Study on the Perception of the Timing of Gestures and their Notation among Spanish Dancers, Mexican Traditional Dancers, and Musicians

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Introduction

In 2007 János Fügedi presented a proposal for modifying the criteria for notating the timing of supports in the Laban notation system, non-contacting and contacting gestures (Fügedi 2007: 40-42): based on his experience with Hungarian traditional dances, he suggested that supports and non-contacting gestures be written in unit timing (UT) and that, at the same time, the symbols expressing contacts (such as foot hooks or horizontal bows) be written in specific timing (ST). This initiative, which is now called "rhythm timing" (RT) (Fügedi 2012: 59) for its emphasis on the importance of capturing the movement rhythm, sparked questions and controversy (Fügedi 2007: 33, 35, 40; Fügedi 2012: 59-60; Fügedi 2014b: 121).

The main controversy centered on the standard notation practice of how timing systems are used. The apparent rule was that a score should be written either in UT or in ST, but both systems were not supposed to be used together. However, in 2014 Fügedi demonstrated that this "rule" had not been applied consistently throughout the history of Labanotation because he found examples of what could be identified as RT in scores belonging to ballet, modern and contemporary dance, and historical dances (Fügedi 2014b: 128-132). This evidence ended the argument that said that RT represented a change in standard Labanotation practice.

However, the question that has not been answered yet is which of the three timing systems (ST, UT, RT) responds best to the criteria suggested by Fügedi and Gábor Misi (Fügedi 2007: 33, 42; Fügedi and Misi 2009: 45-46; Fügedi 2014b: 132) and in which circumstances should each one be applied. The criteria they mentioned are: simplicity in the notation, visual clarity, and precision in the indication of gestures and contacts, all of which should facilitate the recognition of the movement rhythm

and consequently make the reading, learning and performing easier. While all dance genres may benefit from obtaining an answer to this crucial but vast question, it must be pointed out that it is particularly important for countries that have a rich traditional dance tradition. In such cases, an efficient way of notating complex movement and rhythmic patterns is required for notational, teaching and performing reasons.

So, in response to Fügedi's call for further research on the issue, this study hopes to contribute additional information that was gathered from a wider range of dance traditions. Even though this investigation may offer new data, it must be said that attempting to answer the main question will remain beyond its scope.

Aims of the Study

Having followed with great interest the presentation of Fügedi's research on the subject, the authors decided to apply the survey he had tested on Hungarian subjects to Mexican traditional dance and Spanish dance students. The purpose of this was to verify his hypothesis with a population that had no previous knowledge of Hungarian dances.

In order to expand the investigation even further, the authors decided to include a control group of music students. The reasons for choosing this group were their rhythmic knowledge in terms of music notation.Their training emphasizes a rigorous metrical timing in the performance of their movements and this makes them ideal subjects for the study of the perception of the movement rhythm.

One other aspect that this study will investigate is whether a previous training in Labanotation (LN) or Language of Dance (LOD) influences the responses to the survey and if so, in which way. The reason for raising this matter is that, given the nature of the study, the authors consider that the answers of those students who have a previous knowledge of LN or LOD might possibly be closer to Fügedi's hypothesis.

Methodology

In 2012, the authors ran a pilot study to test the viability of applying Fügedi's survey (Fügedi 2012: 60-67) to Mexican subjects. While the results did show a general tendency towards notating the dance sequences in UT, several difficulties presented themselves due to what the authors consider to be cultural differences. The main differences were:

- The students who responded knew LOD but not LN.
- The students were stressed by the situation.
- The students kept thinking it was a test and tried to copy the answers from one another.
- A learning curve was apparent in that the notation for the first video clips was different (less accurate) from that of the last video clips (more accurate).

- The duration of the test exceeded the time allowed by the school for the application of the study.

To deal with these differences the authors decided to reduce the number of video clips shown. Fügedi's survey contained 12 video clips from which 6 were selected. The order of the video clips set by Fügedi was maintained, according to which each video clip contained increasing difficulties in terms of the amount of parts of the body that were moving and the actions that were being performed (table 1).

