A SENĆOŦEN web database for linguists and community•

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This paper reports on a linguistic database of SENĆOŦEN (Saanich) containing verbs linked to example sentences and to the roots they are derived from. The database was originally designed to track large numbers of fieldwork examples and aid in linguistic research through advanced search capabilities. However, it will soon be available on the web to interested community members and scholars, not only for research but also for language teaching/learning. This will provide a means of sharing the thousands of analyzed language examples while continuing to update and revise the database.

1 Introduction

Linguistic projects on Salish languages often involve large amounts of fieldwork, resulting in hours of language recordings. These have the potential to be useful not only for the specific project for which they were obtained, but also for future linguistic and pedagogical projects. From 2008-2010 I conducted fieldwork with two elders from the Saanich (W̱SÁNEĆ) community, both fluent speakers of SENĆOŦEN [sənčaθən], a dialect of Northern Straits Salish spoken on the Saanich Peninsula, Vancouver Island. These sessions were recorded in full, including break times, in order to document any use of SENĆOŦEN that might arise. The decision to leave the recorder on was deemed important by all involved, since occasions of language use are currently rare.[1] As a result, we generated over 100 hours of recordings containing over 3000 sentences. The sentences include examples from elicitation and naturally occurring utterances, along with several SENĆOŦEN-only and mixed SENĆOŦEN-English conversations. Copies of all recordings and transcribed sentences were given to

• HÍ SW̱ KE SIÁM to the two anonymous Saanich elders who provided and discussed the SENĆOŦEN examples. This project was funded by a British Academy Small Grant held by Greville Corbett and Dunstan Brown, to whom I am very grateful for their contributions (see p. 2) and comments on this paper. Thanks also to Janet Leonard, Ron Turner, and Horace Archer for comments on the paper, to Nick Jenkins for the web implementation, and to Ewa Czaykowska-Higgins, John Elliott, Su Urbanczyk, and Ken Foster for advice. I am also grateful to the Surrey Morphology Group, Jacobs Fund, Phillips Fund, and British Association for Canadian Studies for fieldwork funding and to the University of Surrey for funding the PhD project in which the fieldwork was carried out. All errors are my responsibility, and the views expressed in this paper are my own.

[1] SENĆOŦEN is, however, increasingly being used by a group of younger speakers.

the relevant funding bodies, the two elders, several members of the Saanich community involved in language work, and one other linguist working in the community. However, at the end of the project, these materials were primarily only accessible to me, the fieldworker, due to their format and the large amount of partially analyzed language data they contained. This project seeks to improve the situation by providing web access to a database of analyzed SENĆOŦEN sentences. This will make the work available to community members, who can then benefit from the precious hours of language work undertaken by the elders; and to linguists, allowing verification of my linguistic analyses and claims.[2] In addition, it will hopefully make collaboration with other SENĆOŦEN projects easier.

Several people have contributed to the project, starting with the two elders who worked with me to generate the language examples. In addition, Janet Leonard worked with one of the elders to provide some of the examples. I undertook transcription, database construction, and data entry. Dunstan Brown contributed to planning the database structure and taught me how to create a useful relational database. Greville Corbett provided advice on the database contents, particularly in terms of morphological analysis and glossing. Nick Jenkins of the University of Surrey set up the web implementation.

This paper will further discuss the purpose and benefits of the database in §2, describe its structure and contents in §3, exemplify how to use the database for linguistic research in §4, discuss access in §5, and outline possible expansions in §6.

2 Purpose and benefits

The purpose of the database is to organize large numbers of SENĆOŦEN sentences and link those sentences to the verbs contained within them. These verbs are then linked to lexical roots. The database also provides a means of ensuring there are no duplicates in the set of examples, and makes it easier to amend examples which have been re-checked. Lastly, it allows for sharing an up-to-date version of the database with others interested in learning or studying the language.

