Audio Equipment Required:

- Macintosh G4 (or PC equivalent) or newer computer running at 1GHz or faster and with 512MB or more RAM.
- Audio I/O for computer. Although the standard Macintosh audio I/O can be used, a professional-quality digital audio converter (MOTU 828 or 896, Hammerfall Digiface, M-Audio 410, etc.) would be preferred. The computer audio outputs a stereo signal.
- Microphone to capture ensemble performance for computer, plus necessary cables/adapters to get this signal into computer. A condenser microphone is preferable. Ideally the microphone should be located in the center of the ensemble, pointed so that its pickup pattern captures the ensemble but avoids any other sound sources. However, placement and directionality of the microphone may need to be adjusted in order to avoid feedback.
- Audio mixer and stereo speaker system.

Operation of the Computer:

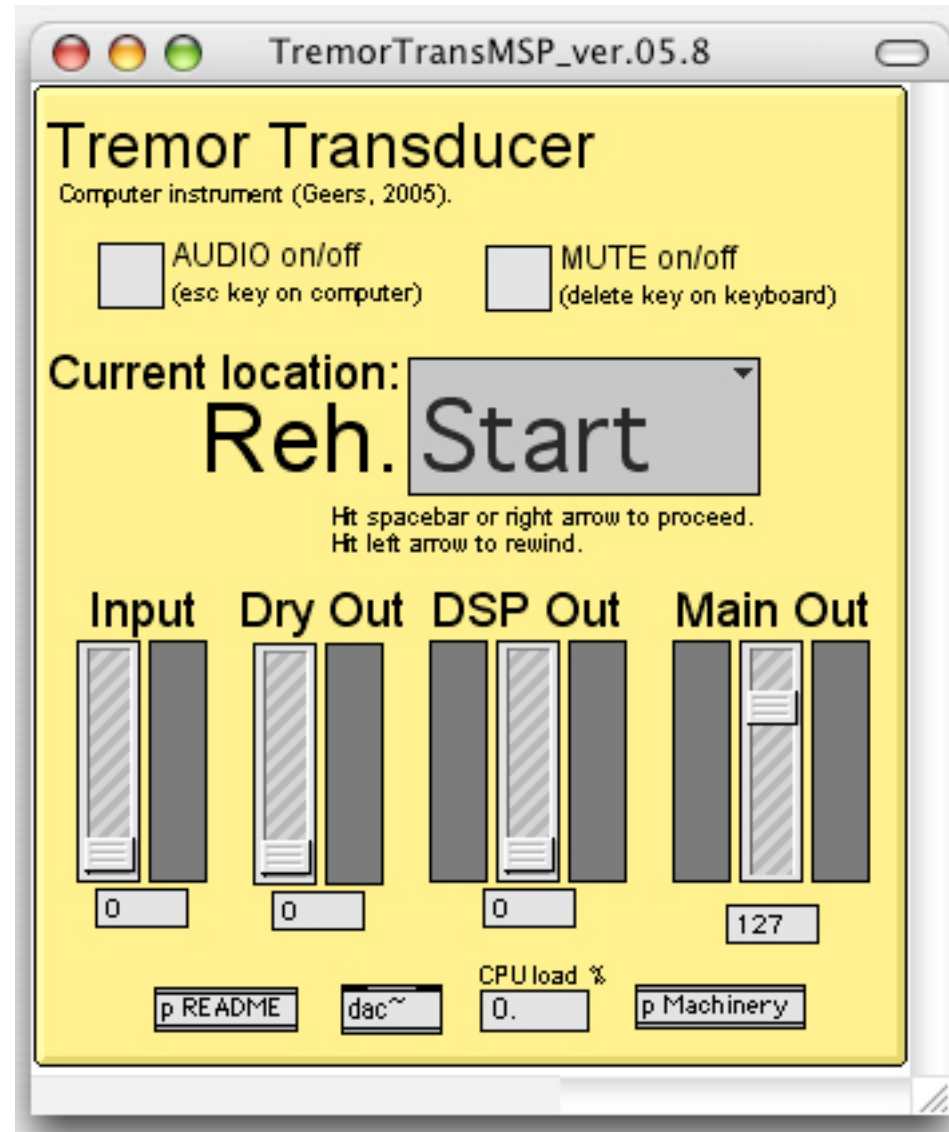
The computer instrument presents the user with a simple interface indicating On/Off, score rehearsal numbers, and audio levels (see next page). The computer may be operated either by a member of the ensemble or an additional musician. Operation consists of turning on the patch and forwarding its settings using either the computer spacebar or right arrow key as the piece progresses, according to the DSP preset numbers (DSP 01, DSP 02, etc.) shown on the computer's staff in the score.

