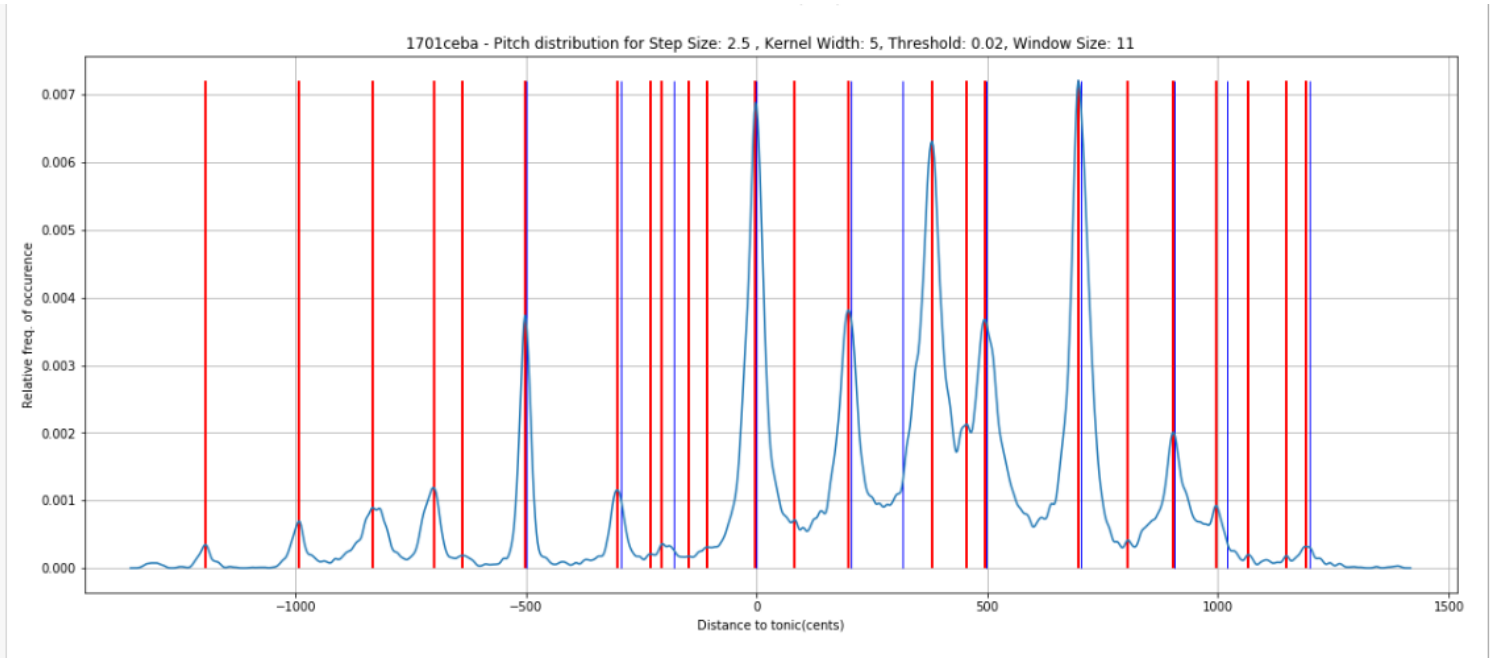
Recep Oğuz Araz
18.07

After trying various combinations of *step sizes, kernel widths, window sizes* and *thresholds* for creating an accurate pitch space, I concluded that a *recording specific* parameter set should be selected *manually,* as an automatic parameter finder seems out of reach at the moment.

My proposition for extracting the pitch space is as follows:

1. Using the makam-following tool and listening /looking at the pitch track, the missing and extra perdeler to the current pitch space are noted.
2. Creating the pitch distribution plots for various parameters, the parameters of the best matching (by using the information from the first step) distribution is recorded to the excel file parameters.xlsb.
3. Each recording's pitch space is extracted with the parameters found in 2.
4. Using the distance and perde information from Yarman 2008, cents are paired with their perde names .

Problem:



The plot above is the pitch distribution of MBID : 1701ceba-bd5a-477e-b883-5dacac67da43, Nihansın Dideden Ey Mest-I Nazım.

Red lines are the returned peaks using the parameters that are specified in the title and the blue lines are indicating the locations of the perdeler based on the information from Yarman 2008. We can see that some of the lines have great correspondence and some red lines are close enough to a blue line to be considered just a tuning difference. However, most of the red lines have no correspondence with any of the blue lines but their existence in the pitch space can be seen and heard clearly. This can be attributed to:

- AEU system's shortcomings while representing Makam Music

My proposition for naming the perdeler is as follows:

I developed a method called perdeNameFinder() which utilizes the table below and the distance information from Yarman 2008.

