NONA LOMIDZE

GEORGIAN SONGS: TRANSCRIPTION AND COMPUTER

Prof. Anzor Erkomaishvili asked me once to undertake the transcription of Georgian songs and to prepare them for publication. I decided to transcribe these songs by using a computer-aided programme (Acoustic Research Institute of the Austrian Academy of Sciences). This is a strategy of music research, which "starts at the true character of music as a sounding art. Today one uses techniques of acoustic digital sound processing and transforms musical sound into a kind of physical notation, for example by means of spectrograms. But it is generally known that there is no one-to-one-relation between the world of physics and perceptual framework, even if one considers the sensory domain only and neglects culturally and individually induced facts of experiencing musical sound" (Födermayr & Deutsch, 2003:144).

Let us follow the transcription of song "Alilo" (performed by "Gogoladze Trio", Chokhatauri, Guria) (Fig. 1).

As you can see there are some phrases on the spectrogram. 1a, 1b, 1c, 1d ... - the splitting of the separate phrases is done (Fig. 2).

Afterwards each phrase will be analysed. 1a - A single phrase can be listened several times and transcription will be done afterwards (Fig. 3 and 4).As a next step the analysis of the difficult parts has to be done. These are: the melismas, triplets, glissando etc. Exact analysis would be worked out for this reason. In this case, we mark particular segments with the cursor and analyse them afterwards.

1. Difficult parts - melisma's, triplets, glissando, "dirty" notes;

2. Analysis - absolute pitch and duration. In this case we mark particular segments (either sound or melisma) with the cursor. The pitch and the duration will be measured in seconds afterwards.

With the help of the table (Fig. 5**)** we can find out the tempo of the song. For example, if the duration of a quarter-note is 1,224 sec, then the tempo of this quarter-note is M.M. = 49. Now you can see the final transcription of "Alilo" in two variants **(**Fig. 6, Fig. 7).

The first one (Fig. 6) is done by using the computer for (transcription) purpose. One can see that some sounds are signed by $\uparrow$or $\downarrow$. This indicates that the sound is sung a bit higher or lower as the notated pitch and $\cap$ or $\cup$ indicating the longer or shorter duration of sounds (Lubej & Fritz, 1992: 102). As you can see the 22nd bar of the song is rising a semiton. Instead of the tones "e-a-h", sung together, the bar begins with "f-b-c" (Fig. 6)**.** In this case the second variant is written, it means the song should be performed like this (description) (Fig. 7).

I would like to show the analysis of the first phrase of "Chakrulo" (performed by "Tsinandali", leader Levan Abashidze, Telavi, Kakheti) (Fig. 8). I tried to transcribe each sound but as you can see it is impossible to learn the song using such a transcription. Diacritic marks have to be maximally reduced.

Melismas are very important in the Kakhetian songs. Sometimes they are very difficult to transcribe. When transcribing the melismas with the computer-aided programmes it is possible to find out the important or less important melismas. Finally the individual performing of melismas should be recognized, either by a group or a singer.

- Indicating melismas.

 - Sounds indicated in brackets need not be sung necessarily because of the extremely short duration.

 - Indicates the duration of melismas.

Finally, I would like to show the well-known transcription of Eastern European folk songs by Bartók (e.g. Ellingson, 1992: 143) (Fig. 9).

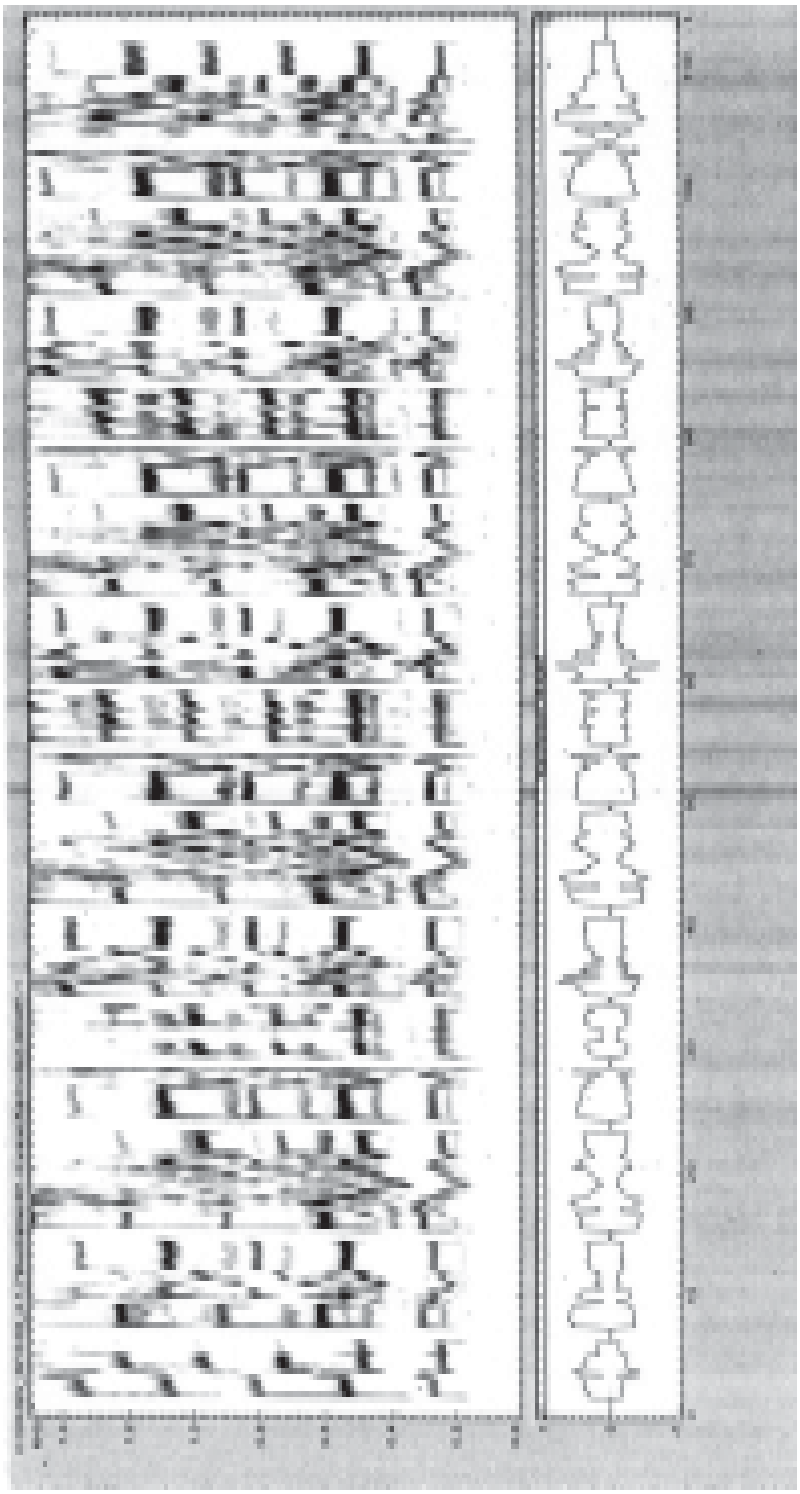
"Transcription is an art that can be learned only through practice, with the aid of formal or informal instructions form experienced transcribers" (ibid: 147).

