AES Student Recording Competition
Copenhagen 2026

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Category 1: Traditional Acoustic Recording
Title: Songs of Dying Strings and Broken Plectrums

Instruments: Prepared piano and prepared viola
Recording Format: 96kHz/24bit
AES Submission Format: 48kHz/24bit
Recording date: 27/01/2026, 9:00pm-00:00am

Recording Equipment:
DAW: AVID Pro Tools 2020.12
Console: SSL T500
Preamps: AVID MTRX AD MIC/LINE Cards.
Microphones: Neumann M150, Schoeps MK2s, Sennheiser 8020, DPA 4006, Coles 4038, Royer R121.
Speakers: Genelec 8031

Mixing Equipment:
DAW: AVID Pro Tools 2023.6
Speakers: ATC SCM200 ASL PRO
Plugins: Fabfilter Pro-Q 3, Stratus 3D, Ozone 11, UAD Lexicon 224, 480, PSP Audio 2445 EMT, Lexicon PSP 42

For this recording I was responsible for planning, recording, editing and mixing.

Concept:
I wanted to achieve a natural presentation of the acoustic and the varied textures of the contemporary music techniques that are the core of sound of this piece.
After consultation with composer, I decided that I wanted to capture a reverberant ambience, with the bright characteristics of the space characteristics. I wanted a warm piano to contrast with the bright viola to reflect the modern contemporary music aesthetic.

Recording:
For this recording both the piano (an old Brittner piano) and viola were center stage. I decided to place them at front of the stage. The musicians requested that the viola was very close to the piano.

Microphones arrays were placed in approximate locations as in Fig. 1 with a strong focus on the main pairs and the capture of venue ambience. Almost every stereo pair in the recording was AB technique.

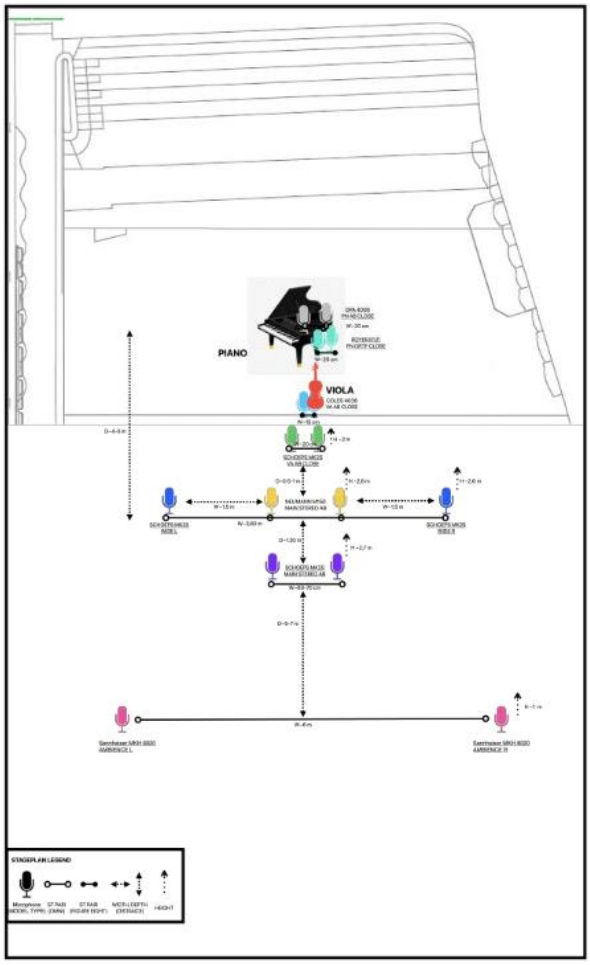

Fig. 1: Recording Stage Plan, distance values are approximate

INPUT	MIC	INST	INPUT	MIC	INST
1	NEUMANN M150	MAIN L	9	COLES 4038	VA L
2	NEUMANN M150	MAIN R	10	COLES 4038	VA R
3	SCHOEPS MK2s	MAIN 2 L	11	DPA 4006	PIANO L
4	SCHOEPS MK2s	MAIN 2 R	12	DPA 4006	PIANO R
5	SCHOEPS MK2s	SIDE L	13	Royer R121	PN 2 L
6	SCHOEPS MK2s	SIDE R	14	Royer R121	PN 2 R
7	SENNHEISER 8020	REVB L	15	SCHOEPS MK2s	VA L
8	SENNHEISER 8020	REVB R	16	SCHOEPS MK2s	VA R

