

Vinícius Cesar de Oliveira

Eutrópia III

(2025)

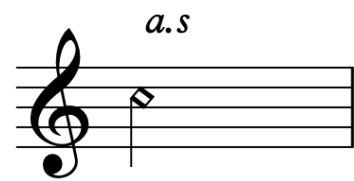
for flute and live-electronics

Eutrópia

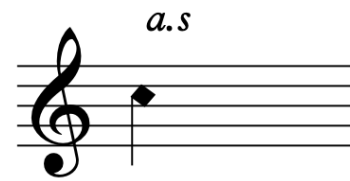
When he enters the territory of which Eutropia is the capital, the traveler sees not one city but many, of equal size and not unlike one another, scattered over a vast, rolling plateau. Eutropia is not one, but all these cities together; only one is inhabited at a time, the others are empty; and this process is carried out in rotation. Now I shall tell you how. On the day when Eutropia's inhabitants feel the grip of weariness and no one can bear any longer his job, his relatives, his house and his life, debts, the people he must greet or who greet him, then the whole citizenry decides to move to the next city, which is there waiting for them, empty and good as new; there each will take up a new job, a different wife, will see another landscape on opening his window, and will spend his time with different pastimes, friends, gossip. So their life is renewed from move to move, among cities whose exposure or declivity or streams or winds make each site somehow different from the others. Since their society is ordered without great distinctions of wealth or authority, the passage from one function to another takes place almost without jolts; variety is guaranteed by the multiple assignments, so that in the span of a lifetime a man rarely returns to a job that has already been his. Thus the city repeats its life, identical, shifting up and down on its empty chessboard. The inhabitants repeat the same scenes, with the actors changed; they repeat the same speeches with variously combined accents; they open alternate mouths in identical yawns. Alone, among all the cities of the empire, Eutropia remains always the same. Mercury, god of the fickle, to whom the city is sacred, worked this ambiguous miracle.

Italo Calvino, The invisible cities

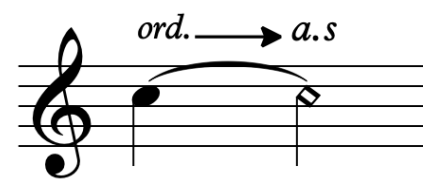
Notes for performance



(a) Aeolian sound with a lot of air noise.



(b) Aeolian sound with little air noise: almost regular sound.



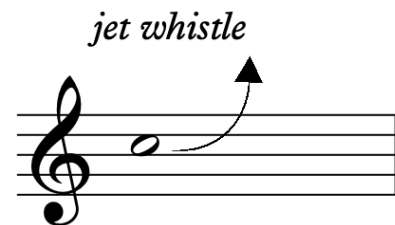
(c) Gradual change from regular to aeolian sound with a lot of air noise.



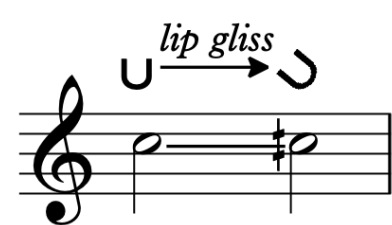
(d) *Pizzicato* or slap tongue: short percussive sound.



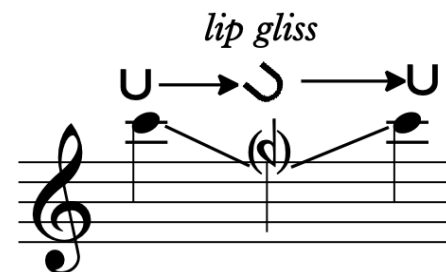
(e) *Frullato*.



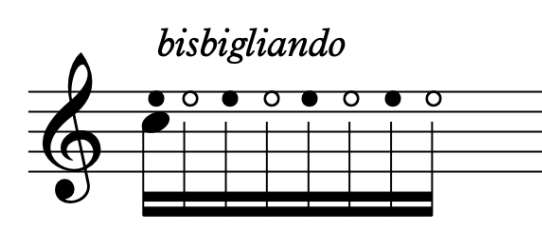
(f) Jet Whistle: forcefull and loud attack of air.



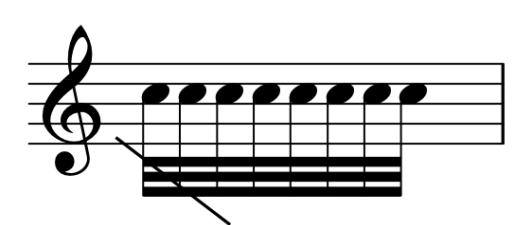
(g) *Glissando* with lips to a specific pitch.