Table 1. Description of the video clips used in the survey

Video clip number	Description of the main actions	Corresponding number in Fügedi's study (Fügedi 2012b)
1	Steps (supports)	2
2	Springs with knee flexion and extension (supports and leg gestures)	4
3	Steps and arm movements (supports, leg gestures and arm gestures)	6
4	Claps and steps (supports and arm gestures with contact)	8
5	Claps and leg lifts (supports, leg gestures and arm gestures with contact)	10
6	Leg lift and leg hit (supports, leg and arm gestures with contact)	11

The authors also decided to give a brief background introduction to the study before applying the survey and to insist that it was not a test, that it was anonymous, and that it was important not to copy the answers because the survey was looking for variety in the answers, not uniformity.

The procedure for the application of the survey was the following:

- The authors presented themselves and gave brief background introduction to the study.
- They handed out the answer sheets and pencils with erasers.
- They explained how the sheets were to be filled.
- The 6 video clips were shown, one by one. Each one was played as many times as the students needed.
- The students filled the answer sheets and handed them in.

On average, the introduction and the initial explanations took 10-15 minutes and the application of the survey, 45 minutes. In the survey, the students were asked

to register the start of an action with a dot and to draw an arrow to indicate the duration of the movement. The arrows were to be drawn in the empty spaces.

The survey was applied to a total of 70 students. 62 students came from two dance schools that belong to the National Institute of Fine Arts: the Escuela Nacional de Danza "Nellie y Gloria Campobello" (ENDNGC) and the Academia de la Danza Mexicana (ADM). The 52 students from the ENDNGC are studying the BA in Dance Education (Spanish Dance and Mexican Traditional Dance). The 10 students from the ADM are studying the BA in Mexican Popular Dance. The control group consisted of 8 students from the BA in Ethnomusicology of the Facultad de Música (FaM), which belongs to the National Autonomous University of Mexico (table 2).

Table 2. Students surveyed according to school, folk dance tradition and level of study

Academic level	Spanish dance	Mexican folk dance	Music	
	ENDNGC	ENDNGC	ADM	FNM
1st year	5	20	-	-
2nd year	8	3	6 (LN)	8
3rd year	9 (LOD)	-	4 (LN)	-
4th year	7 (LOD)	-	-	-
Subotal	29	23	10	8
TOTAL	70 STUDENTS			

Unfortunately, due to time restrictions as well as limited human and material resources, the authors have to admit that they were not able to include all the participants they originally intended to. It was not possible to apply the survey to all the groups in each school nor did all the students of the participating groups attend the day of the application. This occurred mainly because of institutional problems—more specifically, difficulties with the schools' calendars—, and it affected the control group in particular.

With regard to the LN or LOD training among the participants of the study, this is the information: the 3rd and 4th year students of Spanish Dance (ENDNGC) have basic LOD training; the 2nd and 3rd year students of Mexican Popular Dance (ADM) have basic LN training. All the rest of the participants, including the musician control group, have no knowledge at all of either LN or LOD. See table 2.

Results

The first step in processing the survey was to select which answers were valid and which were not. The authors' criteria for rejecting an answer were:

- The instructions were not followed (figures A and B).
- The action pattern of the dance sequence was undistinguishable (figures C and D).
- The notation was left unfinished (figures E and F).

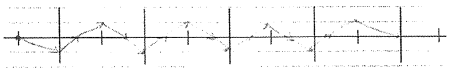


Fig. A

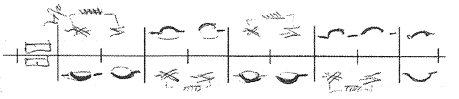


Fig. B

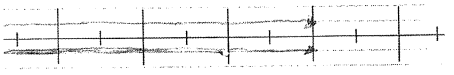


Fig. C

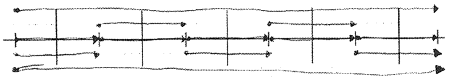


Fig. D

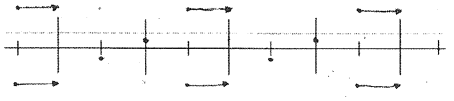


Fig. E

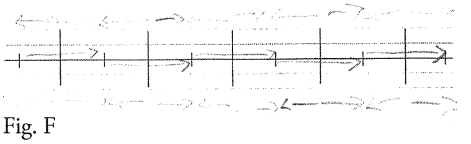
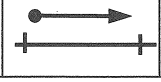
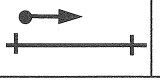
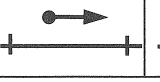
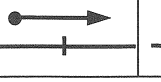
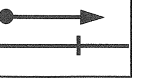


Fig. F

The second step was to identify the valid answers. To do so, the authors followed Fügedi's 2012 typification of the five graphical solutions given by the Hungarian subjects. Thus, A is the real UT answer, B, C, and D are UT-like answers, and E is ST (table 3).

