

Machinic Ballads: Alan Lomax's Global Jukebox and the Categorization of Sound Culture

Sounding Out! Authors

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Abstract

Today, **SO!** continues its series reconsidering the life and work of **Alan Lomax** in his centenary year, edited by **Tanya Clement** of The University of Texas at Austin.

Keywords

Music (Subfield), 100 Years Of Lomax, American Studies, Archival, Article, Cultural Studies

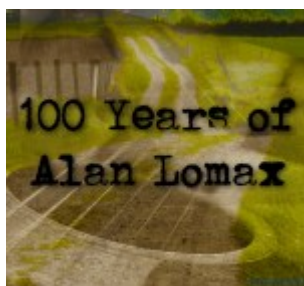


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Today, **SO!** continues its series reconsidering the life and work of **Alan Lomax** in his centenary year, edited by **Tanya Clement** of The University of Texas at Austin. We started out with **Mark Davidson's** [reflections](#) on what it means to raise questions about the politics behind Lomax's efforts to record and collect folk music, and continued a few weeks later with **Parker Fishel's** [consideration](#) of Lomax's famous "Southern Journey" and how it has been appropriated by musicians more recently.

With Clement's own article below, the series begins to rethink Lomax as a touchstone in current and continuing drives to collect, measure and compute sonic cultures, something that seems hot all of a sudden (see, for instance, [coverage](#) of recent digital analysis of trends in pop music at Queen Mary University of London). In her thoughtful, illuminating and inspiring article below, Clement challenges us to consider the politics behind these efforts to search, retrieve and analyze audio, something that the case of Lomax throws into stark relief.

— Special Editor Neil Verma

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When the [Association for Cultural Equity](#), an organization that Alan Lomax founded in 1983, announced the release of 17,000 music tracks from Lomax's fieldwork collections, the [New York Times](#) heralded the release as a manifestation of Lomax's [Global Jukebox](#) project, a computational experiment for accessing and studying his vast multimedia collection of the world's culture. The *Times* piece likens Lomax's project to [Pandora](#), which allows the listener to search for music "like" music she has already found. Lomax's biographer, John Szwed, also makes this comparison but modifies his description by proclaiming that unlike Pandora's recommendations which are "based on personal taste" and "tend to lead sideways . . . to production style," Lomax's Global Jukebox idea held the potential to point a listener to "deeper principles of cultural and musical organization" ([The Man Who Recorded the World](#) 391).

Gobsmacked by whizbang possibilities, neither the *Times* nor Szwed discuss the deeper principles *behind* Lomax's attempt to represent culture as a global search engine. In the context of the powerful work being accomplished in the [Music Information Retrieval \(MIR\) community](#) and my own project ([HiPSTAS](#)) to develop software for making sound collections searchable and accessible, In this article I will argue that how we build systems for searching and retrieving and browsing cultural artifacts as data is a profoundly political act. Recognizing such politics suggests that Lomax's Global Jukebox project serves as a cautionary tale for how social and cultural

contexts — or what Donna Haraway calls our “ways of being” — are reflected in the systems we develop.