The initial purpose of this database was to provide a single place to list all of the examples generated during my PhD research on SENĆOŦEN aspect and verb classification. My supervisors (G. Corbett and D. Brown) and I chose to use the software Filemaker Pro, which is proprietary database software compatible with Macintosh and Windows operating systems. The main drawback of Filemaker is that it is proprietary, requiring purchase, and as such while the database remains offline it is only accessible to people in possession of the Filemaker software. However, since Filemaker allows for Instant Web Publishing, we can eliminate this problem, since it is possible to use the web version of a Filemaker database in any major web browser on any platform. In

[2] The website also contains transcriptions and recordings of some conversations.

addition, Filemaker is very user-friendly for those not familiar with database construction.

The database was also constructed with a specific linguistic project in mind. My PhD research investigated the use of particular combinations of verb morphology and the use of particular verbs in different types of clauses and sentences (Turner 2011). Therefore, I constructed three separate but linked tables (or lists): one containing sentences, one containing verbs, and one containing roots (see §3). This enables the user to, for example, look up a verb and find out which sentences it was used in. The advanced searching capabilities of a database also allow searches for combinations of words or affixes. For example, in my work on aspect, I used the database to find all sentences containing both a verb with the 'non-control transitive' suffix *-nax*^{w} and the imperfective aspect. This is illustrated in §4 below. Although my interest was in aspect particularly, searches can be done for various types of combinations within a sentence, since all examples are fully glossed. A glossing key is provided with the database, since not everyone will be familiar with the terms used.[3] It was necessary to make choices in order to provide a consistent and fully searchable database, even when the appropriateness of a particular term requires further investigation.

The database has allowed me to more easily update examples which were checked with speakers and revised or re-recorded. The idea is that each database record (i.e., row) in the 'Sentence' part of the database is unique, and so if a sentence is found more than once in my fieldwork recordings there is a single database record of that sentence with two recording numbers listed.

Work on SENĆOŦEN is ongoing. First, I am still re-checking examples and translations of the existing material with speakers, with the help of Janet Leonard. Second, it is hoped that further work on SENĆOŦEN will be able to go into the same database. Using a web database to organize and share fieldwork materials makes it easy to continue revising the database, ensuring that anyone else who is looking at the database will always be looking at the most up-to-date version.

3 Structure and contents

The database consists of three *tables*: 'Sentence', 'Verb', and 'Root'.[4] These tables are lists consisting of several hundred records, similar to Excel tables. The three tables have different *fields*; that is, different kinds of information included in them. In filling in the database, a record for each

[3] These are generally based on either my own linguistic analysis (Turner 2007, 2011) or terms used by Montler (1986).

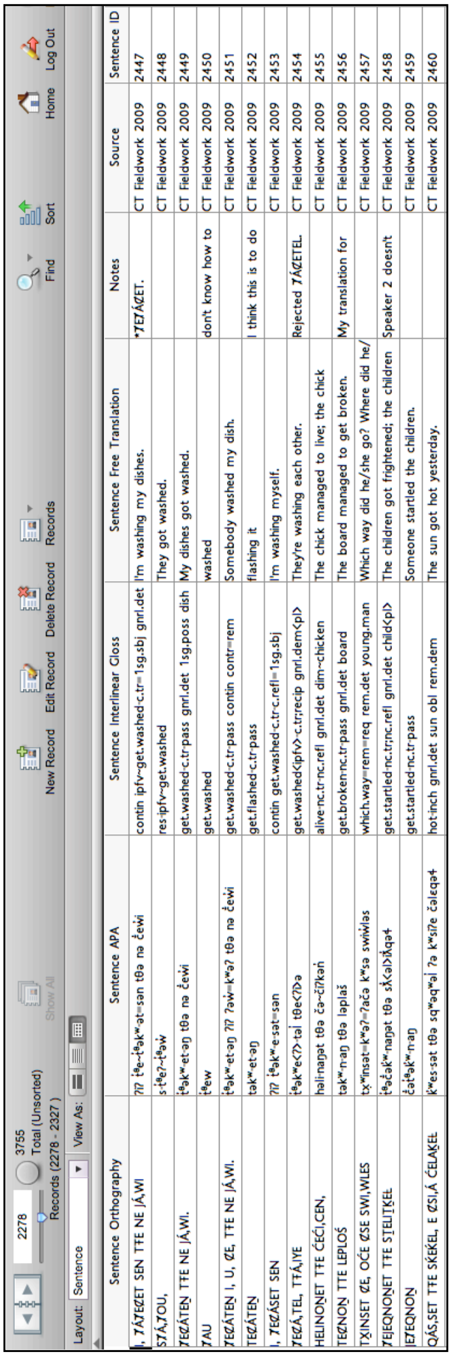
[4] There is also a hidden table used for the purpose of linking the 'Sentence' table and the 'Verb' table. This is required because of the many-to-many relationship between sentences and verbs: each sentence can contain more than one verb, and each verb can appear in more than one sentence. Further details about the technical structure of the database are available on request.

