

The project Tilltal

Making cultural heritage accessible for speech research

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About the project

- large amounts of speech recordings in the archives are underused because it's so time consuming listening to them in real time.
- explore how speech technology methods can make these recordings more accessible to researchers.
- collaboration between ISOF, the Royal Institute of Technology (KTH), The Swedish National Archives and SWE-CLARIN.
- ISOF=Language Council + Dialect and Folklore Archives in Uppsala and Gothenburg.
- funded by the Swedish Foundation for Humanities and Social Sciences from 2017 to 2020 (SAF16-0917:1).



Background

- SWE-CLARIN group focusing on speech
- workshop at KTH in 2015 to involve researchers and data holders in project cooperations centered around researchers' needs.
- suggest use cases in which the research process could be facilitated by large speech data sets and speech technology.
- resulted in 3 substudies in the Tilltal project related to different research areas: folkloristics, sociolinguistics and conversational analysis.



Use cases/substudies

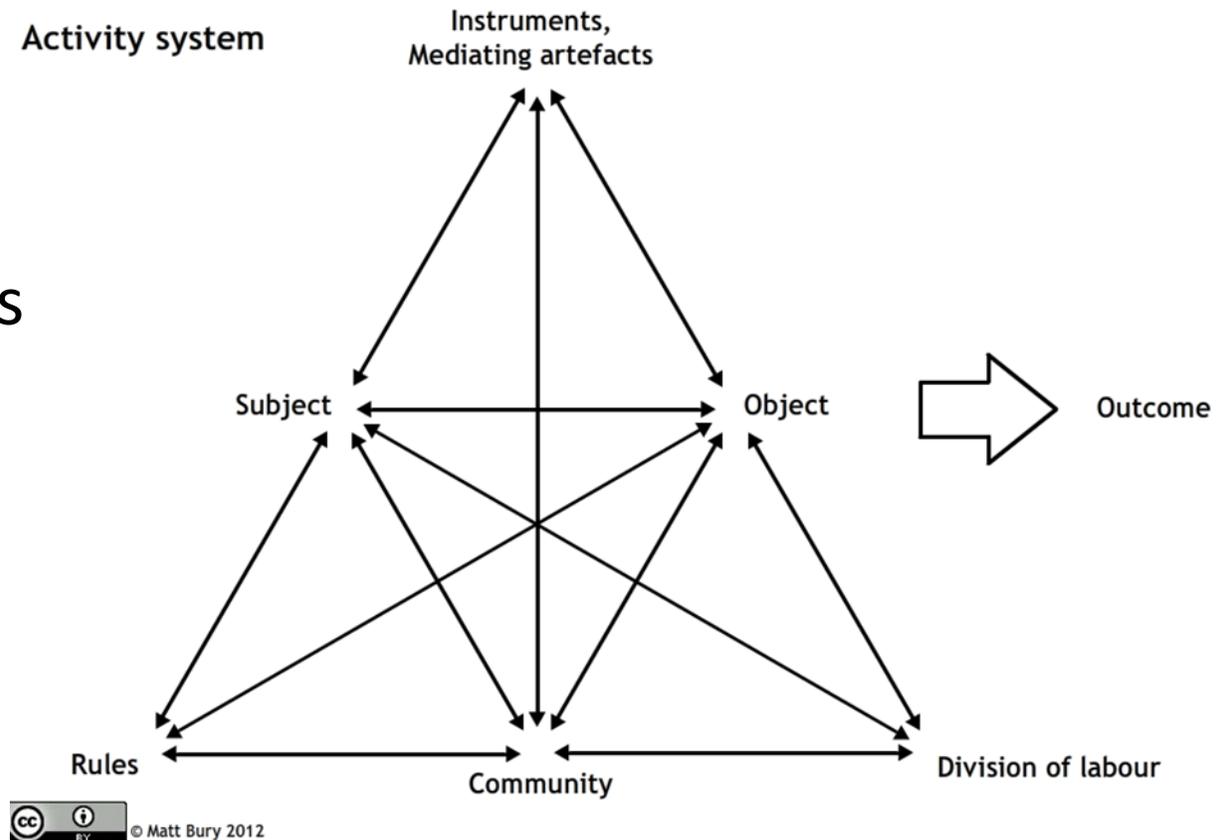
- 1. From personal experience narratives to cultural heritage**
explore and provide entries to a large folklore collection including recordings, transcriptions, letters, notes etc.
- 2. Linguistic variation in time and space**
use speech analysis for finding linguistic variation in recordings.
- 3. Interaction patterns over time and type of conversation**
apply methods from interaction analysis to large amounts of speech recordings to study interaction patterns, e.g. turntaking.

