

TAPPING THE *TACTUS*. A MEASURE OF RHYTHMIC ANTICIPATION

Silvia Malbrán

Facultad de Bellas Artes, Universidad de La Plata, Argentina

Synchrony is defined as a group of events that coincide in time.

A particular form of synchrony is rhythmic synchrony. It can be described as the ability to perform a chain of events (sounds movements, etc.) in phase with an external rhythmic pattern (chosen or imposed).

This kind of action required temporal information that is conceptualized in terms of perceiving and processing groups into units (*gestalten*) and as internal clocks.

Results obtained in a sample of musicians tapping the *tactus* (metronomic accuracy) will be presented. The test consisted of tapping the pulse in an informatics environment according to the beats with a musical fragment (MM 110, 126 and 141).

The results shows i) delay is the most commonly observed tendency ii) anticipated responses are less frequent; iii) strict onset responses are infrequent. Subjects obtained in tempo 110 more onset accuracy and more negative synchronization than in tempo 141. The higher level of synchrony is in tempo 110

Temporal variability is a *function of duration*. Previous studies show that to be greater in wide intervals than in narrow ones. Our study shows the greatest variability when the tempo is faster, and it is also higher in the mean tempo: variation values are dependent on the tempo.

The highest synchrony point is observed at 7-8 seconds after the starting and later the lack of adjustment to the stimulus increases.

The study shows some cases that can be considered "clinic" with a) a high delayed mean in the three tempi (113 ms., 152ms and 164,5ms (in different tempi) b) a very high mean in the slowest tempo (148ms) c) a very high mean in the fastest tempo (231ms). These data suggest that sometimes practice is not enough, and probably indicates personal lack of adequacy to the tempo.

Anticipation seems to be a critical trait of rhythmic synchrony.

Synchronic performance represents the theoretical limit of anticipation.