example sentence from my fieldwork was created in the 'Sentence' table. This record contains the following fields of information:

Sentence (SENĆOŦEN alphabet): A sentence written in the SENĆOŦEN alphabet, usually as provided by the elders.
Sentence APA (Phonemic transcription): A phonemic transcription of that sentence in the Americanist Phonetic alphabet (APA), as provided by the fieldworker.[5]
Interlinear gloss: A morphological gloss following the Leipzig Glossing Rules.[6]
Translation: A translation, given or approved by the elders, unless otherwise noted.
Notes: Miscellaneous notes relating to the sentence, its recording, or any context associated with its use.
Source: The fieldwork year in which the sentence was recorded, and whether it involved Claire Turner (CT) or Janet Leonard and Claire Turner (JL/CT).
Sentence ID: A unique reference number automatically entered by Filemaker on creation of a record.

On the following page is a view of the 'Sentence' table (Figure 1).

[5] Janet Leonard provided transcriptions for the sentences she contributed.
[6] The Leipzig Glossing Rules, developed by the Department of Linguistics of the Max Planck Institute for Evolutionary Anthropology (Bernard Comrie, Martin Haspelmath) and by the Department of Linguistics of the University of Leipzig (Balthasar Bickel), seek to standardize interlinear glossing. The current version can be found at http://www.eva.mpg.de/lingua/resources/glossing-rules.php