Details of setup and operation of the computer instrument are located inside the box labeled "README" near the bottom of the interface. Double-click this box to read its contents.

Audio I/O settings may be adjusted by double-clicking on the box labeled "dac~" near the bottom of the interface.

Sub-patches of the instrument are located inside the box labeled "Machinery" near the bottom of the interface. Double-click to view these. Performers shouldn't have to change settings in here, but it is available just in case.

Computer Instrument interface for *Tremor Transducer*:



Tremor Transducer

Douglas Geers
November, 2004

Dedicated to the memory of Jonathan D. Kramer
Written for NeXT Ens

♩ = 132

The musical score is arranged in a system with seven staves. From top to bottom, they are: Flute, Drums, Marimba (with Treble and Bass clefs), Violin, Cello, Computer, and Piano (with Treble and Bass clefs). The Flute, Drums, Marimba, Violin, and Piano staves contain whole rests throughout the piece. The Cello staff is the only one with active notation, starting with a *p* dynamic and a triplet of eighth notes, followed by a *Glissando* section, and then a series of eighth-note patterns with dynamics *mp* and *p*. The Computer staff has a whole rest with the instruction "(Computer tacet until reh. F)". The Marimba and Piano staves are grouped with a brace on the left. The time signature changes from 4/4 to 3/4, then to 8/8, and then to 5/4, 7/4, 2/4, and 3/4.

Fl. *to piccolo* **A** *a tempo* *as machinery amok* *piccolo* **f**

Dr. *snare sticks* **f**

Mb.

Vln. *8va* **f**

Vc. *rit.* *mf* *p* *p* **f**

Cp.

Pno. **A** *as machinery amok* **f**

17 *to flute*

Fl. *flute* *fl.* *p* *gliss.* $\bullet = 66$

17 *(ad lib. here as desired)*

Dr. *f*

17

Mb.

17 *(double stops up and down wildly)* *ff*

Vln. *sul tasto* *pp* *p* *3* *3* *3* *mp*

17 *(glisses up and down wildly)* *ff*

Vc.

17

Cp.

17 *(clusters at these approximate tessitura)* *f* **B**

Pno. *Red.* *(let piano decay naturally)*

25 C = 88

Fl.

Dr.

Mb.

Vln.

Vc.

Cp.

Pno. C

pp bell-like

Ped. * *Ped.* * *Ped.* * *Ped.* * *Ped.* * *Ped.*

D

♩ = 132

Fl. ³³

Dr. ³³

Mb. ³³

Vln. ³³

Vc. ³³

Cp. ³³

D

Pno. ³³

* Leo.

* Leo.

F $\text{♩} = 110$

51 Fl. *p* *fl.* *pp* *p* *fl.* *fl.*

51 Dr.

51 Mb.

51 Vln. *pizz. pp* *gliss.*

51 Vc. *arco* *pp* *p*

51 **DSP 01** *pp* *high processing texture fades in slowly*

51 **F** *mp* *(let piano decay naturally)*

51 *Lea.* * *Lea.* * *Lea.* * *Lea.* * *Lea.* * *Lea.*

67 **G** *mf* *f* *with urgency*

67 *play with hands* *poco a poco cresc. to m. 79* *mf* *f*

67 *mf* *f*

67 *mf* *mf*

67 **DSP 02** *DSP fades out*

67 **G** *with urgency* *f*

Detailed description: This page of a musical score covers measures 67 to 79. It features seven staves: Flute (Fl.), Drums (Dr.), Mallets (Mb.), Violin (Vln.), Viola (Vc.), Clarinet (Cp.), and Piano (Pno.). The Flute part begins with a dynamic of *mf* and a crescendo leading to *f*, with a 'G' chord box above the staff. The Flute line is heavily ornamented with triplets and slurs, with the instruction 'with urgency'. The Drums part starts with a rest, followed by a snare drum entry marked *sfz* and *mf*, with the instruction 'play with hands'. The Mallets part is mostly rests. The Violin part starts with *mf* and *f* dynamics, featuring triplets. The Viola part has a melodic line with *mf* dynamics. The Clarinet part has a tremolo effect labeled 'DSP 02' that fades out. The Piano part has a complex accompaniment with *f* dynamics and 'with urgency' markings.

K

96

Fl.

Dr.

subito p

pp

Mb.

Vln.

