

EXPLORING THE LATENT STRUCTURE OF COLLABORATIONS IN MUSIC RECORDINGS: A CASE STUDY IN JAZZ

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WHAT AND WHY

Collaboration trajectories in jazz records



Model: Trajectories as explained by latent factors

Details: Bayesian graphical model that sees a trajectory as a set of random walks over random environments

In this work

- Jazz recordings from Discogs (www.discogs.com), filtered for obvious reissues
- Trajectories as explained by $|Z| = 30$ topics, Gibbs sampling



WHAT KIND OF ENVIRONMENTS ARE FOUND?

	(a) Bebop	(b) Bebop 2	(c) Free Jazz
Artists	Dizzy Gillespie, Miles Davis, J.J. Johnson, Charlie Rouse, Lucky Thompson, Charlie Parker	John Coltrane, Freddie Hubbard, Donald Byrd, Hank Mobley, Lee Morgan	Steve Lacy, Don Cherry, Archie Shepp, Roswell Rudd, Lester Bowie
Collaborators	Dizzy Gillespie, Charlie Parker, Miles Davis, Thelonious Monk, Dizzy Gillespie And His Orchestra	Art Blakey & The Jazz M., Miles Davis, John Coltrane, Art Blakey, Charles Mingus, Max Roach	Archie Shepp, The Sun Ra Arkestra, Cecil Taylor, Steve Lacy, Anthony Braxton, Ornette Coleman
	(d) Improvisation UK Big Bands	(e) Italian	(f) Fusion
Artists	Paul Rutherford, Evan Parker, John Edwards, Johannes Bauer, Paul Rogers, Malcolm Griffiths	Giovanni Maier, Gianni Basso, Lauro Rossi, Dino Piana, Giancarlo Schiaffini	Don Alias, David Liebman, Dave Holland, Joe Lovano, Bob Berg, Mino Cinelu
Collaborators	London Improvisers Orchestra, Chris McGregor's Brotherhood Of Breath, Globe Unity Orchestra	Giorgio Gaslini, Italian Instabile Orchestra, Enrico Rava, Nexus, Chet Baker Nicola Conte	Miles Davis, Jaco Pastorius, John Scofield, Chick Corea, Mike Stern, Herbie Hancock

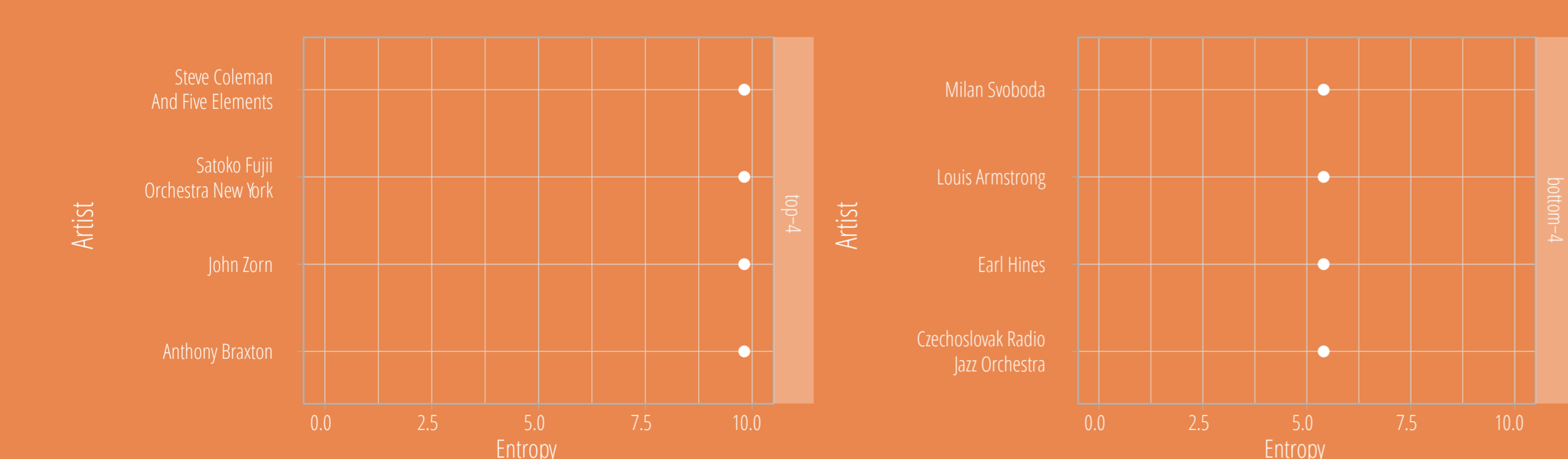
Clear loadings on stylistic, geographical and chronological latent constraints that shape collaboration trajectories

INTERPRETABILITY

1. Who are the musicians that exert more attraction in a given space z?



2. Visualize graph/transition probabilities on a given space



3. Transition matrix/network for spaces



4. What is the probability that an environment z caused collaborator to go from playing with a to playing with a'?

