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Principles of Anticipation and Movement Cycles Applied to Piano Gestures in the Brazilian Repertoire for Piano Four Hands

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Abstract

This study deals with a proposal on pianistic technique related to interdisciplinary approaches on planning, direction and simplification of body movements. As a part of this research, we examine and analyze piano gestures and movements used by two pianists during the practice of music excerpts from the Brazilian repertoire for piano four hands. The article's authors are the subjects. The research is based on the principles of anticipation (Póvoas & Barros, 2017; Schmidt & Lee, 2014) and movement cycles (Póvoas, 1999, 2006) in light of the integration of gestures as technical and strategic resources for recognizing and acquiring motion control applied during the construction of a piano performance to enhance the effects of melodic and rhythmic materials and the expressiveness of the pieces (Juslin, 2003; Van Zij & Sloboda, 2011). As a methodology, sound-inducing performance strategies were applied during the practice of one a piano duo and subsequently qualitatively analyzed, taking into account the anticipated trajectory of gestures (hand and arm movements) in excerpts of works for piano four hands by Brazilian composers Osvaldo Lacerda (1927–2011) and Edson Zampronha (1963–).

Introduction

In this work, we discuss organized gestures and movements while playing the piano that were tested during the practice of excerpts from selected pieces of the Brazilian repertoire for piano four hands for the purpose of improving the integration of the performers thereby optimizing the performance. It is about piano playing: anticipation and movement cycles applied to piano gestures in selected repertoire by Lacerda and Zampronha. It is about piano technique related to interdisciplinary approaches to planning, direction and simplification of body movement by applying movement cycles and

anticipation while practicing piano duets. We investigated the piano practice process while preparing the repertoire for a four-hand piano recital in order to analyze piano gestures and movements.

Our intentions were concentrated on the composer's aims for the performance of the pieces. We attempted to investigate compositions that provide practice opportunities for a broad repertoire of four-hand piano, demonstrating different aspects of piano writing and specific rhythmic and melodic characteristics in some of the works accompanied by specific performance options. In this context, for the purpose of optimizing the impact of the performance, we also aimed to implement movement cycles and identify the gesture anticipation of these elements, considering the effects on sound linked to specific musical characteristics.

Context

In practicing four-hand piano repertoire, there are performance situations that require the pianists to explore technically more appropriate movements and gestures. The aim of these movements and gestures should focus on improving sound. Usually, before working together, pianists study their parts (primo or secondo) individually, solving technical and musical issues, often without providing more complex gestures required in duo performance interaction (Williamon & Davidson, 2002). When working together, pianists describe movements that often were not considered in individual practice. In this case, it is necessary to adjust the movements to adapt to pianistic gestures often prolonging the learning process. The schema of this process is shown in Figure 1.

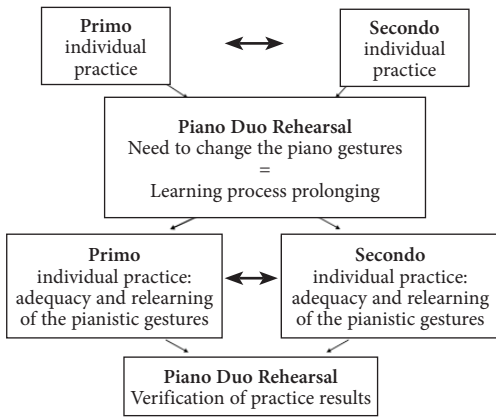


Figure 1. Piano duo individual practice without prior adjustment.

Thus, as a result, the pianists encounter music passages that require them to explore more appropriate gestures in order to improve the performance and synchronization of movements. Movements and gestures accompanied by appropriate technical body strategies to the musical text should aim for improved sound and consequently expressiveness (Juslin, 2003: 277, 278, 287) and communication (Van Zijl & Sloboda, 2011). Our hypothesis is that individual practice with gestures appropriate to the duo situation may increase practice effectiveness, as shown in Figure 2.