Table 3. Identification of valid answers

	A	B	C	D	E
Graphic solution					

Source: Fügedi 2012b: 65, Fig. 15.

Table 4 shows the total sum of answers, separating the valid answers from the invalid ones.

The next step was to analyze the information obtained according to school, traditional dance tradition and LN or LOD training.

a) Results for the Spanish Dance Students

Table 5 shows the overall results for the Spanish dance students and includes both groups that have and do not have LOD training. It indicates that a 98% of the valid answers were written in UT. Of this total, 95% of the answers were UT type A, 4% were UT type D and 1% was UT type B. Nonetheless, 2% registered supports, leg and arm gestures in ET.

The 1st and 2nd year students, who have no knowledge of LOD, had 97% of the answers in UT. Of this total, 93% of the answers were UT type A and 7% were UT type D. It is interesting to note that these students also registered some answers in ET (3%) and only 10% of the answers were rejected (table 6).

LOD is taught in the 3rd year of the BA in Dance Education at the ENDNGC, which means that the 3rd and 4th year students have a basic knowledge of this analytical tool. However, contrary to expectations, these groups had a 15% of invalid answers and only 1 answer in ET (1%). They had 99% of the answers in UT. Of this total, 97% of the answers were UT type A, 2% were UT type B and 1% was UT type D (table 7).

b) Results for the Mexican Traditional Dance Students

Table 8 shows the overall results for the Mexican traditional dance students and includes groups that have no knowledge of LOD or LN and groups that have a basic knowledge of LN. It indicates that a 100% of the valid answers were written in UT. It is interesting to note that these students wrote 95% of their answers in type A, while very few gave UT type B and D answers (4%) and there was only 1 ET answer (1%). These students also had the highest percentage of invalid responses: 18%.

The 1st and 2nd year Mexican traditional dance students from the ENDNGC have no LOD or LN training. They were the largest group to participate in the survey and they had the highest percentage of invalid answers (24%). They gave no ET answers but they did give 9 UT type B answers (6%); all the rest of the answers were UT type A (94%) (table 9).

In the case of the 2nd and 3rd year Mexican traditional dance students from the ADM, who have a basic knowledge of LN, almost all the answers were in UT (99%). Of this total, 97% of the answers were UT type A and 3% were UT type D. There was only 1 ET answer (1%). It is interesting to note that in this school only two answers were invalid (2%) (table 10).

Table 4. Classification of the answers

Video clips	A	B	C	D	Total UT [1]	% [2]	E	% [3]	Total valid answers [4]	% [5]	Invalid answers	% [6]	Total [7]
1	52	1	0	3	56	98%	1	2%	57	81%	13	19%	70
2	53	2	1	2	58	98%	1	2%	59	84%	11	16%	70
3	53	2	1	1	57	97%	2	3%	59	84%	11	16%	70
4. Legs	56	3	0	1	60	97%	2	3%	62	89%	8	11%	70
4. Arms	54	4	0	1	59	95%	3	5%	62	89%	8	11%	70
5. Legs	56	2	0	4	62	98%	1	2%	63	90%	7	10%	70
5. Arms	54	4	1	0	59	97%	2	3%	61	87%	9	13%	70
6. Legs	55	2	0	5	62	98%	1	2%	63	90%	7	10%	70
6. Arms	53	3	0	2	58	98%	1	2%	59	84%	11	16%	70
Total	**486**	**23**	**3**	**19**	**531**	**97%**	**14**	**3%**	**545**	**87%**	**85**	**13%**	**630**

[1] Sum of A to D;
[2] Total UT / Total valid answers;
[3] Total E / Total valid answers;
[4] Sum of A to E;
[5] Total valid answers / Total;
[6] Invalid answers / Total;
[7] Total valid answers + invalid answers