Fig. 2: Recording input list

I decided to use the Neumann M150 as the main microphone array due to their warm midrange timbre and unique characteristic. As a second main pair I used the Schoeps MK2s due to their spatial qualities, full range in low and both bright frequencies. They were placed slightly behind and higher that M150's.

For the wide microphone pair, I placed additional Schoeps MK2s at the same distance from the source as the M150's to extend the stereo image with the Schoeps sound in phase with the Neumanns.

Additionally, to capture a natural room ambience from the recording, I placed the microphones for concert hall reverb (Sennheiser 8020) far from the general microphones (approx. 5-7 meters away) to capture very wide stereo ambiances. I set them at low height (~1m) to capture a balanced but slightly dark timbre.

For viola close microphones I used Coles 4038 ribbon mics to capture warmth; they were place in front of and close to performer. I also used additional pair of MK2s to capture a more natural, bright and airy sound, placed high above the violist.

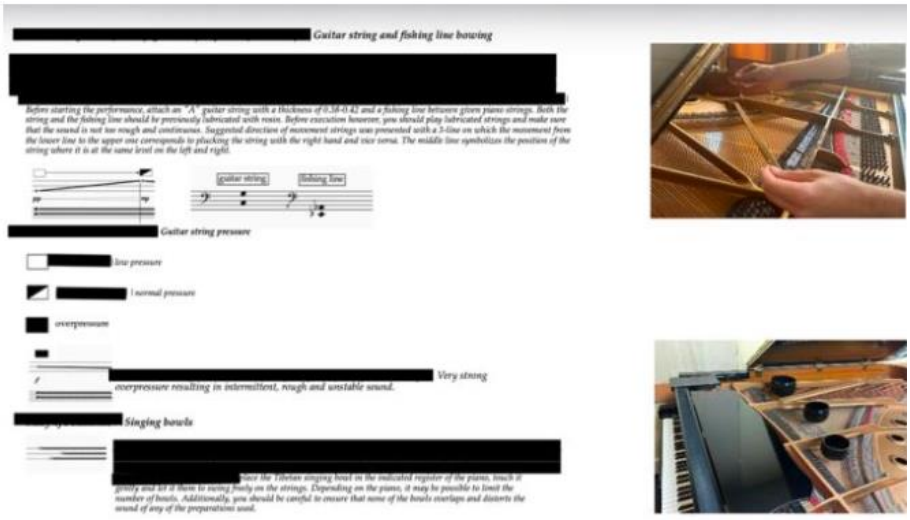

Fig. 3: Piano preparations - photo from score instructions

The piece features a number of piano preparations that made the recording process challenging. Extended contemporary music techniques were used, such as plucking strings with guitar plectrums, fishing-line bowing, guitar silders, e-bow and more. Thanks to the descriptions in the score, and my own experience with prepared piano, I manage to set main arrays and spot microphones to capture all preparations equally.

When setting up the close microphones for the piano, I used the DPA 4006 due to their clear timbre, however the piano had problems with the upper range of the instrument (despite tuning it right before recording), but in rehearsal I worked to achieve a balanced piano sound.

The additional Royer R121s were positioned lower and narrower than the DPAs, in an ORTF array to capture a warm midrange, especially for the last part of the piece.

Also important to the recording process was full knowledge of modern-style scores and preparation descriptions, as well as collaboration with the composer and performers. The score allowed some room for interpretation (note choices, breaks etc.), and myself and the composer guided the musicians during recording.

During the soundcheck, I tested loud sounds and the loudest preparations, and the final part of piece which is quieter, in order to check the balance of the sound over the large dynamic range of the piece.