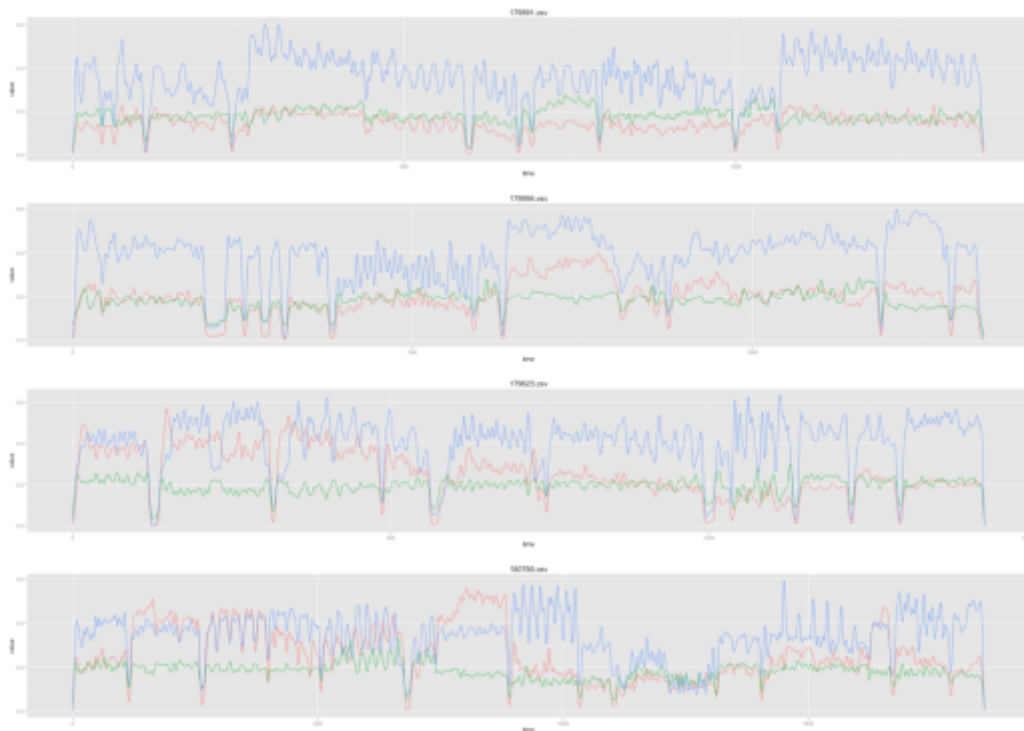
*John A. Lomax Collection in UT Folklore Center Archives, Small Multiples.
Instrumental sections are in red, spoken sections are in green, and sung sections
are in blue. Click to see a full-size version.*

The Singer with the Song

The year that Alan Lomax was born (1915), his father John Alan Lomax published a landmark piece heralding seven new types of American ballads for study. American ballads, he argues “reveal the mode of thinking, the character of life, and the point of view, of the vigorous, red-blooded, restless Americans, who could no more live life contented shut in by four walls than could Beowulf and his clan, who sailed the seas around the coasts of Norway and Sweden” (“[Some Types of American Folk-Song](#)”, 3). Unlike any other collection of ballads, John’s “American ballad” included the ballads of the miner, the lumbermen, the inland sailor, the soldier, the railroader, “the ballads of the negro; and the ballads of the cowboy . . . [and] the songs of the down-and-out classes, — the outcast girl, the dope fiend, the convict, the jail-bird, and the tramp” (3). Governed by a laudable goal to record the songs of folk cultures at the fringes of mainstream society, the senior Lomax’s view of the communities where he would collect his songs (including jails and state farms), was complex, and can fairly be called both progressive as well as racist ([Porterfield](#) 170).

John and Alan went on [seven collecting trips](#) together between 1934 and 1936 and co-authored [five books](#) on their return. On these trips, they collected songs from people on the street in cities like New Orleans and people in the country, from both church-goers and prisoners. While John

held romanticized views of the “noble” southern black man, Alan, on the other hand, indicated a more nuanced understanding of the complexities inherent to his father’s attempt to generalize patterns of “folk” for study. Alan linked “the singer with the song” and was interested in the politics behind prisoners made to sing with guns at their backs and in the cultural lives of people that were so poor in means but so rich in “beautiful harmony, with enormous volume, with total affection” (Szwed 49). While Alan maintained that he was interested in the individual’s story, John believed that “a genuine ballad has no one author. It is therefore the expression of no one mind: it is the product of the folk . . . It might have been written by any one” (“[Some Types of American Folk-Song](#)”, 1).