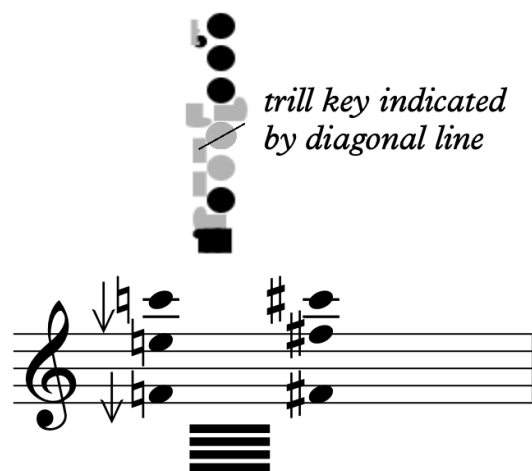
(h) *Glissando* with lips to a non-specific pitch.



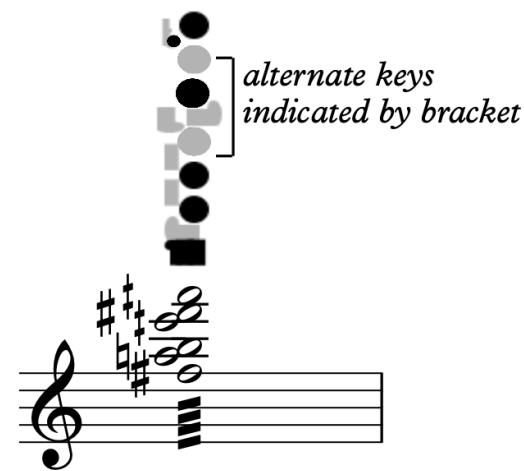
(i) *Bisbigliando*: alternation of different fingerings for the same pitch.



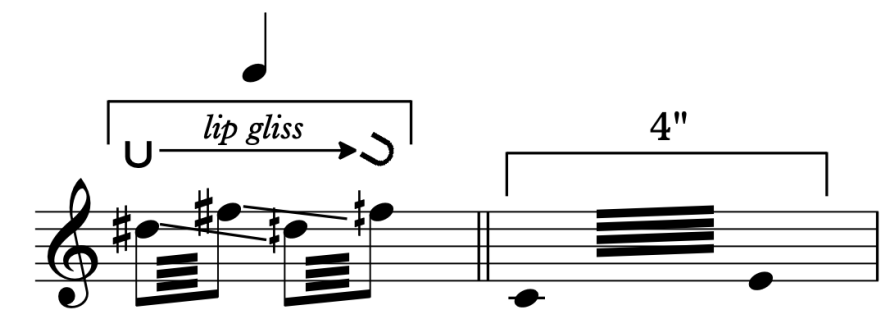
(j) Play the gesture as fast as possible.



(k) Multiphonic trill: trill key indicated by diagonal line.



(l) Multiphonic tremolo: alternate keys indicated by bracket.

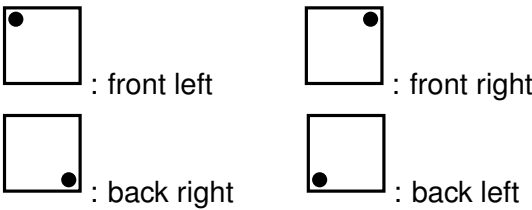


(m) Non-measured events must respect the approximate duration indicated above (rhythmic duration or seconds).

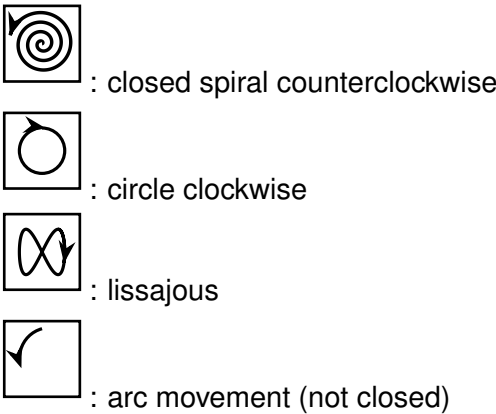
Live Electronics

- Sampler **S** : recording, processing, and playing back sounds in real time. There are two instances of the sampler, which are indicated by the number inside the box (e.g., **S1** for Sampler 1, **S2** for Sampler 2).
- **3F** : sound synthesis algorithm producing harmonic and inharmonic sounds. Two 3F instances are used. In the score, they are indicated as **3F1** and **3F2** (synthesis processing created by Miller Puckette).
- **HARM** : harmonizer for real time pitch shifting and harmonization.
- **REVERSE** : recording and playing back sounds in reverse in real time.
- **PQMF** : pseudo quadrature mirror filter bank, to split the sound signal into multiple frequency bands for processing and spatialization.
- **TCVAE** : transformer-based variational autoencoder for controlling textures and gestures in real time.
- **GAITA** : computer modeling of the colombian gaita, allowing real time synthesis sounds (processing created by Juan Felipe).
- spatialization **SPAT** : a long short term memory (LSTM) neural network controls the spatialization and creates spatial trajectories in real time:

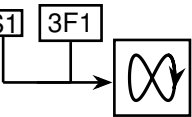
the specific position of the sound source is indicated by the following icons:



the spatial movements are noted as follows:



- **1**, **2**, **3**, etc.: indicates the electronics events that must be triggered manually in the Pure Data patch. These numbers indicate the order in which they should be triggered (the patch loads the electronics score automatically).
- **S1** **3F1** : lissajous trajectory apply for sampler and 3F synthesis.



- **TCVAE** → **S1** : transformer based variational autoencoder **TCVAE** connected to Sampler 1 **S1** and spatialized with spiral trajectory.



Eutrópia III

Vinícius Cesar de Oliveira

IA
♩ = 46
frullato

Flute

1

2

3

4

5

6

IB
♩ = 66

7

8

9

pp, *p*, *mp*, *mf*, *f*, *sfz*, *rall.*, *accel.*, *non measured*, *ord.*, *a.s.*

Annotations:

- HARM**: Harmonic
- 3F1**: 3rd Formant 1
- S1**: Spectral 1
- S2**: Spectral 2

The musical score is for a piece titled "Gaita" by IIA. It is written for a single melodic line on a treble clef staff. The score begins with a key signature of one sharp (F#) and a common time signature. The tempo is marked "mp" (mezzo-piano). The score is divided into two main sections, labeled 19 and 2. Section 19 starts with a measure of rest, followed by a series of eighth notes and sixteenth notes. The dynamics range from "f" (forte) to "p" (piano). Section 2 begins with a measure of rest, followed by a series of eighth notes and sixteenth notes. The dynamics range from "mf" (mezzo-forte) to "f" (forte). The score includes various performance instructions, such as "GAITA", "PQMF", "IIA", "S2", "REVERSE", and "REVERSE". The score is written in a complex, multi-measure format, with time signatures changing frequently (2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 8/4, 9/4, 10/4, 11/4, 12/4, 13/4, 14/4, 15/4, 16/4, 17/4, 18/4, 19/4, 20/4, 21/4, 22/4, 23/4, 24/4, 25/4, 26/4, 27/4, 28/4, 29/4, 30/4, 31/4, 32/4, 33/4, 34/4, 35/4, 36/4, 37/4, 38/4, 39/4, 40/4, 41/4, 42/4, 43/4, 44/4, 45/4, 46/4, 47/4, 48/4, 49/4, 50/4, 51/4, 52/4, 53/4, 54/4, 55/4, 56/4, 57/4, 58/4, 59/4, 60/4, 61/4, 62/4, 63/4, 64/4, 65/4, 66/4, 67/4, 68/4, 69/4, 70/4, 71/4, 72/4, 73/4, 74/4, 75/4, 76/4, 77/4, 78/4, 79/4, 80/4, 81/4, 82/4, 83/4, 84/4, 85/4, 86/4, 87/4, 88/4, 89/4, 90/4, 91/4, 92/4, 93/4, 94/4, 95/4, 96/4, 97/4, 98/4, 99/4, 100/4, 101/4, 102/4, 103/4, 104/4, 105/4, 106/4, 107/4, 108/4, 109/4, 110/4, 111/4, 112/4, 113/4, 114/4, 115/4, 116/4, 117/4, 118/4, 119/4, 120/4, 121/4, 122/4, 123/4, 124/4, 125/4, 126/4, 127/4, 128/4, 129/4, 130/4, 131/4, 132/4, 133/4, 134/4, 135/4, 136/4, 137/4, 138/4, 139/4, 140/4, 141/4, 142/4, 143/4, 144/4, 145/4, 146/4, 147/4, 148/4, 149/4, 150/4, 151/4, 152/4, 153/4, 154/4, 155/4, 156/4, 157/4, 158/4, 159/4, 160/4, 161/4, 162/4, 163/4, 