Table 5. Spanish dance students (ENDNGC)—all academic levels

Video clips	A	B	C	D	Total UT [1]	% [2]	E	% [3]	Total valid answers [4]	% [5]	Invalid answers	% [6]	Total [7]
1	24	0	0	2	26	100%	0	0%	26	90%	3	10%	29
2	24	0	0	1	25	100%	0	0%	25	86%	4	14%	29
3	24	0	0	0	24	96%	1	4%	25	86%	4	14%	29
4. Legs	24	0	0	1	25	96%	1	4%	26	90%	3	10%	29
4. Arms	23	1	0	0	24	96%	1	4%	25	86%	4	14%	29
5. Legs	25	0	0	2	27	100%	0	0%	27	93%	2	7%	29
5. Arms	22	1	0	0	23	96%	1	4%	24	83%	5	17%	29
6. Legs	25	0	0	1	26	100%	0	0%	26	90%	3	10%	29
6. Arms	22	1	0	1	24	100%	0	0%	24	83%	5	17%	29
Total	**213**	**3**	**0**	**8**	**224**	**98%**	**4**	**2%**	**228**	**87%**	**33**	**13%**	**261**

[1] Sum of A to D;
[2] Total UT / Total valid answers;
[3] Total E / Total valid answers;
[4] Sum of A to E;
[5] Total valid answers / Total;
[6] Invalid answers / Total;
[7] Total valid answers + invalid answers

Table 6. 1st and 2nd year Spanish dance students (ENDNGC)

Video clips	A	B	C	D	Total UT [1]	% [2]	E	% [3]	Total valid answers [4]	% [5]	Invalid answers	% [6]	Total [7]
1	11	0	0	1	12	100%	0	0%	12	92%	1	8%	13
2	10	0	0	1	11	100%	0	0%	11	85%	2	15%	13
3	10	0	0	0	10	91%	1	9%	11	85%	2	15%	13
4. Legs	11	0	0	1	12	100%	0	0%	12	92%	1	8%	13
4. Arms	11	0	0	0	11	92%	1	8%	12	92%	1	8%	13
5. Legs	11	0	0	2	13	100%	0	0%	13	100%	0	0%	13
5. Arms	10	0	0	0	10	91%	1	9%	11	85%	2	15%	13
6. Legs	11	0	0	1	12	100%	0	0%	12	92%	1	8%	13
6. Arms	10	0	0	1	11	100%	0	0%	11	85%	2	15%	13
Total	**95**	**0**	**0**	7	**102**	**97%**	**3**	**3%**	**105**	**90%**	12	10%	117

[1] Sum of A to D;
[2] Total UT / Total valid answers;
[3] Total E / Total valid answers;
[4] Sum of A to E;
[5] Total valid answers / Total;
[6] Invalid answers / Total;
[7] Total valid answers + invalid answers

Table 7. 3rd and 4th year Spanish dance students (ENDNGC)

Video clips	A	B	C	D	Total UT [1]	% [2]	E	% [3]	Total valid answers [4]	% [5]	Invalid answers	% [6]	Total [7]
1	13	0	0	1	14	100%	0	0%	14	88%	2	13%	16
2	14	0	0	0	14	100%	0	0%	14	88%	2	13%	16
3	14	0	0	0	14	100%	0	0%	14	88%	2	13%	16
4. Legs	13	0	0	0	13	93%	1	7%	14	88%	2	13%	16
4. Arms	12	1	0	0	13	100%	0	0%	13	81%	3	19%	16
5. Legs	14	0	0	0	14	100%	0	0%	14	88%	2	13%	16
5. Arms	12	1	0	0	13	100%	0	0%	13	81%	3	19%	16
6. Legs	14	0	0	0	14	100%	0	0%	14	88%	2	13%	16
6. Arms	12	1	0	0	13	100%	0	0%	13	81%	3	19%	16
Total	**118**	**3**	**0**	**1**	**122**	**99%**	**1**	**1%**	**123**	**85%**	**21**	**15%**	**144**

[1] Sum of A to D;
[2] Total UT / Total valid answers;
[3] Total E / Total valid answers;
[4] Sum of A to E;
[5] Total valid answers / Total;
[6] Invalid answers / Total;
[7] Total valid answers + invalid answers