*John A. Lomax Collection in UT Folklore Center Archives, Small Multiples.
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Taxonomies

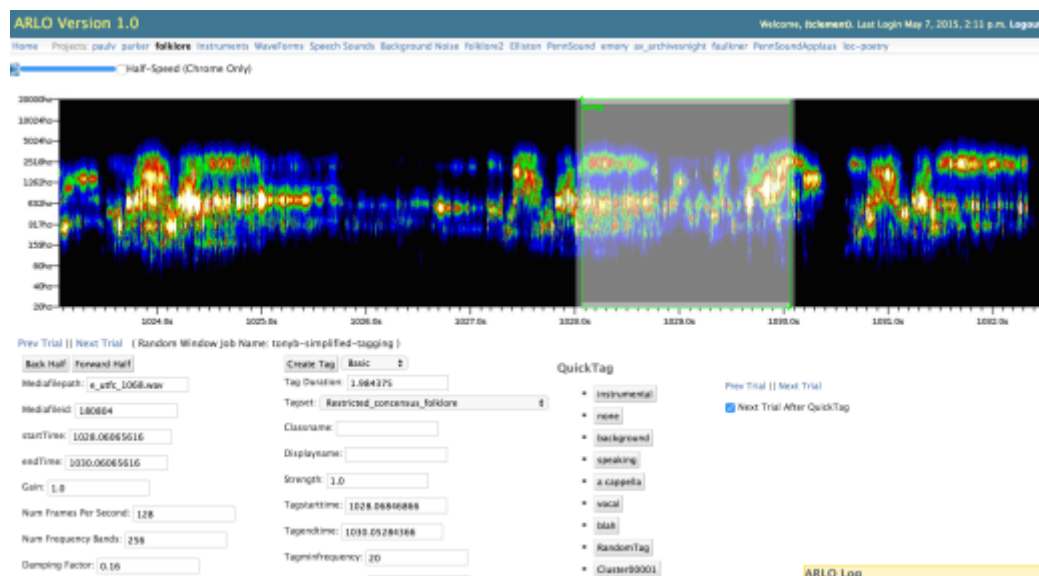
The Global Jukebox project demonstrates an almost complete reversal in Alan’s concerns. The studies behind the Global Jukebox include Alan’s [Cantometrics and Choreometrics](#), in which he produces taxonomies for studying song and dance and his Parlametrics project, an “experiment in metalinguistics,” which Alan and his collaborators describe as a taxonomy of “patterns of style” in speech based on dynamic changes in pitch, loudness, speed, spacing, rhythm, and timbre (“[A stylistic analysis of speaking](#)”). These taxonomies show that Alan’s early consideration for the individual performer gave way to a desire to make folk study more scientific as a cultural mapping like what his father espoused rather than what Szwed and [others](#) have seen as Alan’s concerns with the situated politics of individuals.

Alan's Parameetric study serves as good example. Approaching delegates from the United Nations and soliciting mail-in samples from regions not covered by the U.N. volunteers, Alan and his team collected representative recordings of 114 languages. Then, in order to study the "generally neglected meta-communicational level" in these recordings, the team designed a rating system including 50 codes that (1) "described the distinctive features of each recording," and (2) "tended to cluster the recordings into sets of similars" that Alan maintains anyone could "readily use" to record "salient differences in conversation style" (19). These clusters pointed to 14 factors that Alan and his team would use to categorize the cultures from which they received samples:

1. Repetitiveness
2. Timing
3. Speech length
4. Upglides
5. Descending cadence
6. Syllabification
7. Drawl
8. Empathy
9. Space
10. Dominance/Sharing
11. Relaxed/Tense
12. Noise
13. Breathy
14. Forceful

Using these factors, Alan makes some broad assertions. The association of clear syllabification" (the degree to which syllables run together) "is most strongly predicted among gardeners with domesticated animals" and "[t]he association of clear syllabification to feminine autonomy is suggested by the discovery that this mode of speaking predicts and is predicted by permissive rather than restrictive premarital sexual mores" (27). Further, "Dominance vs. Sharing of conversation space" is strongly correlated with settlement size and severity of sexual sanctions," a statement that Alan immediately rationalizes by noting that "this relation between a more crowded social space, high sexual tension and increased rate of interaction seems to make good sense, even if it does not account for every possibility" (31).

These spurious and broad generalizations were what Lomax hoped to facilitate for all with his Global Jukebox as the access point for "the first numerical models of the full range of global cultural variation in holistic form" for "the scientist, the layman, and the student to explore, experience, and manipulate the broad universe of culture and creativity in a systematic fashion, with audio-visual illustrations at every turn of the road" ("[The Global Jukebox](#)," 318). By leveraging his taxonomies of song, dance, and speech in the computer age, Alan could suddenly associate and differentiate cultures *holistically* and *en masse*.



