

Institution: The University of Edinburgh
Unit of Assessment: 28B Linguistics
Title of case study: Literacy and language support in South Sudan
<p>1. Summary of the impact</p> <p>When an effective orthography and literacy materials are lacking for a language, its speakers are disadvantaged in today's knowledge-based world, because education and information cannot be delivered effectively. In South Sudan, even the largest language communities are in this predicament. Our research results on lexical and grammatical contrasts of voice quality, vowel length and tone have enabled us to assist three language communities (Dinka, Shilluk, and Bari) to develop literacy resources. This is a contribution to increasing the pace of social, economic and political development in South Sudan.</p>
<p>2. Underpinning research</p> <p>Western Nilotic languages such as Dinka (2 million+ speakers) and Shilluk (~0.5 million speakers), used in South Sudan, have been the subject of intense study at Edinburgh University. They present complex inventories of vowel length, tone, and voice quality. These three suprasegmental contrasts are illustrated by the following examples from the Twic dialect of Dinka.</p> <p>a. lèl 'isolate:2sg' lèel 'isolate:3sg' lèeel 'provoke:3sg' b. lèel 'isolate:3sg' léel 'provoke:2sg' lèel 'provoke:pass' c. lèel 'provoke:pass' lèel 'provoke:antipass'</p> <p>Three-level vowel length, illustrated in (a), is particularly noteworthy: these languages present compelling evidence—hitherto rare—for the hypothesis that human languages can present a three-level vowel length contrast (Remijsen & Gilley 2008).</p> <p>It was the form and function of these rich systems of suprasegmental contrasts that first attracted us to the study of Dinka and Shilluk. We carried out combined phonological and phonetic studies of form, to evaluate earlier and newly-formed hypotheses. A production study corroborated the hypothesis of three-level vowel length in Dinka (Remijsen & Gilley 2008). As a result, Dinka now constitutes a compelling case for three-level vowel length in the world's languages. A detailed acoustic study on Shilluk (Remijsen, Ayoker & Mills 2011) revealed similarities between voice quality and Advanced Tongue Root contrasts. Remijsen & Ladd (2009) presented a phonological analysis of a Dinka tone system.</p> <p>As seen from the examples above, the suprasegmentals fulfill both lexical and morphological functions. Because of this, descriptive analysis of the morphosyntax of Dinka and Shilluk has played an important role in this research programme. This has proved to be of interest in its own right. For example, Ladd, Remijsen & Manyang (2009) demonstrated that a language can realise a morphosyntactic value with a much higher degree of irregularity than previously assumed. We have expanded our investigations into dialect variation in Dinka, and also into related languages (Thok Reel and Bari).</p> <p>This research programme is based on data collected through nine fieldwork research trips to Khartoum (Sudan) and Juba (South Sudan), and four 3-month visits by Dinka and Shilluk native-speaker consultants to Edinburgh. Our researchers have also been able to collect data by commissioning recording work from collaborators in South Sudan, trained by us.</p> <p>Remijsen (researcher; Chancellor's Fellow, arrived 2005) started investigating Dinka and Shilluk</p>

from 2003 onwards. Ladd (professor, Emeritus from 2011) joined the effort from 2005 onwards. Over the years, several native-speaker linguists have been creatively involved in this research programme, after having received training in the context of our grant-funded projects: Caguor Adong Manyang (University of Bahr El Ghazal), Otto Gwado Ayoker (Shilluk Language Council), Peter Malek (SIL International). The funding awards to this research programme have also enabled the involvement of graduate students and international experts—the latter including the late Peter Ladefoged (UCLA), Leoma G. Gilley (SIL International), Cynthia L. Miller (University of the Free State), John Myhill (Haifa University), and Torben Andersen (Aalborg University).

