Two firsts for Faroese
Speech Recognition and Standard Orthography

Iben Nyholm Debess & Annika Simonsen, TALUTØKNI, the Faroe Islands
Peter Juel Henrichsen, Dansk Sprognævn, Denmark

INTRODUCTION

A new ecosystem for Faroese language technology is under development: formal standards, state-of-the art resources, all-purpose applications

THE COMPONENTS

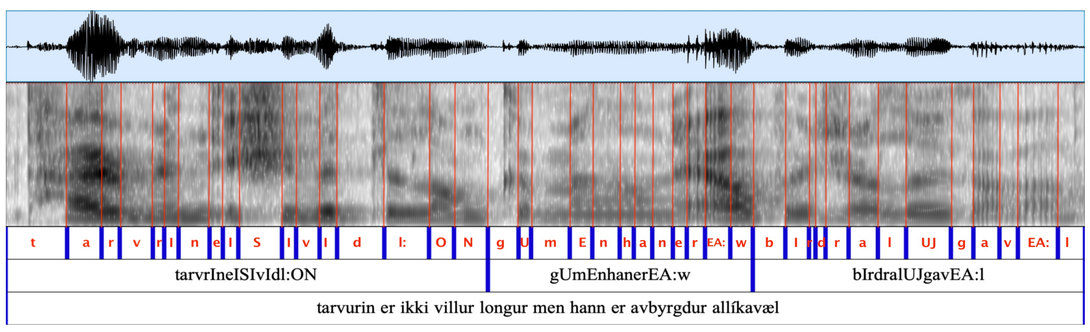
SAMPA	IPA compatible; includes stress and length.
PoS	PAROLE compatible; full morphology.
Dictionary	Includes pronunciation, PoS, and frequency. Current size: 19,500 complete paradigms. Aiming at 25,000 complete paradigms.
Background Corpus	Text and speech. Current size: 23M words.
Reading Material	Word lists, closed vocabularies (e.g. numerals), phrase lists (eliciting intonation patterns, etc.) Short texts, spontaneous speech (monologue) Program that displays a variety of sentences to the reader
Transcript Corpus	Orthographic and phonetic transcription, time coded. Current size:

Transcribed	420.000 running words
Manually transcribed	80.000 running words

Sound	Current size: 127 hours of speech (354 speakers) in WAV-files. Aiming at 150 hours (200 male and 200 female speakers).
Tools	The text and speech tools developed in the project will be available.

ORTO:sekkur	PPOS:NCMSN==IU	PHON:s%EHgUr
ORTO:sekk	PPOS:NCMSA==IU	PHON:s%EHg
ORTO:sekki	PPOS:NCMSD==IU	PHON:s%EHd:ZI
ORTO:sekkjar	PPOS:NCMSG==IO	PHON:s%EHd:Zar
ORTO:sekkurin	PPOS:NCMSN==DU	PHON:s%EHgUrIn
ORTO:sekkin	PPOS:NCMSA==DU	PHON:s%EHd:ZIn
ORTO:sekkinum	PPOS:NCMSD==DU	PHON:s%EHd:ZInUn
ORTO:sekkjarins	PPOS:NCMSG==DO	PHON:s%EHd:ZarIns
ORTO:sekkir	PPOS:NCMP[AN]==IU	PHON:s%EHd:ZIr
ORTO:sekkjum	PPOS:NCMPD==IU	PHON:s%EHd:ZUn
ORTO:sekkja	PPOS:NCMPG==IO	PHON:s%EHd:Za
ORTO:sekkirnir	PPOS:NCMPN==DU	PHON:s%EHd:ZIrnIr
ORTO:sekkirnar	PPOS:NCMPA==DU	PHON:s%EHd:ZIrnar
ORTO:sekkjunum	PPOS:NCMPD==DU	PHON:s%EHd:ZUnUn
ORTO:sekkjanna	PPOS:NCMPG==DO	PHON:s%EHd:Zana