Table 8. Mexican folk dance students (ENDNGC and ADM)—all academic levels

Video clips	A	B	C	D	Total UT [1]	% [2]	E	% [3]	Total valid answers [4]	% [5]	Invalid answers	% [6]	Total [7]
1	22	1	0	0	23	100%	0	0%	23	70%	10	30%	33
2	25	1	0	0	26	100%	0	0%	26	79%	7	21%	33
3	24	1	0	1	26	100%	0	0%	26	79%	7	21%	33
4. Legs	27	1	0	0	28	100%	0	0%	28	85%	5	15%	33
4. Arms	26	1	0	1	28	97%	1	3%	29	88%	4	12%	33
5. Legs	26	1	0	1	28	100%	0	0%	28	85%	5	15%	33
5. Arms	28	1	0	0	29	100%	0	0%	29	88%	4	12%	33
6. Legs	28	1	0	0	29	100%	0	0%	29	88%	4	12%	33
6. Arms	26	1	0	0	27	100%	0	0%	27	82%	6	18%	33
Total	**232**	**9**	**0**	**3**	**244**	**100%**	**1**	**0%**	**245**	**82%**	**52**	**18%**	**297**

[1] Sum of A to D;
[2] Total UT / Total valid answers;
[3] Total E / Total valid answers;
[4] Sum of A to E;
[5] Total valid answers / Total;
[6] Invalid answers / Total;
[7] Total valid answers + invalid answers

Table 9. 1st and 2nd year Mexican folk dance students (ENDNGC)

Video clips	A	B	C	D	Total UT [1]	% [2]	E	% [3]	Total valid answers [4]	% [5]	Invalid answers	% [6]	Total [7]
1	12	1	0	0	13	100%	0	0%	13	57%	10	43%	23
2	15	1	0	0	16	100%	0	0%	16	70%	7	30%	23
3	15	1	0	0	16	100%	0	0%	16	70%	7	30%	23
4. Legs	17	1	0	0	18	100%	0	0%	18	78%	5	22%	23
4. Arms	18	1	0	0	19	100%	0	0%	19	83%	4	17%	23
5. Legs	17	1	0	0	18	100%	0	0%	18	78%	5	22%	23
5. Arms	18	1	0	0	19	100%	0	0%	19	83%	4	17%	23
6. Legs	19	1	0	0	20	100%	0	0%	20	87%	3	13%	23
6. Arms	17	1	0	0	18	100%	0	0%	18	78%	5	22%	23
Total	**148**	**9**	**0**	**0**	**157**	**100%**	**0**	**0%**	**157**	**76%**	**50**	**24%**	**207**

[1] Sum of A to D;
[2] Total UT / Total valid answers;
[3] Total E / Total valid answers;
[4] Sum of A to E;
[5] Total valid answers / Total;
[6] Invalid answers / Total;
[7] Total valid answers + invalid answers

Table 10. 2nd and 3rd year Mexican folk dance students (ADM)

Video clips	A	B	C	D	Total UT [1]	% [2]	E	% [3]	Total valid answers [4]	% [5]	Invalid answers	% [6]	Total [7]
1	10	0	0	0	10	100%	0	0%	10	100%	0	0%	10
2	10	0	0	0	10	100%	0	0%	10	100%	0	0%	10
3	9	0	0	1	10	100%	0	0%	10	100%	0	0%	10
4. Legs	10	0	0	0	10	100%	0	0%	10	100%	0	0%	10
4. Arms	8	0	0	1	9	90%	1	10%	10	100%	0	0%	10
5. Legs	9	0	0	1	10	100%	0	0%	10	100%	0	0%	10
5. Arms	10	0	0	0	10	100%	0	0%	10	100%	0	0%	10
6. Legs	9	0	0	0	9	100%	0	0%	9	90%	1	10%	10
6. Arms	9	0	0	0	9	100%	0	0%	9	90%	1	10%	10
Total	**84**	**0**	**0**	**3**	**87**	**99%**	**1**	**1%**	**88**	**98%**	**2**	**2%**	**90**

[1] Sum of A to D;
[2] Total UT / Total valid answers;
[3] Total E / Total valid answers;
[4] Sum of A to E;
[5] Total valid answers / Total;
[6] Invalid answers / Total;
[7] Total valid answers + invalid answers

Table 11. 2nd year music students (FaM)