References

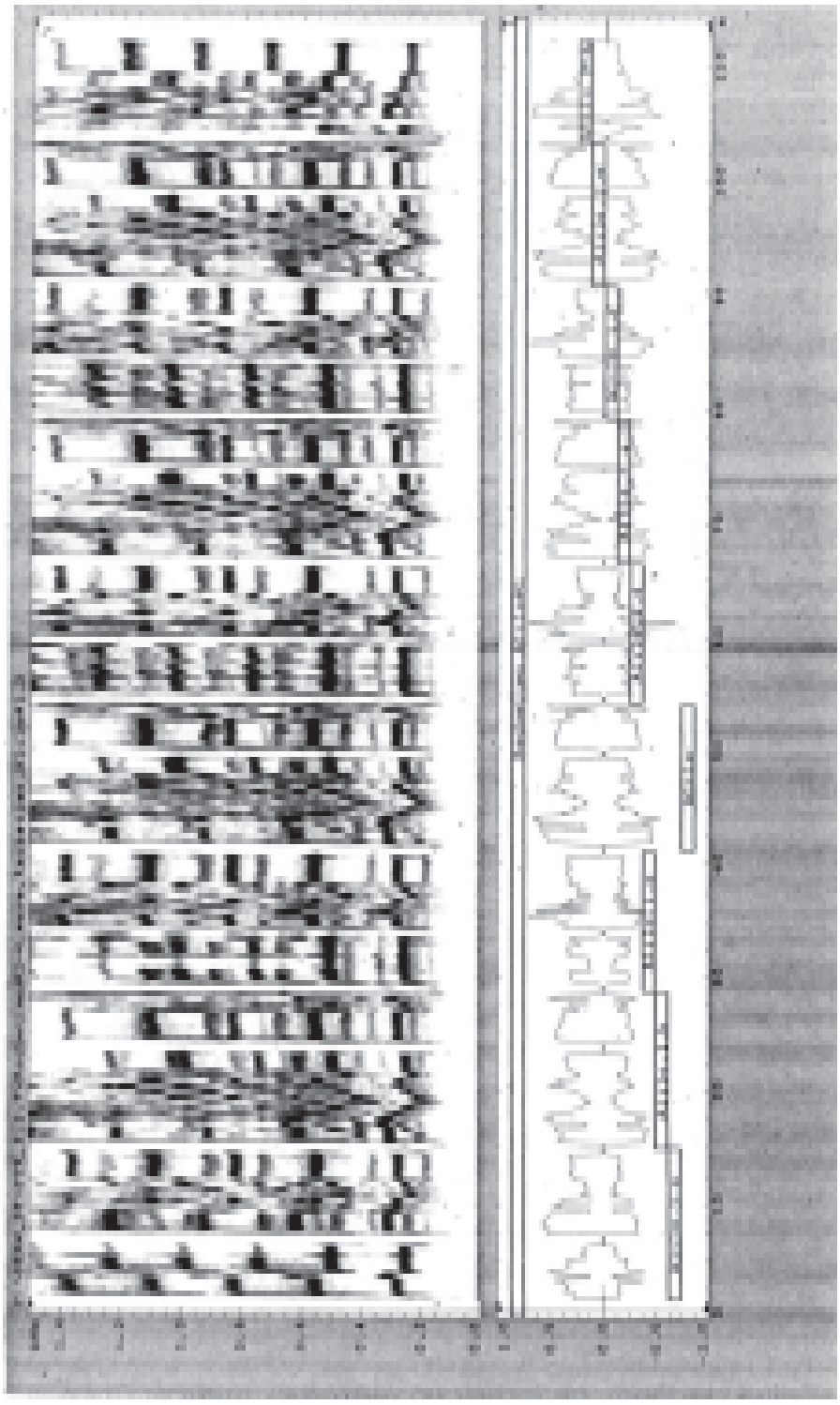
Ellingson, T. (1992). Transcription. In: Myers, Helen (Ed.): *Ethnomusicology.* Part 1, (pp. 110-152). London, New York.