Excerpt from dictionary: ORTO, PPOS, PHON



Excerpt from manual transcription

1633092143.688	OK	42	Segði tú nakað	[blset]
1633092146.335	OK	43	Hann fekk eitt gott hugskot	[blset]
1633092149.411	OK	44	Ber svarið hjá tær saman við tað hjá Helgu	[blset]
1633092154.328	OK	45	Ert tú giftur	[blset]
1633092156.795	OK	46	Høvdu tit kunnað stokt kjøtið eitt sindur meira	[blset]
1633092160.962	OK	47	Kann eg læna súkkluna hjá tær í nakrar dagar	[blset]
1633092165.007	OK	48	Kann eg ringja aftur	[blset]
1633092167.546	OK	49	Ári er tvey ár eldri enn eg	[blset]
1633092170.623	OK	50	Grenj broytir einki	[blset]
1633092173.789	OK	51	Kann tað gerast bíligari	[blset]
1633092176.955	fail	52	Minnist tú enn tá vit møttust á fyrsta sinni	[blset]
1633092180.836	fail	52	Minnist tú enn tá vit møttust á fyrsta sinni	[blset]
1633092186.189	OK	52	Minnist tú enn tá vit møttust á fyrsta sinni	[blset]
1633092192.454	OK	53	Kann eg leggja eini boð eftir meg	[blset]
1633092195.802	OK	54	Hon veit sikkurt ikki hvar eg eri	[blset]

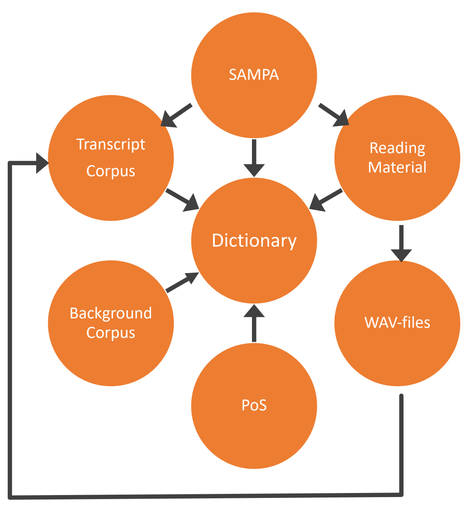
Excerpt from transcription

OPEN SOURCE, CODE AND FORMAT

All resources are to be freely available, and thereby we will be solving the matter of copyright infringement and GDPR during production. Only non-proprietary file formats are used

EVERYTHING DOCUMENTED

All the resources of the BLARK are documented in both Faroese and English for future work.



CONSISTENCY PRINCIPLE

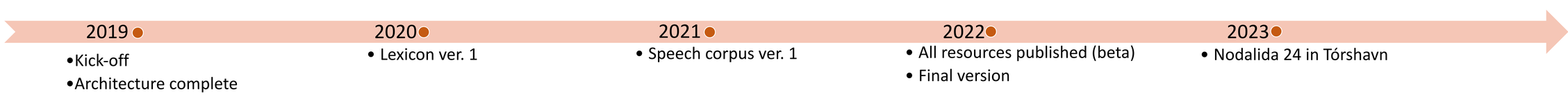
The individual resource components feed off and grow from each other in an iterative process.

OTAL

The OTAL project or “Orðaskráin” (The Word Register) is a GUID-style index system used to cross-reference all the linguistic resources in the current ASR project. The index system is developed bearing in mind working towards implementing the system into as many Faroese language resources as possible, most notably the new orthographic dictionary, when it has been completed. OTAL takes its main inspiration from the ongoing Danish project COR or Det Centrale Ordregister (the Central Danish Word Register).
The name ”OTAL” refers to the Faroese civil registration number, “P-tal”.

EXAMPLES

Word form	OTAL	Word form	OTAL
tráður	OTAL.RAVN.285043.02231	bátur	OTAL.RAVN.207686.02231
tráð	OTAL.RAVN.285043.02225	bát	OTAL.RAVN.207686.02225
tráð	OTAL.RAVN.285043.02227	báti	OTAL.RAVN.207686.02227
tráði	OTAL.RAVN.285043.12227		
træðri	OTAL.RAVN.285043.22227		
tráðar	OTAL.RAVN.285043.02229	báts	OTAL.RAVN.207686.02229



Literature

Iben Nyholm Debess, Sandra Saxov Lamhauge and Peter Juel Henrichsen. 2019. Garnishing a phonetic dictionary for ASR intake. In *Proceedings of the 22nd Nordic Conference of Computational Linguistics, NODALIDA 2019.*

Acknowledgments

We wish to personally thank Karin Kass for her never-failing entrepreneurship and diligence. We also wish to thank a number of investors from the Faroese society.