Video clips	A	B	C	D	Total UT [1]	% [2]	E	% [3]	Total valid answers [4]	% [5]	Invalid answers	% [6]	Total [7]
1	6	0	0	1	7	87%	1	13%	8	100%	0	0%	8
2	4	1	1	1	7	87%	1	13%	8	100%	0	0%	8
3	5	1	1	0	7	87%	1	13%	8	100%	0	0%	8
4. Legs	5	2	0	0	7	87%	1	13%	8	100%	0	0%	8
4. Arms	5	2	0	0	7	87%	1	13%	8	100%	0	0%	8
5. Legs	5	1	0	1	7	87%	1	13%	8	100%	0	0%	8
5. Arms	4	2	1	0	7	87%	1	13%	8	100%	0	0%	8
6. Legs	2	1	0	4	7	87%	1	13%	8	100%	0	0%	8
6. Arms	5	1	0	1	7	87%	1	13%	8	100%	0	0%	8
Total	**41**	**11**	**3**	**8**	**63**	**87%**	**9**	**13%**	**72**	**100%**	**0**	**0%**	72

[1] Sum of A to D;
[2] Total UT / Total valid answers;
[3] Total E / Total valid answers;
[4] Sum of A to E;
[5] Total valid answers / Total;
[6] Invalid answers / Total;
[7] Total valid answers + invalid answers

c) Results for the Music Students

As can be observed in table 11, the greatest variation in the answers was to be found in the control group of music students. This group had the smallest percentage of UT answers: 88%. The UT type A answers represented a 65%, UT type B a 17%, UT type D a 13%, and UT type C a 3%. It is interesting to note that there was an ET answer for each video clip (13%) and that there were no invalid answers.

Discussion of the Results

1. In general terms, if the results of this study are compared to Fügedi's results (Fügedi 2012b: 66, fig. 16), we can conclude that they are very similar in that they both indicate a high tendency to use UT. To make this comparison possible, the authors had to eliminate tasks 3, 5, 7, 9, and 12 from Fügedi's results as well as video clip 1 and the leg gesture answers of video clip 4 from the Mexican results so that the all the answers would coincide. Of all the valid answers, Hungarian subjects registered a 99% of UT answers and Mexican subjects, a 97%. On the other hand, ST only represented 1% of the Hungarian valid answers and a 3% of the Mexican ones (table 12).

Table 12. Comparison of the Hungarian and Mexican Results

	Hungary		**Mexico**	
	Answers	**%**	**Answers**	**%**
Valid	315	86%	426	87%
Invalid	51	14%	64	13%
Total	366	100%	490	100%
UT-A	276	88%	378	89%
UT-B, C, D	35	11%	37	8%
Total UT **ST**	311 4	99% 1%	415 11	97% 3%
Total valid	**315**	**100%**	**426**	**100%**

2. In both cases, the subjects were university students of dance programs of different dance traditions. The Mexican subjects were all BA students and the Hungarian ones were both BA and MA students and had a longer dancing experience. Given the similarities of the general above-mentioned results, the authors of this study do not consider the length of the past dance experience to be significant.

3. One of the differences between the Hungarian and the Mexican studies was that, while in the first one all the subjects had LN training (Fügedi 2012: 60), the Mexican subjects were divided into 3 groups: subjects with no movement analysis training, subjects with basic LOD training, and subjects with basic LN training. While the results are in no way final, it can be said that:

a) The lowest percentage of invalid answers was given by the control group and the 2nd year Spanish dance group that also had no movement analysis training, and by the Mexican traditional dance students with basic LN training. See tables 11, 6 and 7.

b) The highest percentage of invalid answers was given by the remaining dance groups: those that had no movement analysis training and those with basic LOD training. See tables 6, 7 and 9.

In this context, the authors conclude that LOD training does not seem to promote the identification of the timing of actions, while basic LN training seems to do so. This may be due to the fact that LOD is taught as a means for exploring movement possibilities rather than for analyzing the timing of performance, and LN is taught precisely with the purpose of identifying exactly when an action occurs in relation to the music.

4. Another of the differences between the Hungarian and the Mexican studies was that, in the Mexican case, a control group was included. Even though Fügedi's original survey did not include such a group, he did apply a survey to musicians a few years later (Fügedi 2014b: 123-125). However, because he designed a different survey, and the Mexican study applied the same survey to both dancers and musicians, the results cannot be compared in a strict sense. Nonetheless, it is interesting to note that in both cases, the musicians registered lower percentages of UT answers than the dancers: 90% for the Hungarian musicians and 87% for the Mexican ones.
The results obtained from the control group show that:

a) They gave no invalid answers.

b) Their UT answers display the most diversity: 65% of the answers were type A, 17% were type B, 5% were type C and 13%, type D.

c) They had the most ST answers. See Table 11.