Theory and methods for studying usage

- what we call *the usage study* is an investigation and design process that involves all three use cases
- based on *activity theory* and *use case modelling*
- *use case modelling* to identify needs and formulate requirements for suggesting and evaluating solutions (Jacobson et al. 1992, 2011).
- *activity theory* to study the activities of collecting, using and making speech data available for research at ISOF (e.g. Kaptelinin 2013)
- by combining use case modelling and activity theory, we hope to suggest technical solutions without losing sight of the larger context within which digital tools and artefacts are used.

Focus on key factors and their relations

- tools and other artefacts used for the purpose
- the community in which the activities take place
- the division of labor between actors
- the rules and conventions that govern the activities (IPR, privacy laws, research ethics)
- contradictions within the system and how to resolve them



Engeström's activity system model (1987)

Participatory and multidisciplinary design

- by involving archivists and researchers from different disciplines to participate in the design process, we want to ensure that results will meet the needs and practices of SHR researchers.
- meetings, group discussions, onsite observations, interviews, field diaries and workshops for input.
- now we want to make you a part of it

What we want to do

- understand how archive data are used for research and get to know user needs.
- test how successful state-of-the-art methods are when applied to archive data.
- explore and suggest new solutions that meet user needs and affects the activity system in a positive way.
- provide guidance for good practice and further development.

What we are doing/have done so far

- digitizing and exploring (relevant parts of) archive collections
- identifying data that can be used as entries to recordings
- time aligning entries to the recordings in Elan
- developing a digital archive GUI for searching collections
- recognizing hand writing in Transcribus and convert dialect to IPA
- testing voice recognition and respeak
- developing a prototype for sound browsing

Selected publications

Berg, Domeij, Edlund, Eriksson, House, Malisz, Nylund Skog & Öqvist. 2016. *Tilltal – making cultural heritage accessible for speech research*. CLARIN Annual Conference, Oct 26–28 2016, Aix-en-Provence, France.

Berg, Domeij, Edlund, Eriksson, House, Malisz, Nylund Skog & Öqvist. 2017. *Involving users and collaborating between disciplines in making cultural heritage accessible for research*. CLARIN Annual Conference Sept 18–20 2017, Budapest, Hungary.

Malisz, Öqvist, Fallgren, Edlund & House. 2017. *Visualising vocalic variability in space and time – automatic exploration of “found data”*. 47th Poznań Linguistic Meeting, Sept 18–20 2017, Poznań, Poland.

Fallgren, Edlund & Zofia. 2018. *A tool for exploring large amounts of found audio*. Digital Humanities in the Nordic Countries, March 14–16 2018, Helsingfors.

Nylund Skog. 2018. From personal letters to scientific knowledge: The creation of archived records in a tradition archive. In: *Visions and traditions: The production of knowledge at the tradition archives*.

Domeij, Eriksson, Lindström, Magnusson Petzell, Nylund Skog, Skott & Öqvist. 2019. *Text as an entry point to speech – a journey into the most inaccessible areas of the archives*. Digital Humanities in the Nordic Countries, March 6–8 2019, Copenhagen, Denmark.