164/4, 165/4, 166/4, 167/4, 168/4, 169/4, 170/4, 171/4, 172/4, 173/4, 174/4, 175/4, 176/4, 177/4, 178/4, 179/4, 180/4, 181/4, 182/4, 183/4, 184/4, 185/4, 186/4, 187/4, 188/4, 189/4, 190/4, 191/4, 192/4, 193/4, 194/4, 195/4, 196/4, 197/4, 198/4, 199/4, 200/4, 201/4, 202/4, 203/4, 204/4, 205/4, 206/4, 207/4, 208/4, 209/4, 210/4, 211/4, 212/4, 213/4, 214/4, 215/4, 216/4, 217/4, 218/4, 219/4, 220/4, 221/4, 222/4, 223/4, 224/4, 225/4, 226/4, 227/4, 228/4, 229/4, 230/4, 231/4, 232/4, 233/4, 234/4, 235/4, 236/4, 237/4, 238/4, 239/4, 240/4, 241/4, 242/4, 243/4, 244/4, 245/4, 246/4, 247/4, 248/4, 249/4, 250/4, 251/4, 252/4, 253/4, 254/4, 255/4, 256/4, 257/4, 258/4, 259/4, 260/4, 261/4, 262/4, 263/4, 264/4, 265/4, 266/4, 267/4, 268/4, 269/4, 270/4, 271/4, 272/4, 273/4, 274/4, 275/4, 276/4, 277/4, 278/4, 279/4, 280/4, 281/4, 282/4, 283/4, 284/4, 285/4, 286/4, 287/4, 288/4, 289/4, 290/4, 291/4, 292/4, 293/4, 294/4, 295/4, 296/4, 297/4, 298/4, 299/4, 300/4, 301/4, 302/4, 303/4, 304/4, 305/4, 306/4, 307/4, 308/4, 309/4, 310/4, 311/4, 312/4, 313/4, 314/4, 315/4, 316/4, 317/4, 318/4, 319/4, 320/4, 321/4, 322/4, 323/4, 324/4, 325/4, 326/4, 327/4, 328/4, 329/4, 330/4, 331/4, 332/4, 333/4, 334/4, 335/4, 336/4, 337/4, 338/4, 339/4, 340/4, 341/4, 342/4, 343/4, 344/4, 345/4, 346/4, 347/4, 348/4, 349/4, 350/4, 351/4, 352/4, 353/4, 354/4, 355/4, 356/4, 357/4, 358/4, 359/4, 360/4, 361/4, 362/4, 363/4, 364/4, 365/4, 366/4, 367/4, 368/4, 369/4, 370/4, 371/4, 372/4, 373/4, 374/4, 375/4, 376/4, 377/4, 378/4, 379/4, 380/4, 381/4, 382/4, 383/4, 384/4, 385/4, 386/4, 387/4, 388/4, 389/4, 390/4, 391/4, 392/4, 393/4, 394/4, 395/4, 396/4, 397/4, 398/4, 399/4, 400/4, 401/4, 402/4, 403/4, 404/4, 405/4, 406/4, 407/4, 408/4, 409/4, 410/4, 411/4, 412/4, 413/4, 414/4, 415/4, 416/4, 417/4, 418/4, 419/4, 420/4, 421/4, 422/4, 423/4, 424/4, 425/4, 426/4, 427/4, 428/4, 429/4, 430/4, 431/4, 432/4, 433/4, 434/4, 435/4, 436/4, 437/4, 438/4, 439/4, 440/4, 441/4, 442/4, 443/4, 444/4, 445/4, 446/4, 447/4, 448/4, 449/4, 450/4, 451/4, 452/4, 453/4, 454/4, 455/4, 456/4, 457/4, 458/4, 459/4, 460/4, 461/4, 462/4, 463/4, 464/4, 465/4, 466/4, 467/4, 468/4, 469/4, 470/4, 471/4, 472/4, 473/4, 474/4, 475/4, 476/4, 477/4, 478/4, 479/4, 480/4, 481/4, 482/4, 483/4, 484/4, 485/4, 486/4, 487/4, 488/4, 489/4, 490/4, 491/4, 492/4, 493/4, 494/4, 495/4, 496/4, 497/4, 498/4, 499/4, 500/4, 501/4, 502/4, 503/4, 504/4, 505/4, 506/4, 507/4, 508/4, 509/4, 510/4, 511/4, 512/4, 513/4, 514/4, 515/4, 516/4, 517/4, 518/4, 519/4, 520/4, 521/4, 522/4, 523/4, 524/4, 525/4, 526/4, 527/4, 528/4, 529/4, 530/4, 531/4, 532/4, 533/4, 534/4, 535/4, 536/4, 537/4, 538/4, 539/4, 540/4, 541/4, 542/4, 543/4, 544/4, 545/4, 546/4, 547/4, 548/4, 549/4, 550/4, 551/4, 552/4, 553/4, 554/4, 555/4, 556/4, 557/4, 558/4, 559/4, 560/4, 561/4, 562/4, 563/4, 564/4, 565/4,

