

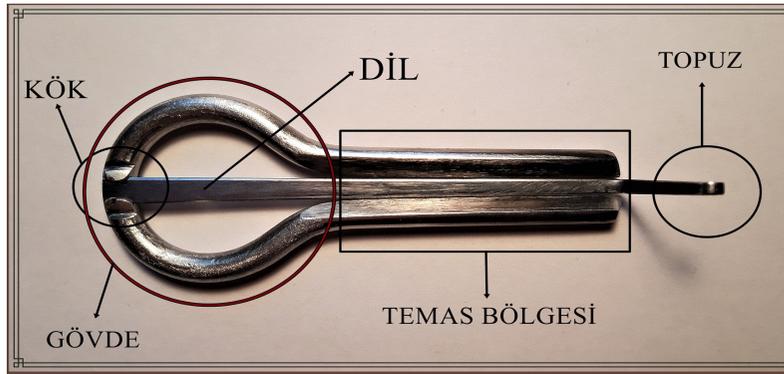
K S Sarmalı

*for mouth harp and
electronics*

Hakkı Cengiz Eren

2020

The Mouth Harp (Ağız Kopuzu)



The mouth harp is one of the oldest instruments from the Turkic Central Asia. The instrument is played by placing the teeth on the contact point, plucking the topuz and singing. The teeth grab the two ends of the contact point, allowing some space for the metal reed to vibrate, once the activation lever is plucked, the metal reed resonates into the oral cavity and the throat, generating a sound. A cross-synthesis of a woodwind and a percussion instrument, the mouth harp is to a large extent a timbral instrument; its available spectrum is constant, but can be manipulated and modulated in order to generate a variety of timbres and effects. The position and orientation of the player's tongue determines the vowel, which in turn determines the area of its spectrum that becomes emphasized.

Kök: base, gövde: body, dil: reed, temas bölgesi: contact point, topuz: activation lever.

The Orkhon script (tamgha) notation system

Orkhon scripts descend from primeval Turkic pictograms. In time, the writing system evolved into an alphabet made up of 38 consonants and 4 vowels. This alphabet system was mainly used by Göktürks during the 6th and 8th centuries. The Orkhon music notation has been devised by Umut Deniz Topçuoğlu, an ethno-musicologist, multi-instrumentalist and composer from Turkey. Umut specifically selected tamghas from contemporary Turkish tamgha alphabet, which was in turn compiled by Gökbeğ Uluç. The main idea behind it has been to represent special nuanced effects that are generated by combinations of consonants and vowels in mouth harp performance.

Orkhon tamghas used in this work

Tamgha	Transcript	Musical function
↓	ok	throat k(o)
ʃ	ak	throat k(a)
ʒ	ek	throat k(e)
ʀ	er	throat r
ʂ	as	S
ʑ	ey	yırlama/vocalization
ʃʃ	en	nefes/breathing
∨	af	inhalation, when used in conjunction with ʃʃ.
∧	'af	exhalation, when used in conjunction with ʃʃ.

Performance Notes

Notation

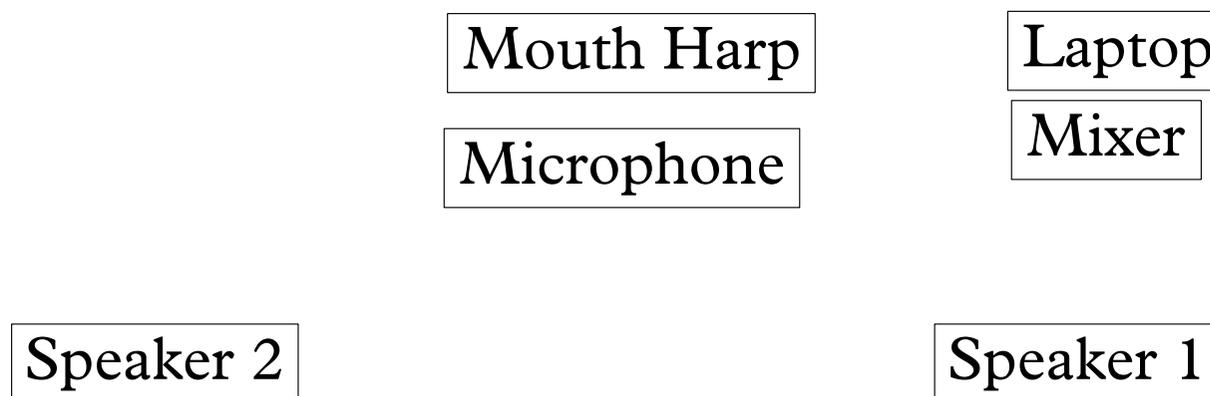
The topmost staff is divided vertically into four letters, each one symbolizing a certain part of the instrument's spectrum. When the vowel o is sung, the lower part of the instrument's spectrum has the emphasis, conversely, when the consonant s is sung, the higher part of the instruments spectrum is emphasized. Vertical and horizontal orientations of beams therefore stand for the pitch (part of the spectrum emphasized) and duration of the gesture in question. The rune notation handles both the consonant and the vowel sung by the player, and more importantly, the nuanced effect that emerges. The middle staff shows when the player plucks the topuz (activation lever), and the bottommost staff is reserved for events in the pre-recorded-sounds-component of the electronics.

