

How West African Drummers Keep in Time Together: Musical Roles and Individual Behavior in Ensemble Entrainment in *Jembe* Music from Mali

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Malian drum ensembles involve three distinct musical roles: a variative lead drum, a repertoire-specific timeline, and one or several accompaniment ostinatos. Two studies examined the timing interactions amongst these roles in a range of ensembles and repertoire. The first involved fifteen recordings of three pieces in two different meters and three different ensemble sizes. Timing analysis shows tight synchronization amongst ensemble members (asynchronies $\leq 1\%$ of the beat, i.e., ± 5 ms). Using both linear phase correction modeling and Grainger Causality we found no clear “leader” among the parts, but one “follower:” the lead drum. Our second study (in progress) involves the systematic switching of players in the different ensemble roles to see (a) if they replicate the role-specific patterns of timing found in Study 1 and (b) examines the degree to which individual players can modify or override those roles. Our finding that the lead part is the most adaptive part in terms of ensemble timing suggests that usual concepts of hierarchy and leadership are inappropriate for understanding synchronization in Malian drum ensembles. They also contradict the Africanist concept of timeline as a central timing reference, since it rather is the accompaniment plus timeline parts together that play the time-keeping role.