Vc.

pp

Cp.

96 *DSP should be cloud above piano--not covering it*

K

96 8

Pno.

subito pp serene

p

L

Fl. ¹⁰⁵

Dr. ¹⁰⁵

Mb. ¹⁰⁵

Vln. ¹⁰⁵

Vc. ¹⁰⁵

Cp. ¹⁰⁵

Pno. ¹⁰⁵⁸

136

Fl. *ppp*

Dr.

Mb. *ppp*

Vln. *mp* *Glissando*

Vc. *pp*

Cp.

Pno. *left hand only dim.* *ppp* *pppp*

153

Fl. *(cue cello)*

Dr.

Mb. *8va if possible*

Vln.

Vc. *to sul pont. pizz.*

Cp. **DSP 07** *delays and granularization*

Pno.

158 **P** Like scurrying insects

Fl. *mf*

Dr.

Mb. *pp* *mf*

Vln. *mp* *p* *norm. (pizz.)*

Vc. *mp* *p*

Cp. DSP fades slowly...

Pno. **D**

162 Q ♩ = 66

Fl. *mp*

Dr.

Mb. *p* (ossia 8va to m.179) *mp*

Vln. *mp* norm. arco

Vc. *mp* *pp*

Cp.

Pno. Q

182

Fl. S *piccolo* *mf*

Dr. *play with hands* *mp*

Mb.

Vln. *mf*

Vc. *mf*

Cp. DSP 08 *delays and granularization*

Pno. S *mf*

This musical score page, numbered 32, contains staves for Flute (Fl.), Drums (Dr.), Mallets (Mb.), Violin (Vln.), Viola (Vc.), Cello (Cp.), and Piano (Pno.). The score begins at measure 191 and spans to measure 200. The Flute part features melodic lines with triplets and sixteenth-note runs, marked with dynamics *f* and *ff*. The Drums part includes a complex rhythmic pattern with triplets and sixteenth-note runs, marked *mf*. The Mallets part is silent. The Violin part has melodic lines with triplets and sixteenth-note runs, marked *f* and *ff*. The Viola part features a rhythmic pattern with triplets and sixteenth-note runs, marked *mf*. The Cello part is silent. The Piano part has a complex rhythmic pattern with triplets and sixteenth-note runs. The score is written in 3/4 time and includes various musical notations such as slurs, ties, and dynamic markings.

This musical score page, numbered 34, covers measures 204 to 208. It features the following parts:

- Fl. (Flute):** Melodic line with various accidentals and slurs.
- Dr. (Drums):** Rhythmic accompaniment with triplet patterns and accents.
- Mb. (Mallets):** Two staves, both containing rests.
- Vln. (Violin):** Triplet accompaniment in the first three measures, then rests.
- Vc. (Viola):** Triplet accompaniment in the first three measures, followed by a melodic line.
- Cp. (Percussion):** A continuous wavy line representing a rhythmic pattern.
- Pno. (Piano):** Two staves with complex accompaniment, including triplets and slurs.

223

Fl.

223

Dr.

223

Mb.

223

Vln.

223

Vc.

223

Cp.

DSP 10 DSP fades out

223

Pno.

223

to flute

mf

The musical score consists of seven staves. The Flute staff (Fl.) features a melodic line with slurs and a triplet ending. The Drums (Dr.) staff shows a complex rhythmic pattern with triplets and sixteenth notes. The Maracas (Mb.) staff is mostly silent, with a few notes in the first and last measures. The Violin (Vln.) and Viola (Vc.) staves play a rhythmic accompaniment with triplets. The Cello (Cp.) staff has a wavy line indicating a DSP effect. The Piano (Pno.) staff has a complex accompaniment with triplets and slurs. The score is marked with measure numbers 223-228 and includes dynamic markings like 'mf' and 'to flute'.

V
 229 Fl. $\text{♩} = 110$ *Like scurrying insects*

229 Dr.

229 Mb. *pp*

229 Vln. *pizz. to sul pont.* *p* *sul pont.* *subito pp*

229 Vc. *quasi-cadenza* *Glissando* *sul tasto* *p* *normal* *pizz. sul pont.* *pp*

229 Cp. DSP 11 *delays and granularization*

W
 229 Pno.

237 X ♩ = 88

Fl. *flute fl.* *pp* *(cue cello)* *p*

Dr.

Mb. *3* *3* *3* *3*

Vln. *3*

Vc. *3* *3* *3* *6* *pp* *norm. arco*

Cp. DSP 12 *DSP remains but evolves...*

Pno. X *mp* *p* *ped.* ** ped.*

248 Y

Fl. *mp*

Dr.