Födermayr, F., Deutsch W.. (2003) Psychoacoustics and vocal polyphony. In: *The First International Symposium on Traditional Polyphony*. *Proceedings*. Tsurtsumia, Rusudan. & Jordania Jozeph. (Eds). (pp. 144-159).Tbilisi: International Research Center for Traditional Polyphony of Tbilisi Vano Saradjishvili State Conservatoire.

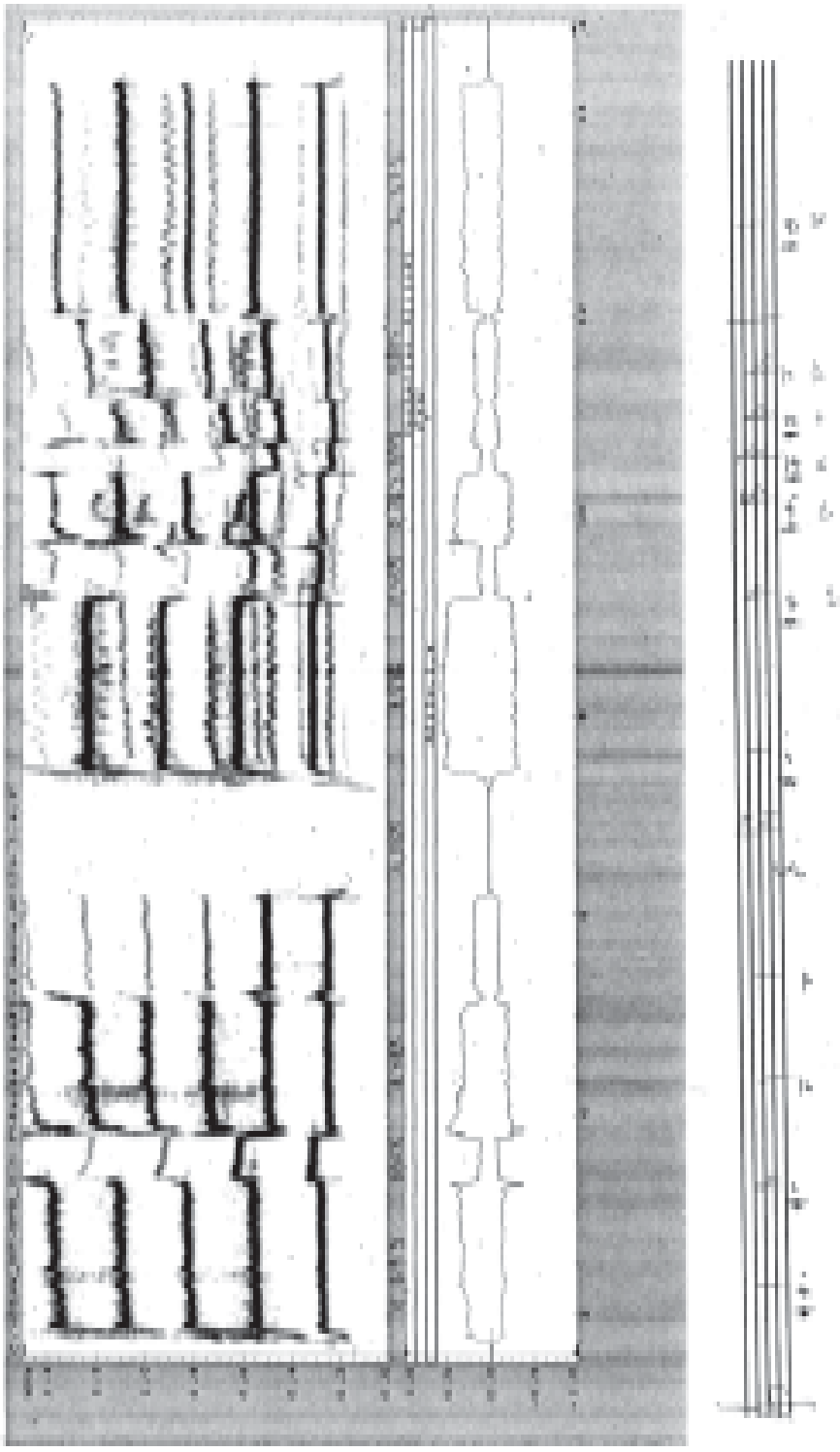
Lubej, Fritz, H. Deutsch, W. (1992). Diakritische Zeichen für Transkriptionen nach Tonbandaufzeichnungen. In: *Sommerakademie Volkskultur 1992. Musik*.(pp. 102-103).Wien: Österreichisches Volksliedwerk.