[illegible]

The musical score for 'Gaita' by John Zorn is presented in a single system. It begins with a tempo marking of 80 beats per minute. The score is written for a single melodic line, likely for a gaita, with a treble clef and a key signature of one sharp (F#). The tempo is marked 'p' (piano) at the beginning and 'f' (forte) towards the end. The score is divided into two main sections, labeled '4' and '5' in boxes. Section 4 starts with a 3/4 time signature and includes a 'lip gliss' instruction. Section 5 starts with a 2/4 time signature and includes a 'lip gliss' instruction. The score features a variety of rhythmic patterns, including eighth notes, sixteenth notes, and rests, with some measures containing complex rhythmic markings like '6', '7:6', '9:8', '5:6', '5:4', and '5:6'. Dynamic markings include 'p', 'mf', 'mp', 'f', and 'f'.

The musical score for the tuba part of 'The Great Wall of China' by John Williams is presented in a single system. The key signature is one flat (B-flat), and the time signature is 2/4. The score begins with a tuba fingering chart showing the fingerings for the first and second positions of the instrument. The music is marked with dynamics such as *mp* (mezzo-piano) and *f* (forte). The score includes articulation marks like 'lip gliss' (lip glissando) and 'U' (up-bow or up-bow). The score is divided into measures 6, 7, and 8. Measure 6 starts with a key signature change to one flat and a 2/4 time signature. Measure 7 features a series of notes with a 'lip gliss' marking. Measure 8 continues the melodic line with a 'lip gliss' marking. The score is marked with a tempo of 56 beats per minute.

IIIc

91 $\text{♩} = 120$ **HARM** $\text{TCVAE} \rightarrow \text{S1}$

mp *mf* *p* *f* *p* *f* *p* *ff* *p* *ff*

9 10 11 12 13 14

$\text{♩} = 130$ **3F2** c.a. 8"

101 $\text{♩} = 55$ **HARM** **IVA** $\text{TCVAE} \rightarrow \text{S1}$ **3F2** non measured **PQMF**

f 7:6 *f* 5:6 *p* *sfz* *mp* *p* *f* *p* *mp* *sfz* *mp* *p* *sfz* *f* *mp*

15 16 1 2 3

lip gliss *a.s* *lip gliss* *lip gliss* *a.s*

106 *aeolian sound* *bisbigliando* $\text{TCVAE} \rightarrow \text{S1}$ **HARM** **HARM** **3F2**

mf *mp* *f* *p* *ff* *mp* *f* *5* *5* *3* *fp* *ff* *f*

4 5 6 7

lip gliss *ord. a.s* *lip gliss* *lip gliss* *lip gliss*

TCVAE → S1

IVB

GAITA PQMF

lip gliss

4" 4" 6" 4" 2" 2"

8 9

110

f 5 *p* *f* *mp* *mp* *p* *mf* *fp* *ff* *p* *f* *p* *mf* *p* *f* *p*

IVC

S2

trill key indicated by diagonal line

5" 7"

10 11

115

5" 7" 10"

lip gliss

mp *mp* *f* *mp* *mp* *mp* *f* *mp* *ff* *mp* *ff*

alternate keys indicated by bracket

5" 4" 2" 2" 8" 8"

119

mp *f* *mp* *f* *mp* *f* *mp* *f* *ff* *ff* *pp*

12

The image displays a musical score for three systems of music, labeled 8, 9, and 10, 11, and 12. The notation includes treble clefs, notes, rests, and various musical symbols. Dynamics such as *f* (forte), *mp* (mezzo-piano), *p* (piano), *mf* (mezzo-forte), *fp* (fortissimo piano), *ff* (fortissimo), and *pp* (pianissimo) are indicated. Performance instructions like "lip gliss", "jet whistle", and "trill key indicated by diagonal line" are present. The score also includes various musical symbols and markings, such as "TCVAE", "S1", "S2", "IVB", "IVC", "GAITA", "PQMF", and "alternate keys indicated by bracket". The systems are numbered 8, 9, 10, 11, and 12, with measures 110, 115, and 119 marked. The notation includes various musical symbols and markings, such as "TCVAE", "S1", "S2", "IVB", "IVC", "GAITA", "PQMF", and "alternate keys indicated by bracket".