

**Otomatik Armonizasyon İşlemleri Müzik Yazılım Programları  
Üzerinde Çokseslendirme Analizleri**

**Polyphonic Analyses On Automated Armonisation Processing Music  
Software**

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DOI=[10.17556/jef.04612](https://doi.org/10.17556/jef.04612)

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**Extended Summary**

**Purpose**

It was determined from literature review that quality and quantity of the studies using the note software programs; finale and sibelius to some extent are limited. Tonica Fugata is another software program among those belonging to musical science and related academic literature which seems not to be used densely. When considered all these points, the main point in the study is to investigate thoroughly the automated harmonisation processes included by finale, sibelius and tonica fugata software programs. Secondary aim of the study is to determine the overlapping aspects of automated harmonisation characteristics with traditional classical harmony principles. After the determination of general view of programs through descriptive analyses, numerical results tried to be obtained from different harmonisation styles taking place in tonica fugata programs. Main purpose at this point is to support descriptive analyses with numerical data.

**Method**

The study is a descriptive research and designed by investigating automated harmonisation process characteristics of three different music software programs and analysing soprano party polyphonic works obtained from these process files. Another important aspect of the study is the evaluation of harmonisation processes obtained from Tonica Fugata program by three experts through gradual scoring key harmonisation processes. According to Kaptan (1998), scientific events start by describing phenomena and thus understanding them better, providing grouping opportunities and determining the relationship between them.

**Results**

The highest score in harmonisation processes conducted for Tonica Fugata software was given to styles J. Sebastian Bach II (26 p), Teststil (24.33 p), J. Sebas-

tian Bach I (22.33 p) and Samuel Scheidt (21.67) styles. Such results show that the harmonisation style overlapping with the the traditional harmony principles of the program the most was determined to be J. Sebastian Bach II while the least overlapping one is that of Samuel Scheidt. In all styles, connections of ending accords were constructed correctly by obeying the rules of voice limits between parties and voice layers of the accords. In the application of the ending accord, a low score (3.33) was seen resulting from the use of Dp accord in J. Sebastian Bach I style. It was seen in again all styles that accords were designed correctly at the end of the first sentence and the beginning of the second one.

### **Discussion**

Tonica Fugata software program is preferred by teachers and learners less than Finale and Sibelius programs. Such a situation results from the fact that it is not as practical as other programs for note writing and its content is designed absolutely for polyphonic aims. It is seen when the program is evaluated in convenience with the aim of the study that it has very comprehensive characteristics for automated harmonisation process properties. It is highly possible that some positive results may be seen when considered the contributions of the automated harmonisation content features of the program to music education field.

### **Conclusion**

Analyses in the study show that harmonisation processes taking place in Finale note software have a full orchestration design coverage. It is seen that it is not possible using this program to make a coral designed work in convenience with traditional classical harmony principles. In addition, it was found that there are some deficiencies in periods belonging to harmonisation processes carried out in Tonica Fugata program in the respect of the principles in musical forms. Ending accords located in question and answer sentences do not exhibit a distinguishing structure between among themselves and show an audial mono-form.

Positive results obtained from Tonica Fugata software program are as follows. 1- harmonisation processes with cannon and horizontal harmony characteristics the program offers in addition to vertical harmonisation allow students to use different working strategies, 2- it is seen when the studies used in experimental process section are taken into consideration that T junction of ending accord is completed using permanently dominant accord, 3- foreign voices for the accord used in J. Sebastian Bach I and II styles, side stage accords and circuiting accords elaborated harmonisation process, 4- all the voices in Bass party were symbolized correctly, 5- no voice interval excess was experienced between Alto-soprano and tenor-soprano parties. 6- reverse motions at certain level in especially the relations between two outer parties; soprano-bas parties and other parties were provided, 7- sub – dominant accord was never used after dominant accord. Such positive aspects of the program can give positive opinions to students and allow them make comparison. In addition to such positive results, other analyses experienced in experimental processes are as

follows; 1- circuiting or side stage accords were never used in Samuel Scheidt style, 2- voices foreign to accord were seen densely in harmonisation processes experienced in J. Sebastian Bach I, J. Sebastian Bach II and Test style files; these foreign voices forming in quartet note value in alto, tenor and bas parties were harmonised with a different accord. 3- J. Sp accord used in Sebastian Bach and Test style files was set up in continuous footing. According to Cangal (2005), Sp accord is mostly used in the first circuit (sextet); in such a situation, trio of accord used in bass party is the basic voice of subdominant and therefore, the effect of subdominant is felt better; 4- septet form of dominant (D) and subdominant parallel (Sp) accords was never experienced, 5- second circuit accords were never used.