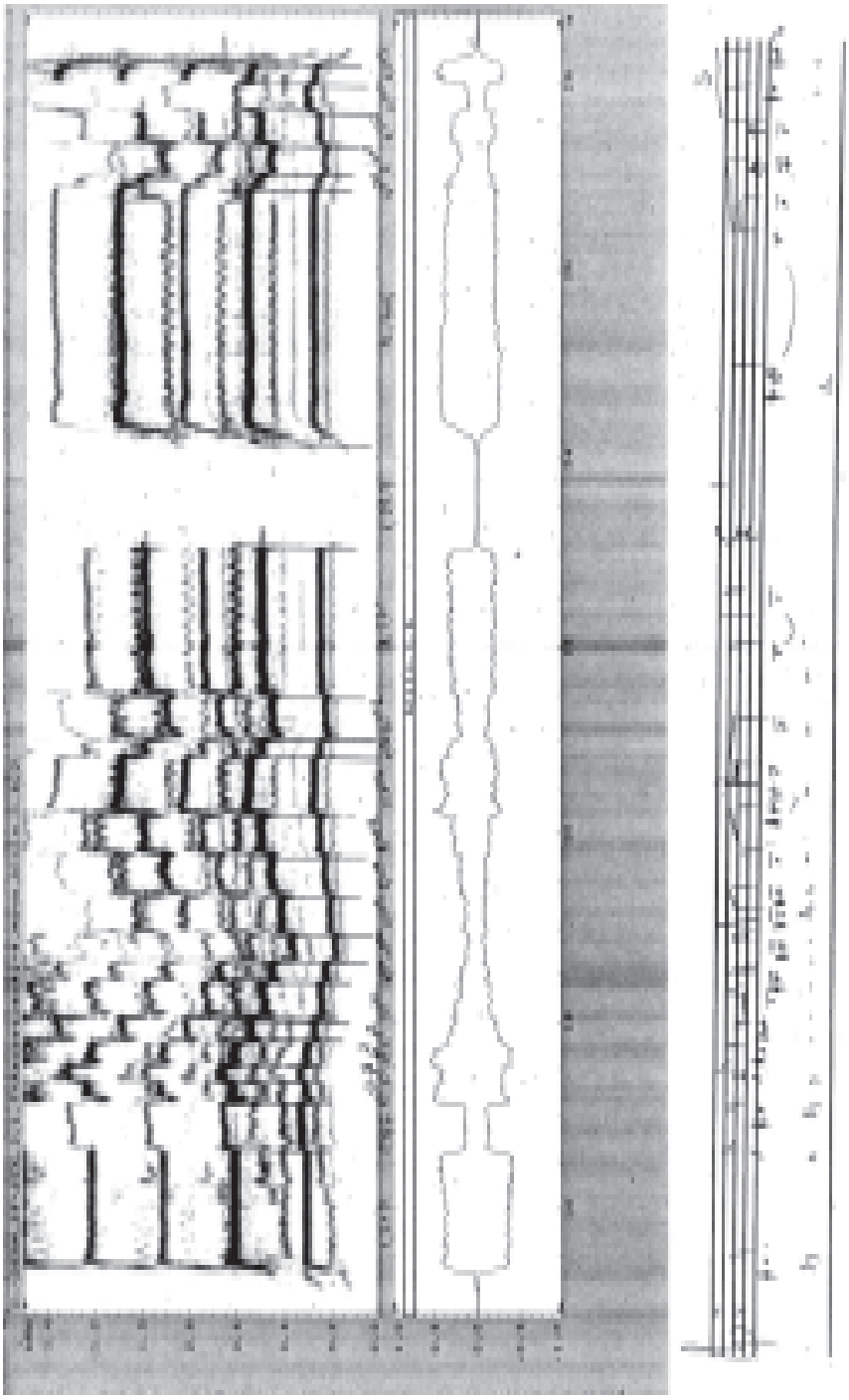
სურათი 1.
Figure 1.



სურათი 2.
Figure 2.



სურათი 3.
Figure 3.