Mb. *mp* *p* *tr* *dark tr*

Vln. *norm. arco*

Vc. *p* *dark*

Cp. DSP 13 *pedal point on E fades in*

Pno. *p* *Lea.* *Lea.* *Lea.* *Lea.* Y

267

Fl. *mf* **Z**

Dr.

Mb. *mf* *8va if possible*

Vln. *pizz.* *mp*

Vc. *pizz.* *p*

Cp. **DSP 15** *pedal point on F# and granularization*

Pno. *mf* **Z** *(let piano decay naturally)* *Leo.*

272 Fl. *to piccolo*

272 Dr.

272 Mb. *8va if possible*

272 Vln. *arco* *mf*

272 Vc.

272 Cp.

272 Pno. *8va-*

* *Reo.* *

278 AA

Fl. *piccolo* *f* *poco a poco cresc.* *more and more tenuto - -*

Dr.

Mb. *mf* *poco a poco cresc.* *more and more tenuto - -*

Vln. *f* *poco a poco cresc.* *more and more tenuto - -*

Vc. *mf* *(secco, pointed)* *poco a poco cresc.* *more and more tenuto - -*

Cp.

Pno. *mf* *poco a poco cresc.* *more and more tenuto - -*

And.

282

Fl. *ff* *fl.* *to flute* **BB** ♩ = 66

Dr.

Mb. *ff* *pp* *8va if possible (sempre)*

Vln. *ff*

Vc. *ff*

Cp. **DSP 16** *pedal point moves to G# and other parameters evolve*

Pno. *ff* **BB** *8^{vb}* *Ped (sempre)* *pp*

flute: *Improvise--Intermittently play key clicks audibly, using rhythms from gestures from mm. 116-130*

continue, ad. lib.

The musical score consists of seven staves for measures 293 through 300. The Flute part (Fl.) begins with a rest in measure 293, followed by a series of eighth notes in measures 294-295, including a triplet of eighth notes. Measure 296 features a quarter note, and measure 297 has a quarter note with a sixteenth rest. Measure 298 contains a sixteenth note followed by a sixteenth rest, and measure 299 has a quarter note. The Flute part concludes with a sixteenth note in measure 300. The Drums (Dr.) part shows a series of rests with a slash through the staff, indicating no playing. The Mellophone (Mb.) part features a sustained note with a wavy line, starting on a sharp note in measure 293 and moving to a flat note in measure 294, then remaining on the flat note through measure 299. The Violin (Vln.) and Viola (Vc.) parts play sustained notes with dynamic markings: *ppp* in measure 294, *mf* in measure 295, *pp* in measure 296, *mf* in measure 297, and *pp* in measure 298. The Cymbals (Cp.) part has a wavy line throughout, indicating a continuous sound. The Piano (Pno.) part has a rest in the upper staff and a complex rhythmic pattern of eighth notes in the lower staff, with a *8vb* marking in measures 293-299.

