

## **On the Assignment of Structure in Music**

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On a higher level, this paper considers musical structure and the attributes that define it. But more specifically, it considers how leads are assigned to a particular voice by pianists in order to distinguish it as the melody. This paper mainly consists of four experiments and their results. This paper was well organized and written. The experiments and their results were explained clearly.

The first experiment was conducted in an effort to answer three questions: are melody leads used to emphasize melodic structure, are melody leads common across performers, pieces, and acoustical and mechanical key-board properties, and how much flexibility do performers have with expressive features such as melody leads. There were 6 total participants in this experiment. There were 3 professional pianists with 23-30 years of experience and 3 student pianists with 14-21 years of instruction. A distinction was made between students and professionals in order to test the effects of experience on the control of expressive performance. The first 27 bars of Chopin's Prelude in D♭ Major (Op. 28, No. 15) were used as the test piece. This piece was selected in order to test the degree to which musical style may influence performance. Romantic music (including Chopin's) is performed with more expression. Each participant played the piece until they were satisfied with their performance. They then notated their interpretation of the piece, including melody selection, tempo, phrasing, and dynamics on an unmarked score. They were then asked to play the piece again without expression or "mechanically". The consensus on melody interpretation ranged from 80% to 97%. Melody leads corresponded to each performer's musical interpretations of melody. The voice intended as melody preceded the other voices in chords in all performances. These leads were greater for experts than students. Melody leads decreased in mechanical performances. They were produced separately from other cues to musical expression.

The second experiment attempted to determine how expressive performances develop as a pianist learns an unfamiliar piece. There were 10 total participants in this experiment. There were 5 professional pianists with 24-31 years of experience and 5 student pianists with 12-22 years of instruction. Again, a distinction was made between students and professionals in order to test whether the effects of practice may differ based on expertise. The first 16 measures of Beethoven's Bagatelle in G Major (Op. 126, No. 1) were used. Each participant played the piece 6 to 10 times. The first and last 3 performances of each participant were selected for testing. They then notated their interpretation of the piece, including melody selection, tempo, phrasing and dynamics on an unmarked score. They then played again "mechanically". It was found that small but consistent melody leads were applied to the voice intended as melody. Melody leads increased with practice, were smaller than in well-learned performances, and were the smallest in mechanically performed pieces.

The third experiment asked how adaptable a musical performance and expression is in a well learned piece. Does a change in interpretation result in a change in expressive gestures such as melody leads? This experiment used 1 skilled pianist with 16 years of instruction. The first 8 measures of the theme from Beethoven's Sonata in E Major (Mv. 3, Op. 109) were selected. This piece was selected because there are two voices that may be interpreted as the melody. The pianist was asked to play the piece, regular and in an exaggerated fashion, with the upper voice as the melody. He was then asked to play again, regular and in an exaggerated fashion, with the lower voice as melody. He was then asked to notate his interpretation of the piece, including tempo, phrasing and dynamics on an unmarked score. It was found that melody leads changed to reflect melodic interpretation. Melody leads increased in exaggerated

performances. Intended melody affected melody leads and dynamics but not damper pedaling, rubato, or articulation. Melody leads were greater for the upper voice interpretation.

The fourth experiment attempts to answer the following questions: do listeners choices of melody vary with the amount and location of melodic lead, are listeners more likely to choose a voice as melody if the lead on that melody is larger, do intensity changes serve as another cue to melodic interpretation, and does performance experience influence melodic interpretation? There were a total of 16 participants in this experiment. There were 8 pianists with an average of 18 years of instruction and 8 non-pianists with an average of 12 years of instruction on non-percussive instruments. These participants were asked to listen to several variations of the piece from the third experiment. The piece was altered so that one version contained both intensity and timing information, another contained only timing information and another was without timing or intensity. The participants were shown two scores, one with the upper voice as the melody and another with the lower voice as melody. They then listened to the various versions of the piece and were asked to pick which interpretation was being played. Their selection was done on a 1-6 scale where 6 represented the upper voice interpretation and 1 represented the lower voice interpretation. It was found that both melody leads and intensity influenced listener's selection of melodic voice. The larger the lead in a voice, the more likely listeners were to select it as the melody. Only listeners with keyboard experience showed influences of melody lead on their choices but everyone was equally influenced by intensity.

Even though the findings in these experiments are valuable, it is a little too limited in its scope. There are often numerous contributing factors in any situation. I doubt that this case is different. Melody leads may in fact be a factor in determining and fortifying a melody but I doubt that it is the only factor. It would be interesting to see the effects of melody lead in conjunction with other factors. Also, the experiments only consider 3 pieces of music. It is hard to draw all encompassing conclusions from results gained from the analysis of such a small test set.