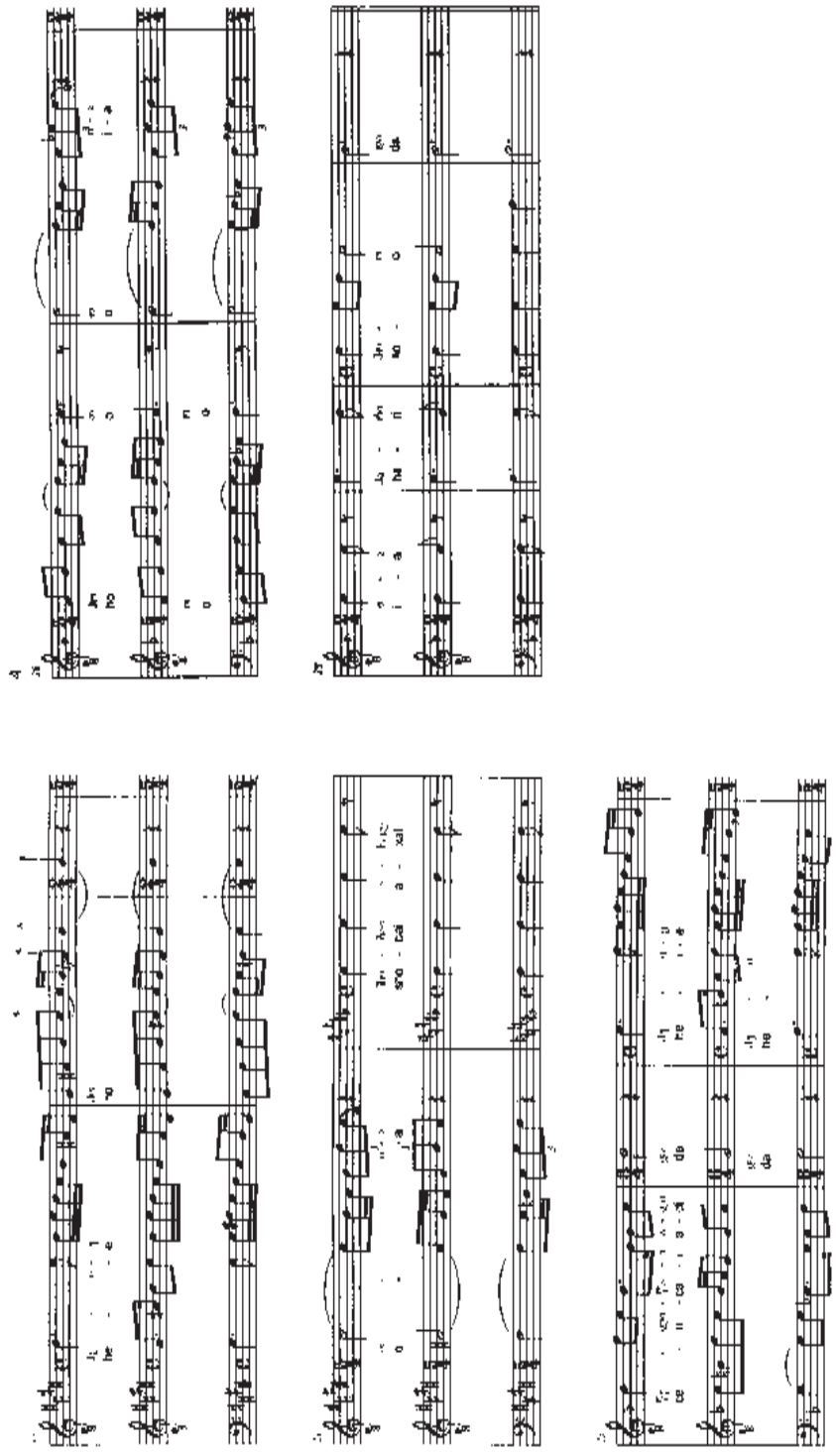
სურათი 4.
Figure 4.

სურათი 5.
Figure 5.

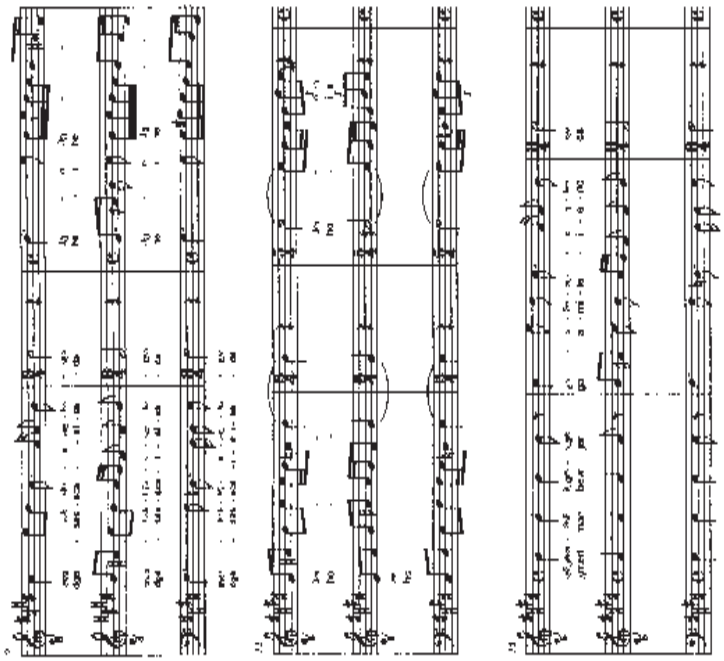
Die absoluten Zeitwerte vom Metr. ♩ = 45 bis ♩ = 90