The edit and mix:

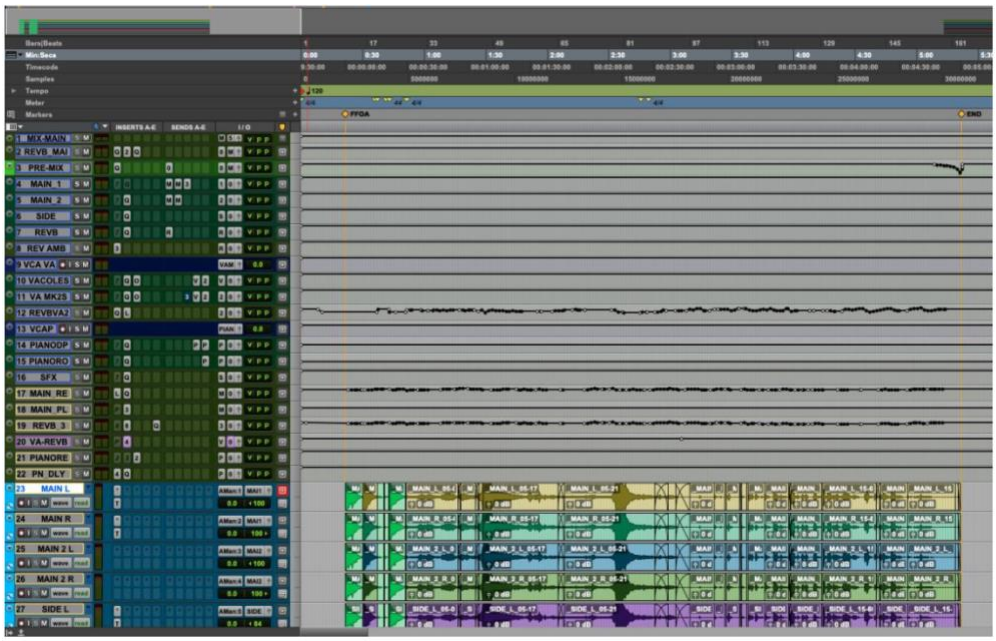

Fig. 4: Automation and editing in Pro Tools

The editing of the piece was largely done during the recording session. After, I edited based on the composer's comments received after the recording (details like versions of the clusters at the beginning of the piece).

Before the mix process, I time-corrected the individual microphones (using Pro Tools time adjuster) to the main pair to achieve a clean transient attack and correlation.

For the main pair in the mix I choose the Schopes MK2s for a better, more open sound, and used less of the M150s (-10 dB). After setting the general levels, I made some light EQ adjustments to the main pairs with FabFilter Pro-Q 3 to control the midrange. To preserve the natural dynamic range, I didn't use dynamic processors.

All microphones were recorded as stereo pairs, but I decided to narrow the piano ribbon spots to control the width and mid-range of the instrument.

Fig. 5: The mix window

In the mix I used a lot of the ambience microphones (7th track, -2.5dB) as natural reverb that added space in the mid and high frequencies, as well as a little MK2s wide pair (6th track, -7.5dB) to add brightness and width.

During post-production I focused on maintaining the balance between viola and piano. I used more close viola microphones (~-8dB) than close piano mics because the piano had good sound and space in the main pairs (especially in the cluster sections). To the viola mics I added little Izotope Ozone Exiter to add more high harmonics. I added reverb (UAD Lexicon 480 and Stratus 3D) to create a more distant, dystopian and abstract sound, especially on the dynamic piano parts. To add more character to the quieter parts, I used automation to add slightly more reverb on the viola.

For piano, I used the spot mics mainly for a slight midrange push, and and as a reverb source. I added some space with PSP 2445 and short delay from Lexicon PSP 42 to add more depth especially in the intimate second movement.

As a final touch on the mix bus, I added PSP 2445 reverb with the Piano Hall preset to open the space more, and give more depth to the high/low range (as in Fig. 6).

Fig. 6: Reverbs used in the mix

Evaluation:

In making this recording of contemporary music, I learned a lot. I am satisfied that I was able to knowledgably and advantageously use every microphone and mic placement for its character and intended purpose during the recording session. In the mixing process I was able to add even more character to piece, making it more emotional and unique. Both I and composer are really pleased with the final outcome.