297

Fl. *c* */* */* */*

Dr. *c* */* */* */*

Mb. *c* *#* *b* */* */* */*

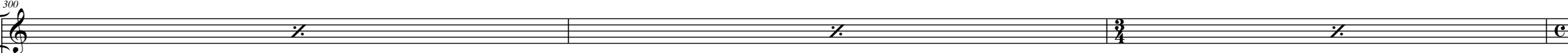
Vln. *c* *pp* *mp* *pp* *p* *f*


Vc. *c* *p* *pp* *mp*

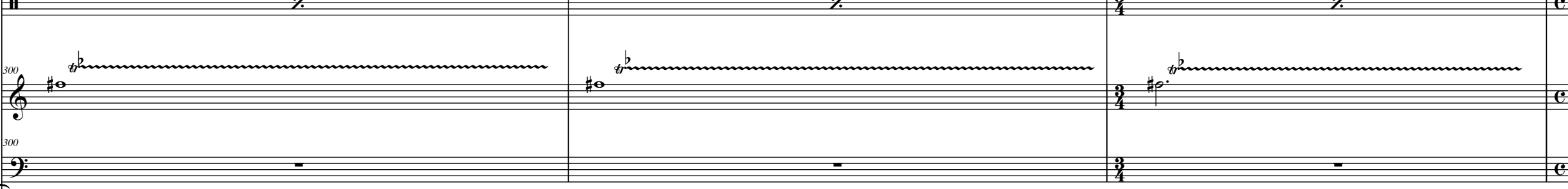
Cp. *c* */* */* */*

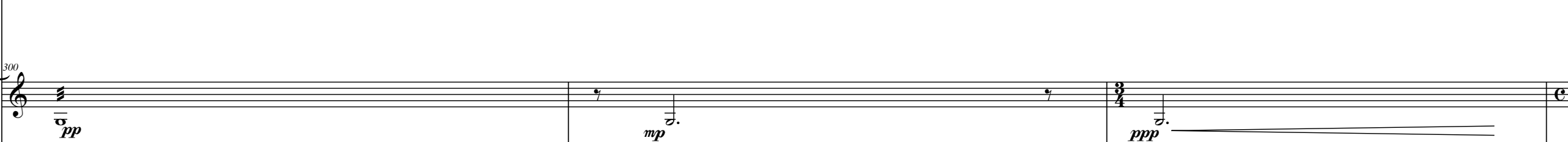
Pno. *c* *8vb* *8vb* *8vb*

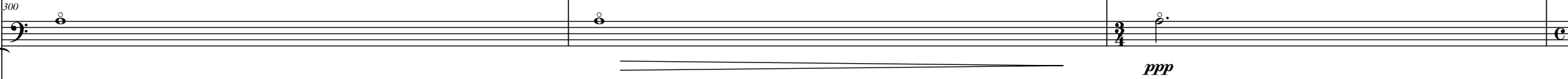
300

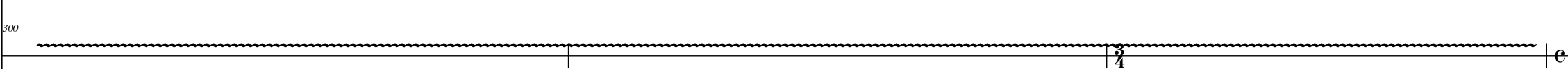
Fl. 

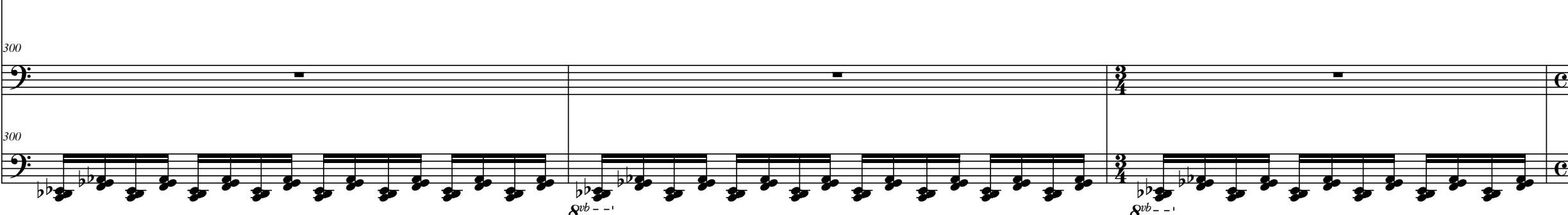
Dr. 

Mb. 

Vln. 

Vc. 

Cp. 

Pno. 

303 *poco a poco rall.*

Fl. *ppp*

Dr.

Mb. *pp* *poco a poco descr.*

Vln. *p* *ppp ppp* *pp* *ppp*

Vc.

Cp.

Pno. *poco a poco rall.*

8vb - - -

Detailed description of the musical score: The score is for measures 303 to 306. It features seven staves: Flute (Fl.), Drums (Dr.), Mellophone (Mb.), Violin (Vln.), Viola (Vc.), Cymbals (Cp.), and Piano (Pno.). The Flute part has rests in measures 303-305 and a triplet of eighth notes in measure 306, marked *ppp*. The Drums part has rests in all measures. The Mellophone part has a sustained note with a wavy line in measures 303-305, marked *pp* and *poco a poco descr.*. The Violin part has a sustained note in measure 303 (*p*), a half note in measure 304 (*ppp ppp*), a dotted half note in measure 305 (*pp*), and a dotted half note in measure 306 (*ppp*). The Viola part has a sustained note in measure 303, a half note in measure 304, a dotted half note in measure 305, and a dotted half note in measure 306. The Cymbals part has a sustained wavy line in all measures. The Piano part has rests in measures 303-305 and a complex rhythmic pattern in measure 306, marked *poco a poco rall.* and *8vb - - -*.

307

Fl.

Dr.

Mb.

Vln.

Vc.

Cp.

Pno.

n

ppp

dim.

8vb