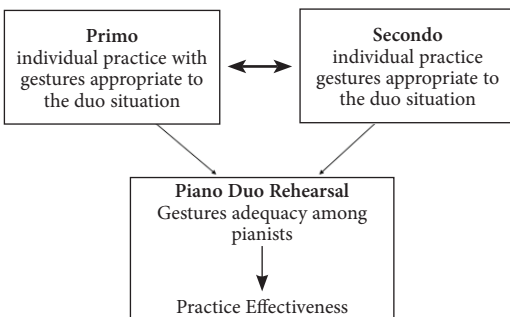


Figure 2. Piano duo practice effectiveness.

In this way, sound synchronization may greatly depend on procedures that could be adopted during individual piano practice and again during duo practice. In this context, the theoretical references of our investigation include concepts from the principles of anticipa-

tion (Magill, 2000: 83–87; Schmidt & Lee, 2014: 32–35) and movement cycles (Póvoas, 1999: 87–110). Both are reviewed and applied from the point of view of gesture integration, understood as the union of two or more movements (Póvoas & Barros, 2017: 3).

Pianistic action is considered an activity of construction, and the element of movement is the path to this action (Póvoas, 1999: 80–86). Anticipation is a phenomenon that occurs before and during movement; it is a characteristic of high-performance motor skills (Schmidt & Lee, 2014: 33). A movement cycle is known as the sequential organization of musical events aggregated in flexible gestures, selected according to music writing. A musical event is one or more notes vertically grouped. A movement cycle is based on the utilization of the initial impulse and the control over the intermediate impulses that constitute the movements (Póvoas, 1999, 2006).

Cycles can be shown by arrows (Figure 3). The extension of each arrow represents the displacement of the X coordinate; the up and down orientation of the arrows indicates the movement in relation to the Y coordinate and the curves for the Z coordinate.

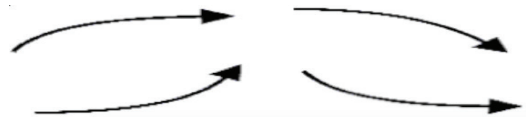


Figure 3. Arrow direction.

The direction of the cycle is defined according to musical and technical efficiency, in order to optimize pianistic actions, as seen in the following score containing arrows (Figure 4).

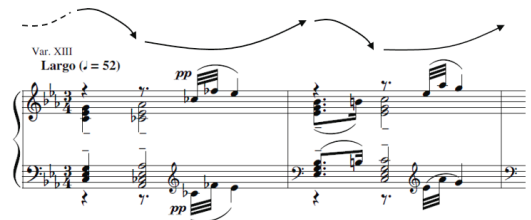


Figure 4. Two Movement Cycles - Trajectory Orientation Line. Variation XIII (mm. 1–2), Rachmaninoff's Variation on a Theme by Chopin, Opus 22 (1903).

In the following figure, we see the lines indicating the direction and extension of the gestures at coordinates X, Y, and Z, where the X coordinate is related to the lateral movement of the hand, wrist, and arm along the extension of the keyboard; the Y coordinate is related to the upward movement of the wrist or arm considering its height in relation to the keyboard; the Z coordinate is related to the in and out the movement of the hand in relation to the keyboard depth (Figure 5).

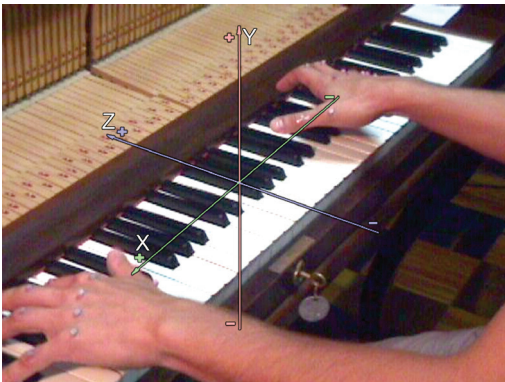


Figure 5: Keyboard correlations - Coordinates X, Y, Z (photo credits Póvoas, 1999: 94).