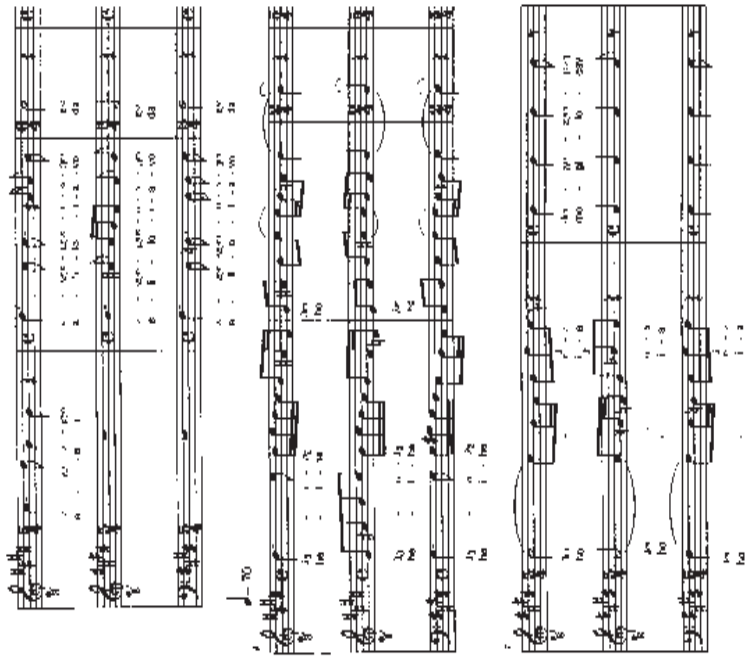
Zeitwerte:	♩	♪	♬	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯
♩ = 45	1,333	0,667	0,333	0,167	0,083	0,042
♩ = 46	1,304	0,652	0,326	0,163	0,082	0,041
♩ = 47	1,277	0,638	0,319	0,160	0,080	0,040
♩ = 48	1,250	0,625	0,313	0,156	0,078	0,039
♩ = 49	1,224	0,612	0,306	0,153	0,077	0,038
♩ = 50	1,200	0,600	0,300	0,150	0,075	0,038
♩ = 51	1,176	0,588	0,294	0,147	0,074	0,037
♩ = 52	1,154	0,577	0,289	0,144	0,072	0,036
♩ = 53	1,132	0,566	0,283	0,142	0,071	0,035
♩ = 54	1,111	0,556	0,278	0,139	0,070	0,035
♩ = 55	1,091	0,545	0,273	0,136	0,068	0,034
♩ = 56	1,071	0,536	0,268	0,134	0,067	0,033
♩ = 57	1,053	0,526	0,263	0,132	0,066	0,033
♩ = 58	1,034	0,517	0,259	0,129	0,065	0,032
♩ = 59	1,017	0,509	0,254	0,127	0,064	0,032
♩ = 60	1,000	0,500	0,250	0,125	0,063	0,031
♩ = 61	0,984	0,492	0,246	0,123	0,061	0,031
♩ = 62	0,968	0,484	0,242	0,121	0,060	0,030
♩ = 63	0,952	0,476	0,238	0,119	0,060	0,030
♩ = 64	0,938	0,469	0,234	0,117	0,059	(0,029)
♩ = 65	0,923	0,462	0,231	0,115	0,058	(0,029)
♩ = 66	0,909	0,455	0,227	0,114	0,057	(0,028)
♩ = 67	0,896	0,448	0,224	0,112	0,056	(0,028)
♩ = 68	0,884	0,442	0,221	0,111	0,055	(0,027)
♩ = 69	0,870	0,435	0,217	0,109	0,054	(0,027)
♩ = 70	0,857	0,429	0,214	0,107	0,054	(0,027)
♩ = 71	0,845	0,423	0,212	0,106	0,053	(0,026)
♩ = 72	0,833	0,417	0,208	0,104	0,052	(0,026)
♩ = 73	0,822	0,411	0,205	0,103	0,051	(0,026)
♩ = 74	0,811	0,405	0,203	0,101	0,051	(0,025)
♩ = 75	0,800	0,400	0,200	0,100	0,050	(0,025)
♩ = 76	0,789	0,395	0,197	0,099	0,049	(0,025)
♩ = 77	0,779	0,390	0,195	0,097	0,049	(0,024)
♩ = 78	0,769	0,385	0,192	0,096	0,048	(0,024)
♩ = 79	0,759	0,380	0,190	0,095	0,047	(0,024)
♩ = 80	0,750	0,375	0,188	0,094	0,047	(0,023)
♩ = 81	0,741	0,370	0,185	0,092	0,046	(0,023)
♩ = 82	0,732	0,366	0,183	0,091	0,046	(0,023)
♩ = 83	0,723	0,361	0,181	0,090	0,045	(0,023)
♩ = 84	0,714	0,357	0,179	0,089	0,045	(0,022)
♩ = 85	0,706	0,353	0,176	0,088	0,044	(0,022)
♩ = 86	0,698	0,349	0,174	0,087	0,044	(0,022)
♩ = 87	0,690	0,345	0,172	0,086	0,043	(0,022)
♩ = 88	0,682	0,341	0,170	0,085	0,043	(0,021)
♩ = 89	0,674	0,337	0,169	0,084	0,042	(0,021)
♩ = 90	0,667	0,333	0,167	0,083	0,042	(0,021)

Anmerkung: Die Zeitwerte unter 0,030 Sekunden wurden eingeklammert, da nach O. Abraham und Karl L. Schaefer (Zeitschrift f. Psychologie u. Physiologie der Sinnesorgane, 20/1899, S. 408 ff.) die Grenze der Deutlichkeit bei etwa 0,035 Sekunden liegt (vgl. auch Friedrich Klugmann, Die Kategorie der Zeit in der Musik, Bonn 1961, S. 57).