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Tablo 1. Arel-Ezgi-Uzdilek Sistemindeki Perdelerin Geleneksel Türk Sanat Müziği Repertuarında Kullanım Sıklığı ve Süre Açısından Değerleri

	ORTA SEKİZLİ			TİZ SEKİZLİ			EN TİZ SEKİZLİ			TOPLAM	
	Perdeler	Ks(%)	Sr(%)	Perdeler	Ks(%)	Sr(%)	Perdeler	Ks(%)	Sr(%)	Ks(%)	Sr(%)
1	Kaba Çargâh	0,006	0,004	Çargâh	11,300	10,821	Tiz Çargah	1,195	1,267	12,501	12,092
2	K. Nim Hicâz	0,000	0,000	Nim Hicaz	1,324	1,038	T. N. Hicâz	0,011	0,015	1,335	1,053
3	***Kaba Hicâz***	***0,000***	***0,000***	***Hicâz***	***0,839***	***0,789***	***T. Hicâz***	***0,001***	***0,0005***	***0,840***	***0,789***
4	K. Dik Hicâz	0,000	0,000	D. Hicâz	0,000	0,000	T. D. Hicâz	0,000	0,000	0,000	0,000
5	Yegâh	0,131	0,142	Nevâ	15,465	15,592	T. Nevâ	0,271	0,338	15,867	16,072
6	K. Nim Hisâr	0,011	0,007	N. Hisâr	1,250	1,137	T. N. Hisâr	0,011	0,007	1,272	1,151
7	***K. Hisâr***	***0,018***	***0,023***	***Hisâr***	***2,806***	***1,888***	***T. Hisâr***	***0,000***	***0,000***	***2,824***	***1,911***
8	K. Dik Hisâr	0,000	0,000	D. Hisar	0,912	0,934	T. D. Hisâr	0,000	0,000	0,912	0,934
9	Hüseyniaşirân	0,138	0,129	Hüseynî	8,334	8,272	T. Hüseynî	0,011	0,008	8,483	8,409
10	Acemaşîrân	0,327	0,449	Acem	6,040	5,406	T. Acem	0,003	0,002	6,370	5,857
11	***D.Acemaşîrân***	***0,000***	***0,000***	***D. Acem***	***0,000***	***0,000***	***TD.Acem***	***0,000***	***0,000***	***0,000***	***0,000***
12	Irâk	0,531	0,405	Eviç	4,848	4,295	T.Eviç	0,000	0,000	5,379	4,700
13	Geveşt	0,021	0,015	Mâhûr	0,493	0,404	T.Mâhûr	0,000	0,000	0,514	0,419
14	***Dik Geveşt***	***0,000***	***0,000***	***D. Mâhûr***	***0,000***	***0,000***	***TD. Mâhûr***	***0,000***	***0,000***	***0,000***	***0,000***
15	Râst	4,551	5,283	Gerdâniye	9,813	10,720	T.Gerdâniye	0,000	0,000	14,364	16,003
16	Nim Zirgüle	0,441	0,330	N. Şehnâz	0,351	0,296	T.N. Şehnâz	0,000	0,000	0,792	0,626
17	***Zirgüle***	***0,348***	***0,255***	***Şehnâz***	***0,345***	***0,358***	***T. Şehnâz***	***0,000***	***0,000***	***0,693***	***0,613***
18	Dik Zirgüle	0,000	0,000	D. Şehnâz	0,045	0,042	TD. Şehnâz	0,000	0,000	0,045	0,042
19	Dügâh	7,239	8,637	Muhayyer	6,309	7,409	T. Muhayyer	0,000	0,000	13,548	16,046
20	Kürdî	2,204	2,037	Sünbüle	1,541	1,481	T. Sünbüle	0,000	0,000	3,745	3,518
21	***Dik Kürdî***	***1,143***	***0,961***	***D.Sünbüle***	***0,051***	***0,057***	***TD.Sünbüle***	***0,000***	***0,000***	***1,194***	***1,018***
22	Segâh	6,654	6,390	T. Segâh	1,067	1,023	T.T. Segâh	0,000	0,000	7,721	7,413
23	Bûselik	1,086	0,983	T. Bûselik	0,508	0,344	T.T. Bûselik	0,000	0,000	1,594	1,327
24	***Dik Bûselik***	***0,000***	***0,000***	***TD.Bûselik***	***0,000***	***0,000***	***TTD.Bûselik***	***0,000***	***0,000***	***0,000***	***0,000***

1. The method takes a cent, a makam name and a makam dictionary including perde names and perdeler's distance to the tonic.
2. Using an epsilon value, it searches for the cent in an interval around the Yarman's distances and if the cent is included in the interval, the method names that cent with the corresponding AEU name.

The motivation for the search in the interval is that, when the distance between the recording's cent and the AEU location is smaller than 1 Hc (or a different value) it can be considered as just a tuning difference.

I am working on:

- Removing the peaks that I do not hear in the recording or I do not see in the pitch track
- Naming the perdeler.

Questions:

Should I name the perdeler that have a name in the AEU system and leave them empty for the rest?

Is my naming method correct?

I need some explanation on the workings of the *predominantMelodyMakam()* object. What is it extracting and how is it doing?

Validation on the Rast Zeybek and Unutulmuş Birer Birer Eski Dostlar at https://raraz15.github.io/.