A visualization of a song in ARLO. Click to see a full-size version.

Machinic Methods / Humanistic Questions

As someone who works in the liminal spaces between the humanities and technology, between cultural studies and critique and the machines that increasingly function both as access points and barriers to our cultural artifacts, I see Alan's switch to generalizable taxonomies as par for the course in the digital age. My own >HiPSTAS project's primary objective is to develop a virtual research environment in which users can better access and analyze spoken word collections of interest to humanists. We understand that in order for us to search digital sound artifacts, we have to create taxonomies, metadata, keywords and other generalizable frameworks that facilitate discovery.

At the same time that we are using machinic methods, however, we can still ask humanistic questions that open up rather than close down debates and dialogues. In [a recent test for the HiPSTAS project](#), for example, we used [machine learning](#) to analyze the recordings in the [UT Folklore Center Archives](#), which comprises 219 hours of field recordings collected by John and Alan Lomax, Américo Paredes, and Owen Wilson, among others (UT Folklore Center Archives, ca. 1928-1981, Dolph Briscoe Center for American History, University of Texas at Austin, Box 2.325/R). In our attempt to predict the presence of different sonic patterns including instrumental music, singing, and speech, the results of our analysis are noteworthy as the visualization shown in this brief movie demonstrates.

<https://vimeo.com/127495628>

from [Tanya Clement](#) on [Vimeo](#)

Within the results, we see a visualization of how many seconds comprise each file (in blue) and how many of those seconds for each file our software has predicted the presence of instruments

(green), speech (red), and song (purple). A subtle yet striking difference emerges in the comparison between the Lomax recordings (created 1926-1941), which are the oldest in the collection, and the others, which were created up until 1968. The Lomax recordings (primarily created by John Lomax) consistently contain the least amount of speech in comparison to what the other files contain.

Of course, there are a number of ways you can read these results. Given the conversation above, one could hypothesize that perhaps the Lomaxes were primarily interested in their participants' songs rather than their stories. One could also think about it in terms of recording capabilities across time. When the Lomaxes were first recording, [John Lomax writes](#), "The amplifier weighed more than one hundred pounds; the turntable case weighed another one hundred; two Edison batteries weighed seventy-five pounds each. The microphone, cable, the tools, etc., accounted for sufficient weight to make the total five hundred pounds. . . . In order to carry them in the car I tore out the back seat . . ." [Even in 1967](#), forty years later, good recorders still weighed 70 pounds and required a car battery, but tapes were longer and costs were less. More tape and more time at less cost both financially and physically had a big impact on what researchers recorded. At the same time, the data shows that the later recordings are not much longer, but do seem to have more seconds of speech.

There is a danger in these kinds of machine-generated generalities. We employed taxonomies (instrumental, sung, speech) to teach the machine to categorize these patterns, but why these patterns? Are there others? Or did I choose these based on what I already wanted to say about the Lomaxes' practices? And, I haven't even mentioned here the subjective practices inherent to choosing algorithms for such work.

These kinds of questions require more research, and more contextualization than this aggregated data set can show. Just as the ballads that John and Alan Lomax once collected were written and sung by someone, so were the communities that Alan interpreted through his Parlometrics made up of individuals, not types. Perhaps Alan's desire "to record the world" was just and Google, the collector, categorizer, and interface for all things on the Internet, isn't evil. But the Global Jukebox Project serves as a cautionary tale about the politics behind the speed and efficiency that machinic methods seem to promise, a politics that needs to be far less opaque about its deeper principles and problems.

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Tanya Clement is an Assistant Professor in the School of Information at the University of Texas at Austin. She has a PhD in English Literature and Language and an MFA in fiction. Her primary area of research is scholarly information infrastructure. She has published widely on digital humanities and digital literacies as well as scholarly editing, modernist literature, and sound studies. Her current research projects include High Performance Sound Technologies in Access and Scholarship (HiPSTAS).

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