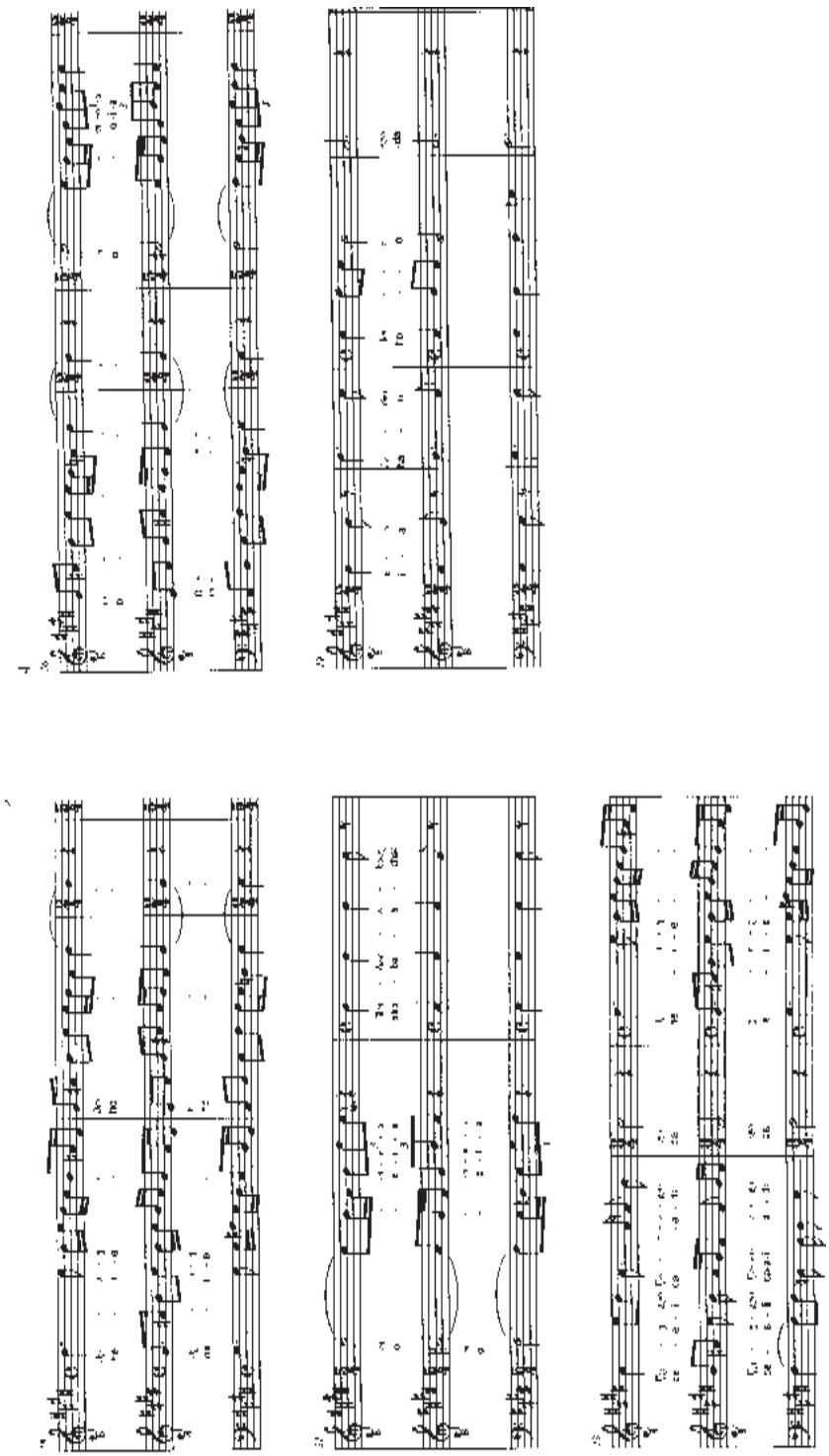


სურათი 6.
Figure 6.