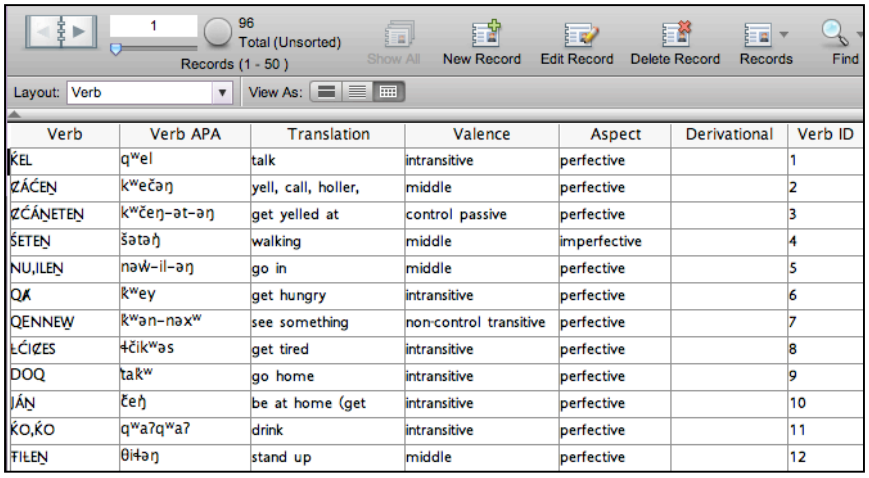


Sentence Orthography	Sentence APA	Sentence Interlinear Gloss	Sentence Free Translation	Notes	Source	Sentence ID
I, 7Á7EȻET SEN TŦE NE JÁ,WI	ʔiʔ ṭ̓θe~ṭ̓θəkʷ-ət=sən tθə nə č̓ewi	contin ipfv~get.washed-c.tr=1sg.sbj gnrl.det	I'm washing my dishes.	*7E7ÁȻET.	CT Fieldwork 2009	2447
S7Á,7OU,	s-ṭ̓θeʔ~ṭ̓θəw̓	res-ipfv~get.washed	They got washed.		CT Fieldwork 2009	2448
7EȻÁTEṈ TŦE NE JÁ,WI.	ṭ̓θəkʷ-et-əŋ tθə nə č̓ewi	get.washed-c.tr-pass gnrl.det 1sg.poss dish	My dishes got washed.		CT Fieldwork 2009	2449
7AU	ṭ̓θew	get.washed	washed	don't know how to	CT Fieldwork 2009	2450
7EȻÁTEṈ I, U, ȻE, TŦE NE JÁ,WI.	ṭ̓θəkʷ-et-əŋ ʔiʔ ʔəw̓=kʷəʔ tθə nə č̓ewi	get.washed-c.tr-pass contin contr=rem	Somebody washed my dish.		CT Fieldwork 2009	2451
TEȻÁTEṈ	təkʷ-et-əŋ	get.flashed-c.tr-pass	flashing it	I think this is to do	CT Fieldwork 2009	2452
I, 7EȻÁSET SEN	ʔiʔ ṭ̓θəkʷ-e-sət=sən	contin get.washed-c.tr-c.refl=1sg.sbj	I'm washing myself.		CT Fieldwork 2009	2453
7EȻÁ,TEL, TŦÁ,IYE	ṭ̓θəkʷe<ʔ>-təl̓ tθe<ʔi>ə	get.washed<ipfv>-c.tr;recip gnrl.dem<pl>	They're washing each other.	Rejected 7ÁȻETEL.	CT Fieldwork 2009	2454
HELINOṈET TŦE ĆEĆI,CEN,	həli-naŋət tθə č̓ə~č̓iʔkən̓	alive-nc.tr-nc.refl gnrl.det dim~chicken	The chick managed to live; the chick		CT Fieldwork 2009	2455
TEȻNOṈ TTE LEPLOŚ	təkʷ-n-aŋ tθə ləplaš	get.broken-nc.tr-pass gnrl.det board	The board managed to get broken.	My translation for	CT Fieldwork 2009	2456
TX̱INSET ȻE, OĆE ȻSE SWI,WLES	tx̣ʷinsət=kʷəʔ=ʔačə kʷsə swiw̓ləs	which.way=rem=req rem.det young.man	Which way did he/she go? Where did he/		CT Fieldwork 2009	2457
7EJEQNOṈET TŦE SṮELIṮḴEȽ	ṭ̓θəčək̓ʷ-naŋət tθə sƛ̓<əl>iƛ̓qəɬ	get.startled-nc.tr;nc.refl gnrl.det child<pl>	The children got frightened; the children	Speaker 2 doesn't	CT Fieldwork 2009	2458
JE7EQNOṈ	č̓əṭ̓θək̓ʷ-n-aŋ	get.startled-nc.tr-pass	Someone startled the children.		CT Fieldwork 2009	2459
QÁS,SET TŦE SḰEḰEL, E ȻSI,Á ĆELAḴEȽ	k̓ʷes-sət tθə sqʷəqʷəl̓ ʔə kʷsiʔe čələqəɬ	hot-inch gnrl.det sun obl rem.dem	The sun got hot yesterday.		CT Fieldwork 2009	2460

Figure 1 'Sentence' Table in Table View

The database entries are in Aboriginal Sans, a unicode font available from the Language Geek website www.languagegeek.com. You do not need to have this font installed in order to view the database correctly, but there do appear to be problems viewing the characters with older operating systems.

After filling in the 'Sentence' table, I created a record for each verb found in the sentences. These were created within the second table, the 'Verb' table, depicted in Figure 2 below.