3. References to the research

- Remijsen, B. & L. Gilley (2008). Why are three-level vowel length systems rare? Insights from Dinka (Luanyjang dialect). *Journal of Phonetics* 36(2), 318-344. (DOI: [10.1016/j.wocn.2007.09.002](https://doi.org/10.1016/j.wocn.2007.09.002)) Output returned in the REF.
- Remijsen, B. & D.R. Ladd (2008). The tone system of the Luanyjang dialect of Dinka. *Journal of African Languages and Linguistics* 29(2), 149-189. (DOI: [10.1515/JALL.2008.009](https://doi.org/10.1515/JALL.2008.009))
- Remijsen, B. & C.A. Manyang (2009). Luanyjang Dinka. *Journal of the International Phonetic Association* 39(1), 113-124. (DOI: [10.1017/S0025100308003605](https://doi.org/10.1017/S0025100308003605))
- Ladd, D.R., B. Remijsen & C.A. Manyang (2009). On the distinction between regular and irregular inflectional morphology: evidence from Dinka. *Language* 85(3), 659-670. (DOI: [10.1353/lan.0.0136](https://doi.org/10.1353/lan.0.0136))
- Remijsen, B., O.G. Ayoker, & T. Mills (2011). Shilluk. *Journal of the International Phonetic Association* 41(1), 131-145. (DOI: [10.1017/S0025100310000289](https://doi.org/10.1017/S0025100310000289)) Output returned in the REF.
- Remijsen, B. (2013). Tonal alignment is contrastive in falling contours in Dinka. *Language* 89(2), 297-327. (DOI: [10.1353/lan.2013.0023](https://doi.org/10.1353/lan.2013.0023)) Output returned in the REF.

4. Details of the impact

Our work on language resource development has benefitted the speakers of these languages in several ways.

Orthography development: The most significant impact is due to Ladd's proposal for improvement of Dinka orthography: *Orthographic reform in Dinka: some general considerations and a proposal* (<http://www.lel.ed.ac.uk/~bob/orth.posted.pdf>), developed 2010-11. The orthographic representation of Dinka presents serious challenges. The existing system has problems representing tone and vowel length, and this causes ambiguity and interferes with communication, affecting education and development. Consultation with [text removed for publication], South Sudan, suggested that complicating the writing system with full-scale markup using diacritics was unacceptable to language users. Moreover, any case for change had to acknowledge the lack of a functioning educational system to implement it. Ladd's proposal was pragmatic, based on a central principle: limit change to areas of greatest confusion.

In March 2011 Ladd's proposal was disseminated to stakeholders including the Dinka Language Development Association (DILDA), SIL Sudan, and South Sudan government education officials, with a significant impact on the debate on orthography development [5.SIL]. Notably, DILDA initially envisioned a complete disambiguation of lexical and morphological grammatical contrasts, but have now adopted Ladd's proposals and advocate a more limited set of modifications [5.DIL].

Child literacy: As is often the case in minority languages, previous efforts to produce materials for Dinka and Shilluk centered on Bible translation. But such translations are not the most useful for language learners, especially children. On the basis of our work on Shilluk and Dinka we have been able to make a contribution towards improving child literacy in South Sudan, a major challenge for the society. In 2009, we published a Shilluk translation of *Handa's Hen* [5.MAN], a story set in East Africa, which attracted attention from *The Times* [5.TIM] and was mentioned by the author of the original version [5.HAN]. In 2012 we also published a collection of 30 Dinka children's songs, known to children, which serve as a bootstrap to beginning readers. Both are disseminated by local NGOs, and online through MantraLingua [5.MAN]. The Dinka Language Development Association (DILDA) has acknowledged the "direct great contribution" of these books [5.DIL].

Dinka songs: Whilst the Dinka lack a written tradition, they have a vibrant song culture. Our research on the language enabled us to transcribe and analyse songs, supervising the annotation of a large number by native-speaker collaborators. The result is a collection celebrating and documenting Dinka song tradition (collaboration with Angela Impey, ethnomusicologist at SOAS). The collection is archived in the DoBeS archive of the Max Planck Institute of Psycholinguistics and in Edinburgh DataShare. It constitutes a permanent record of Dinka song tradition. We additionally made a YouTube video, and, most importantly, created a CD of Dinka songs which, with extensive coverage on BBC3's World Routes programme, has introduced Dinka music to the world music scene for the first time. Thus, in addition to benefits to the language community (orthography; child literacy) we have impacted a much wider community of interest [5.BBC]. The letter of thanks from DILDA also mentions the work on Dinka songs, the underpinning research on tone, the orthography development work and the children's book, acknowledging the benefits of "archiving ... songs", and the contribution to "cultural development" [5.DIL].