The authors attribute the results of the control group to their training as musicians: they are required to be fluent in reading and writing music and they are expected to be highly precise in the performance of their movements, which is defined by a rigorous metrical timing system.

If it is taken into account that the group with basic LN training gave no ST answers and that the dancers and the musicians who had no Laban-related movement analysis training were the ones who gave the most ST answers, then these results seem to suggest that LN training may lead to convergent thinking. Apparently, a familiarity with the concept of UT reduces divergent thinking and predisposes to respond in UT. This is a finding that also requires further investigation.

5. This study's findings seem to confirm Fügedi's general idea that most people do tend to write movement in UT. However, it must be said that, despite the undeniable tendency to notate in UT, the question raised at the beginning of this study—which of the three timing systems (ST, UT, RT) responds best to Fügedi and Misi's criteria and in which circumstances should each one be applied—is still open. And, despite Ann Hutchinson's general statement that says that "UT looks simple and is easy to read" and "ET is not quite so easy to read" (Hutchinson Guest 2009: 61.3-4), the authors consider that, based on their experience as teachers, in the specific case of dance traditions that have complex movement and rhythmic patterns, UT may cause confusion when translating the notation into actual movement.

6. With regard to verifying Fügedi's hypothesis, the authors have to admit that several issues came up during the analysis of the results which did not allow them to do so.

a) Due to the way the survey was designed, it was extremely difficult to tell whether it was the non-touching gestures or the touching gestures which were being written in UT or ST. The reason for this was that the same marker (an arrow) was used in the same column (the leg gesture column or the arm column). So, if the hypothesis is to be verified, the authors suggest leaving the arrow for the non-touching gestures and adding a different marker for the contacts.

b) Before applying the survey, the authors were aware that in Spanish and Mexican traditional dance the preparation of an action is not considered important. Due to the manner in which these dance traditions are taught, neither the actual movements that constitute the preparation nor the time spent performing these movements are explicitly emphasized. This had to be taken into account in the analysis of the results because, being conscious of the preparation of an action may influence the election of UT or ST when notating. Therefore, it is difficult to say in all certainty whether the subjects of the study decided to use UT or ST because they consciously choose one over the other or whether they responded automatically, given the general tendency to answer in UT.

c) In the authors' appreciation, the concept of "movement rhythm" as used by Fügedi in most of his texts (Fügedi 2007: 34, 35, 36; *Technical Report* 2012: 23; Fügedi 2012: 59, 60, 62, 66, 67-68; Fügedi 2014a: 137; Fügedi 2014b: 121, 123) needs to be examined from two different angles. With regard to the factual,

external or physical aspect, the authors venture to suggest that it is not clear whether it refers to the step pattern, the metrical rhythm or the action rhythm. With regard to the internal, subjective or cognitive aspect which Fügedi calls the "inner representation" of the movement rhythm, the authors also venture to suggest that the lack of clarity is due to the fact that it is not easily understood whether the inner representation refers to the perceptual, kinesthetic sensation derived from observing and/or performing a movement, to the psycho-physiological process of embodiment of the movement, or to the cognitive process of translating movement into verbal or visual language. The authors think that Fügedi's concept of movement rhythm is essential for the better understanding of the underlying mechanisms of movement perception, analysis and notation, and that it requires further systematic development.

Conclusions and Recommendations

As a result of the authors' teaching experience, they have noticed that, once the students become aware of the preciseness involved in ST, they tend to use it when notating traditional dance sequences. Therefore, the authors will devise a new study to measure the students' notation choices after they have been working with ST and not just UT.

The authors strongly recommend that further research be done in this subject. In the first place, because the study raised more questions than the answers it provided. In the second place, by investigating how we perceive movement and how we translate it into concepts (verbal or visual), we will advance in the detailed study of movement and dance in general. In the third place, by delving deeper into the analysis of the perception of the movement rhythm, we will be promoting alternative teaching methods not just for the learning of Laban-related forms of movement analysis but for the improvement of the teaching/learning processes of the different dance traditions. And finally, in terms of the preservation of the cultural heritage, a form of notation that represents accurately the factual elements of a traditional dance will ensure that a later reconstruction will be as close as possible to the original version.

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