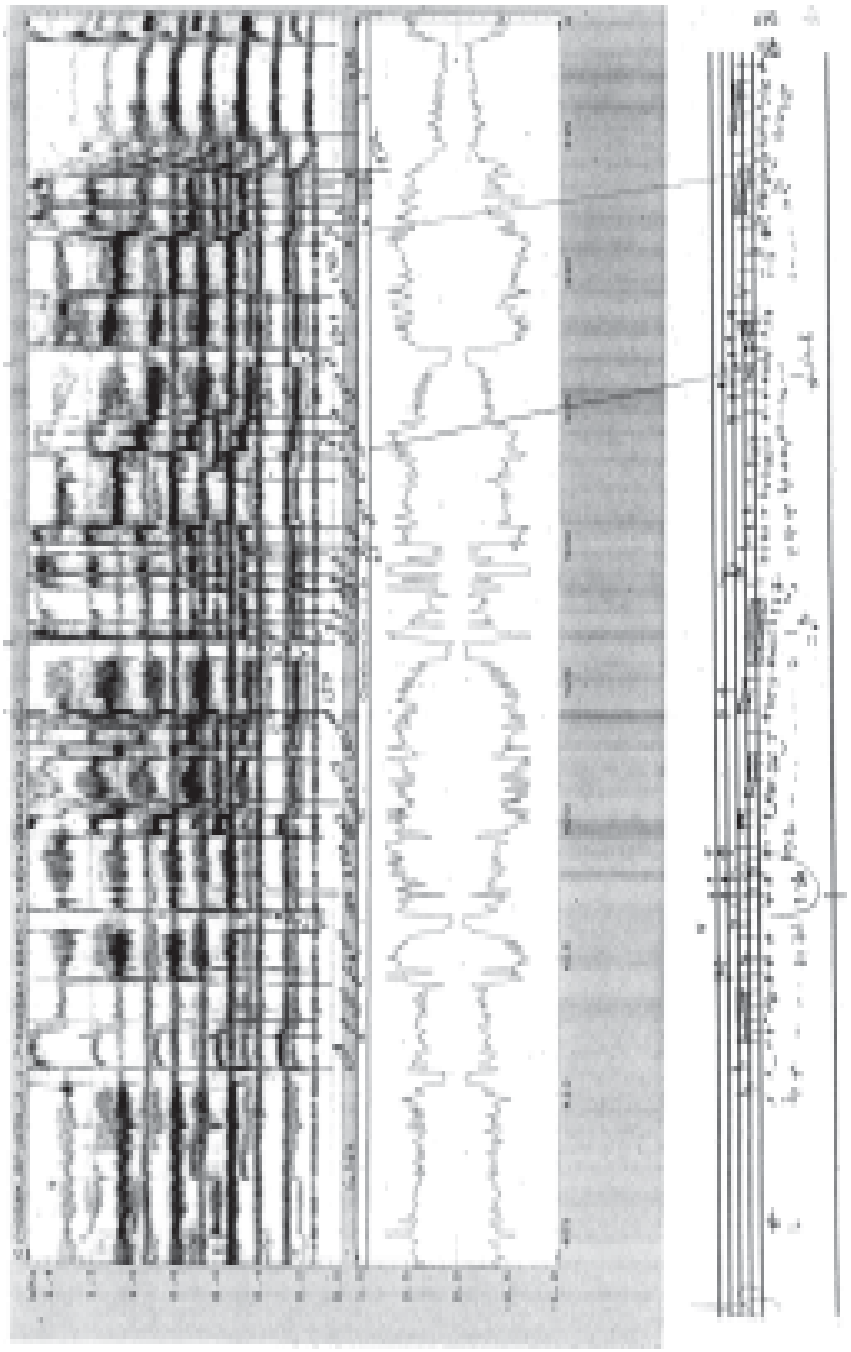




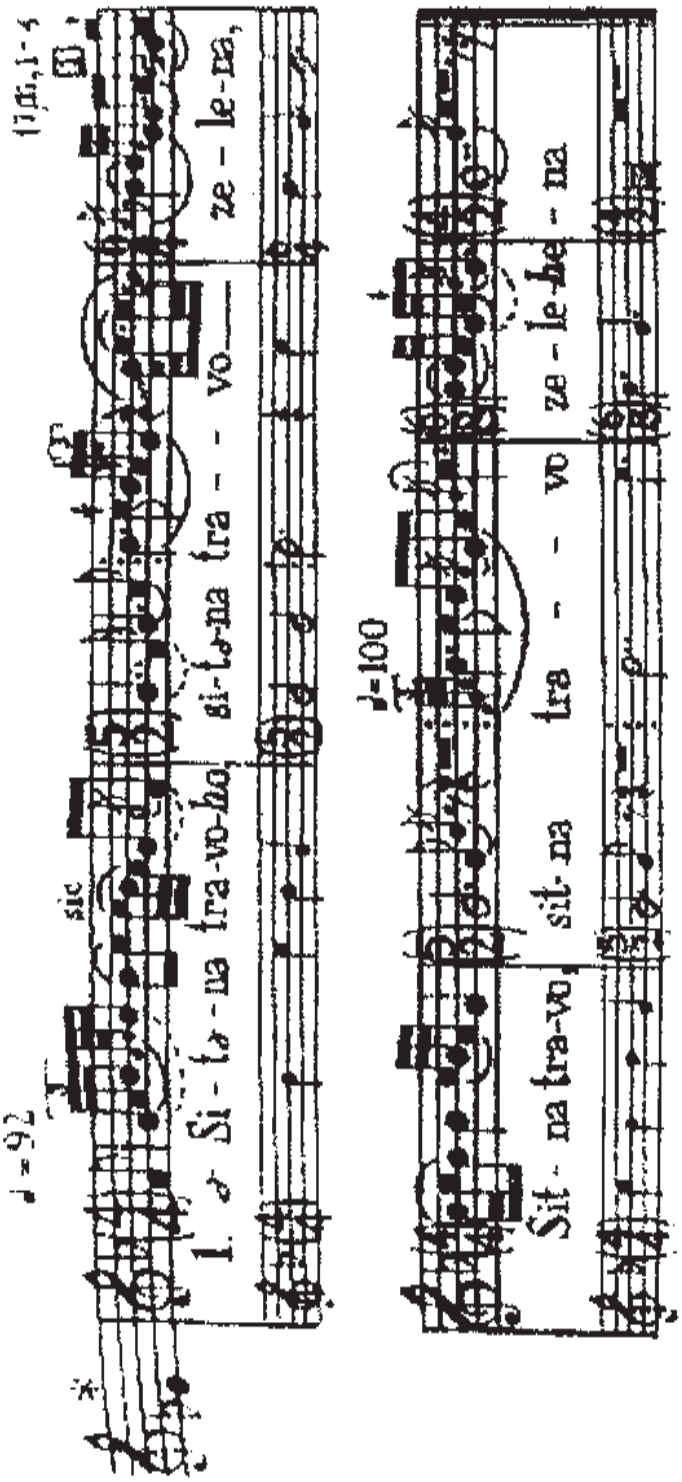
სურათი 7. "ალილო"
Figure 7. "Alilo"



სურათი 7. (გაგრძელება)
Figure 7. (Cont'd)



სურათი 8.
Figure 8.



სურათი 9.
Figure 9.