Electronics

This work makes use of both live electronics and pre-recorded sounds. The live electronics component constitutes any treatment that the mouth harp is subjected to (freq. mod, granulation, scrubbing, comb filter, spectral filtering, pitch shifting, delays, etc...). The pre-recorded-sounds-component is made up of sound files. An assistant, through Max/MSP, triggers both the live treatments and the pre-recorded sounds. The performer and the assistant monitor the timing through a clock provided in the patch.

Setup

The mouth harp, amplified through a microphone, should be fed into a laptop. The output is then routed through a mixer into two speakers for stereo sound. The sound diffusion for both live electronics and pre-recorded sounds is controlled through spat 5 within Max/MSP.



K S Sarmalı

Hakkı Cengiz Eren

0 sec. 3 sec. 12 sec. 16 sec. 18 sec. 20 sec. 28 sec. 33 sec.

Kopuz s
e
a
o

Activation

Electronics

1 2 3 4 5 6

K silence K silence K

37 sec. 45 sec. 48 sec. 54 sec.

Kop. s
e
a
o

Act.

Elec.

7

sine tones

fast forwarded speech with rising pitch

K S

1:09 sec. 1:12 sec. 1:14 sec. 1:16 sec. 1:23 sec. 1:28 sec.

Kop. s e a o

Act. II

Elec. **silence** **K** **ardı ardına** **tehditler almaya**

1:33 sec. 2:00 sec.

Kop. s e a o

Act. II

Elec. **sine tones** **breathing**

more intermittent and irregular

2:05 sec. 2:13 sec. 2:20 sec. 2:26 sec. 2:28 sec.

Kop. s e a o

Act. II

Elec. **silence** **K S** **işkence**

12

2:35 sec. 2:40 sec. 2:46 sec. 2:50 sec. 3

Kop. s
e
a
o

Act. H

Elec.

13 14 15

laughter insanları dehşete düşürüyor

silence

2:56 sec. 2:58 sec. 3:06 sec. 3:08 sec. 3:17 sec. 3:19 sec.

Kop. s
e
a
o

Act. H

Elec.

16 17 18

K S silence K S silence K S silence

yaşlıydı hastaydı

sine tones

3:33 sec. 3:35 sec. 3:49 sec.