Method

Our objective was to analyze the technical and interpretive synchronization of two pianists during practice and performance by applying the strategies discussed above in excerpts of *Brasilianas No. 8* (1978) for piano four hands by Osvaldo Lacerda and *Composition for Piano Four Hands and Two Comments* by Edson Zampronha (1985–2005). Sound performance strategies were applied during the practice of a duo and subsequently qualitatively analyzed while considering the anticipated trajectory of gestures (hand and arm movements) in excerpts of the pieces cited.

This exploratory case study was conducted by a professional piano duo that prepared seven pieces for piano four hands by the composers Lacerda and Zampronha. The methodology consisted of four phases as shown in the Figure 6.

The first phase consisted of seven practice sessions lasting up to two hours each; each ses-

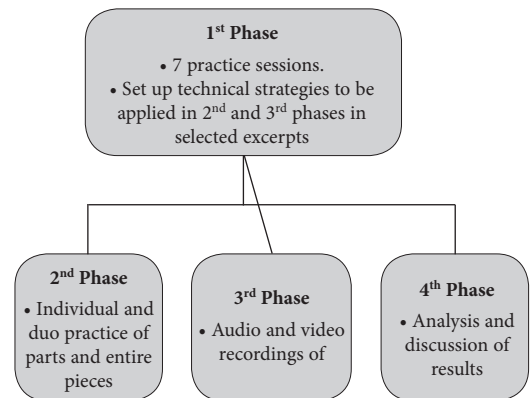


Figure 6. Case study phases.

sion was dedicated to one piece. This phase was the basis for the entire study, as the duo established strategies considering the demand of gestures implied from the score and their relation to the desired sound effects for select excerpts of the pieces. The strategies considered the anticipated trajectory of gestures (hand and arm movements) on the movement cycles.

The second phase lasted one month, in which the duo applied sound-inducing performance strategies during intercalated individual and duo practice sessions. The third phase consisted of video recording of individual and duo practice of selected excerpts and the entire pieces, placing the camera at different angles, laterally and from top to bottom. During the last phase, we plan to focus on data analysis, as well as a description and discussion of further results.

Discussion and Partial Results

We observed that practicing the proposed strategies in certain music excerpts allows for enhanced performance. We understood that even when considering variables, anticipating gestures during individual practice, when appropriate for a duo during a real performance situation, makes it possible to shorten the pianists' adjustment period.

While practicing Lacerda's *Working Song* (1978, mm.104–107), it was necessary to anticipate gestures by applying a movement cycle for the right-hand secondo (Figure 7).

Figure 7. The anticipation of a movement cycle. Working Song (mm. 104–107), Lacerda (1978).

In the next excerpt of the same piece, measures 68–70, there is a situation of limited movement caused by the proximity of the pianists' hands. In this case, both pianists must consider synchronization, expecting anticipating gestures (Figure 8).

Figure 8. Converging Contours between Primo and Secondo. Working Song (mm. 68–70), Lacerda (1978).

Figure 9. Movement Cycle for *Primo* and *Secondo*, *Four Hand Piano Composition*, mm. 7 and 8. Zampronha, 1985/2005.

For the piano performance of the next musical passage, as well as for similar pianistic situations, the choice of technical-instrumental strategy and the anticipation of gestures are indispensable conditions to ensure greater performance efficiency of the pianists and consequently the intended resulting sound. The Figure 9 shows where the motion cycle feature was applied.

Conclusion

Investigating the practice of piano duos is a developing research field and could contribute to optimizing both the musical performance and the expressiveness of this ensemble format. Thus, it helps towards increasing the efficiency of practicing the piano, reflected in the overall optimization of the piano performance.

The practical application of the theoretical principles emphasizes the importance of integrating movements in the cycle considering their initial impulse and its trajectory in the X, Y and Z coordinates, in order to provide sound-performance practice strategies. We raise a hypothesis that the anticipation of pianistic gesture and planning of the movement trajectory should occur mainly in fast-tempo pieces.

Anticipation and movement cycles, if appropriately added to practicing for real situations in duo performances and predicting the indicated speed, can avoid movement constraints or technical blocks between pianists. In this way, they optimize the overall performance with more efficient results.

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