Advice: We share with other non-academic users the expertise on Dinka and related languages that we have gained through our research. In a legal arbitration on the status of Abyei at the international tribunal in The Hague, the legal counsel of South Sudan consulted Remijsen (6 February 2009 & 9 March 2009) on the meaning of place names in Abyei on old maps.

Capacity building: Through our research projects on these languages, we have provided transferable skills in computer use, English, Dinka, and Shilluk, to people in South Sudan: Dinka assistants trained and employed on our project are now in South Sudan using these skills to wide benefit in the community. We have developed and provided other training, including teaching at the University of Khartoum and a week-long course on Dinka grammar for DILDA in Juba. Evidence of the impact comes from positive written feedback after a Dinka Cultural Day event where Remijsen made a presentation to several hundred people about non-academic outputs of the research. Staff and students attending the presentation commented on Remijsen's "wonderful" and "very interesting" work on Dinka, and the need for "Dinka language to be [taught] in all [states of South Sudan]" [5.FED]. This enthusiastic response can be attested to by the director of the British Council in South Sudan, who was also present [5.BRC]. The Ministry of Education of Central Equatoria State also wrote in appreciation of Remijsen's work on the Bari language, thanking him for "tireless help to the development of our Languages especially to train our students of Secondary Schools and the University..." [5.MOE].

Given the difficult economic environment of South Sudan, obtaining corroborating evidence of impact from language users is a challenge; further, the dysfunctional political situation sometimes makes it difficult to obtain corroboration from official sources. We offer additional sources of corroboration to supplement what is available from the people directly impacted by this research.

5. Sources to corroborate the impact

Individuals & organisations who can provide corroboration of claims made in this impact case study:

5.BRC Impact of our work on Dinka literacy: Country Director, British Council in South Sudan

5.SIL Impact of our work on orthography, and on children's literacy: Country Director, SIL International, Juba, South Sudan

Other sources of corroboration:

5.BBC Distribution of Dinka songs to a wide listening public:

(a) YouTube item on the Dinka song collection:

https://www.youtube.com/watch?feature=player_embedded&v=-n-zW-VaF60
 introductory page archived as <http://tinyurl.com/pmykqm4>

(b) Podcast of the Radio 3 World Routes programme first broadcast on 10th September 2011 <http://www.bbc.co.uk/programmes/b014f9xy>
 introductory page archived as <http://tinyurl.com/ntqmggu>

5.DIL Impact of children's books (*Handa's Hen* and collection of songs), orthography development and song collection:
 Factual statement from the Dinka Language Development Association (DILDA) available from the University of Edinburgh.

5.FED Impact of work on Dinka: Feedback from Dinka people attending the Dinka Cultural Day in Juba, August 2012 (documents available from the University of Edinburgh)

5.HAN Mention of the Shilluk translation of *Handa's Hen* by the author:
<http://www.carolinesheldon.co.uk/authors.php?dbID=15>
 archived as <http://tinyurl.com/osxyeky>

5.MAN Distribution of Shilluk translation of *Handa's Hen*:
 MantraLingua, the online bookseller offering literacy materials in minority languages:
<http://www.mantralingua.com> (Search for resources in Shilluk)
 archived as <http://tinyurl.com/oscl717>

5.MOE Impact of Remiisen's work on Bari:
 Factual statement from the Ministry of Education of Central Equatoria State about Remiisen's work on the Bari language available from the University of Edinburgh

5.TIM Impact of the translation of *Handa's Hen* into Shilluk: report in *The Times*
 'Sudan's forgotten people to see their language in print'
 (Mike Wade, 22 April 2009, Scotland edition)
<http://www.thetimes.co.uk/tto/news/uk/scotland/article2632101.ece>
 archived as <http://tinyurl.com/q6y34yf>