Kop. s
e
a
o

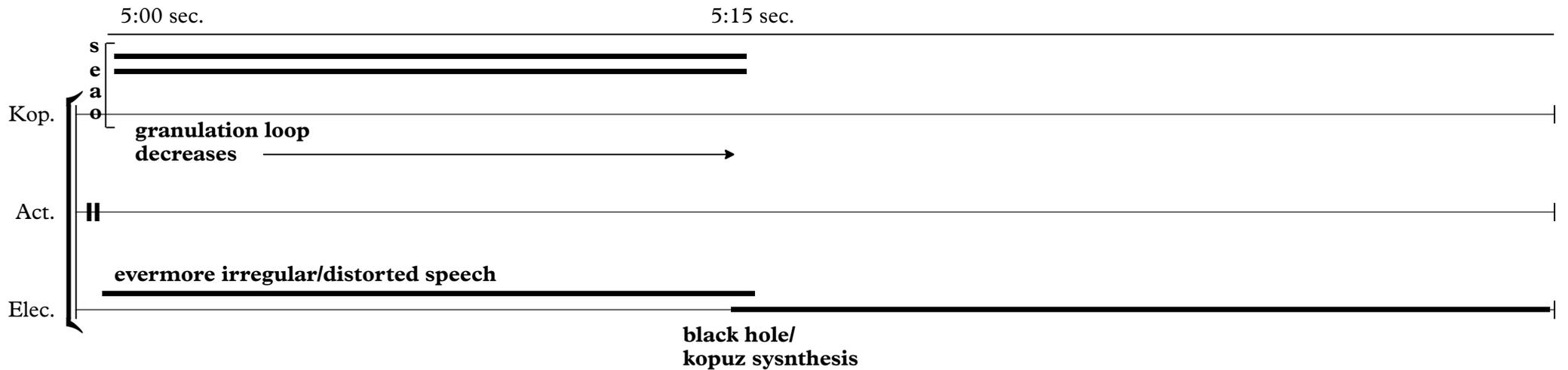
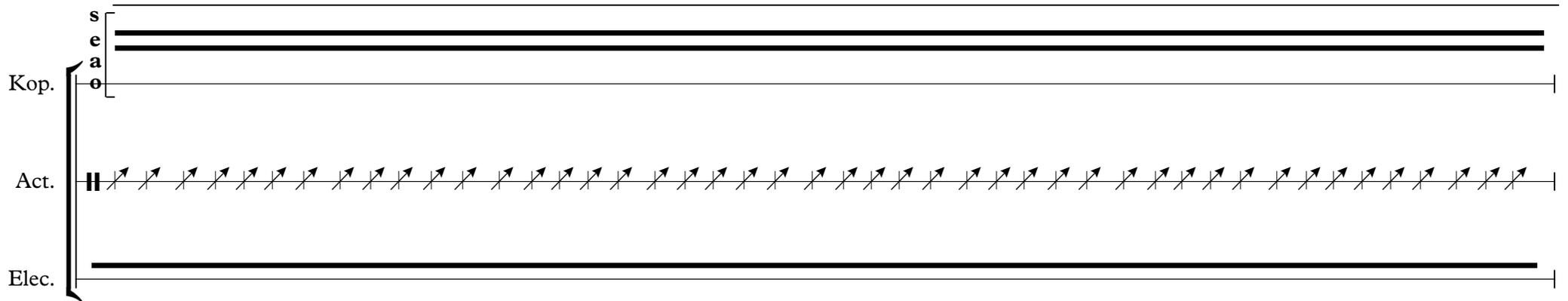
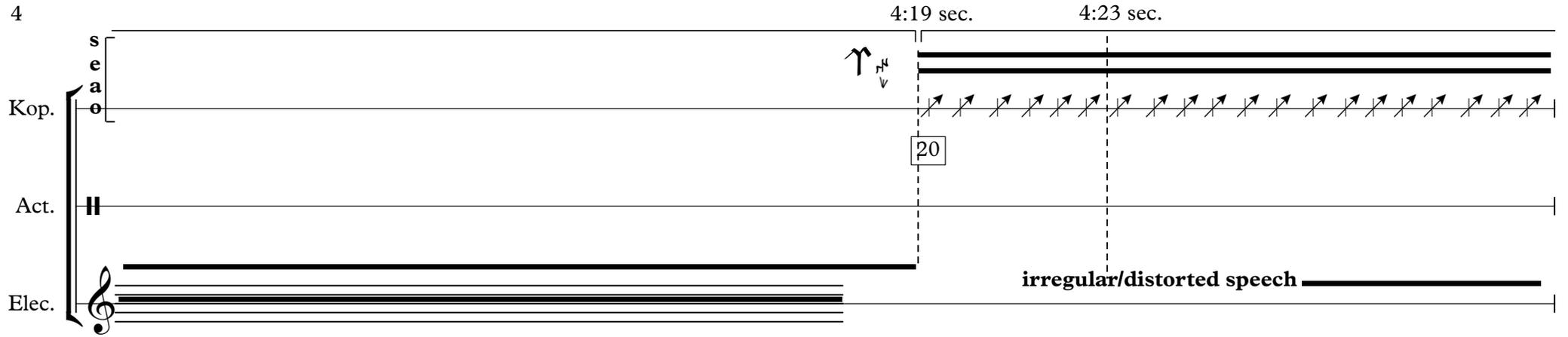
Act. H

Elec.

19

K S gözleri iyi görmüyordu K S

silence



5

5:38 sec. 5:42 sec.

Kop. s
e
a
o

Act. ||

Elec. breathing

6:06 sec. 6:11 sec. 6:19 sec.

Kop. s
e
a
o

Act. ||

Elec.

6:30 sec. 6:38 sec. 6:47 sec. 6:56 sec. 7:10 sec.

Kop. s
e
a
o

Act. ||

Elec.

21 *ppp* (exhale)

22 *ppp* (exhale)

23 *ppp* (exhale)