Verb	Verb APA	Translation	Valence	Aspect	Derivational	Verb ID
ḴEL	qʷel	talk	intransitive	perfective		1
ȻÁĆEN	kʷečəŋ	yell, call, holler,	middle	perfective		2
ȻĆÁNETEN	kʷčeŋ-ət-əŋ	get yelled at	control passive	perfective		3
ŚETEN	šətəŋ	walking	middle	imperfective		4
NU,ILEN	nəẇ-il-əŋ	go in	middle	perfective		5
QḴ	ƙʷey	get hungry	intransitive	perfective		6
QENNEW	ƙʷən-nəxʷ	see something	non-control transitive	perfective		7
ŁĆIȻES	ɬčikʷəs	get tired	intransitive	perfective		8
DOQ	təƙʷ	go home	intransitive	perfective		9
JÁN	čeŋ	be at home (get	intransitive	perfective		10
ḴO,ḴO	qʷəʔqʷəʔ	drink	intransitive	perfective		11
ŦIŁEN	θiɬəŋ	stand up	middle	perfective		12

Figure 2 'Verb' in Table View

The verb table contains the following fields of information:

Verb (SENĆOŦEN alphabet): A verb from one (or more) of the sentences in the 'Sentence' table, given in the SENĆOŦEN alphabet.

Verb APA (Phonemic transcription): A phonemic transcription of the verb.

Translation: A translation of the verb based on its use in the sentences, normally provided by the fieldworker.

Valence: The name of transitivizing or intransitivizing suffixes found in the verb. If none, this is filled in as 'intransitive'.

Aspect: The grammatical aspect of the verb (if known); either *perfective* or *imperfective*.

Derivational aspect: Any other aspectual affixes found within the verb, like resultative *s-*, persistent *-i*, or inchoative *-sat*. If none, this is left blank.

Verb ID: A unique reference number automatically entered by Filemaker on creation of a record.

Once a verb record was created, the records in the two tables were linked, making it possible to go from a sentence record to the records for the verb(s) it contains, or to go from a verb record to examples of sentences containing that verb. Filemaker allows different ways of viewing a database's tables: *form*, *list*, and *table*. The pictures above are taken in the *table* view. In order to jump quickly between sentences and verbs, it is necessary to use one of the other viewing options. The following picture is of the 'Verb' table in *form* view, which shows one record at a time.

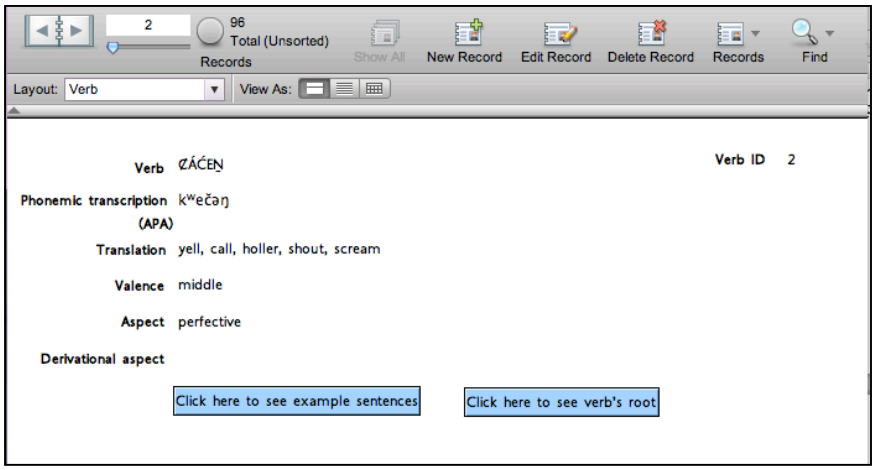


Figure 3 'Verb' Table in Form View

If you click on the button 'Click here to see example sentences', then you are automatically shown the records for all sentences in the database containing this verb. This result (three sentences) is depicted in Figure 4 on the next page.

Sentence Orthography	Sentence APA	Sentence Interlinear Gloss	Sentence Free Translation	Notes	Source	Sentence ID
ȻÁĆEN	kʷečəŋ	shout	Yell. (telling someone to yell)		CT Fieldwork 2006	6
ȻÁĆEN TE Janet	kʷečəŋ θə Janet	shout fem.det Janet	Janet yelled; Janet called.	Second translation	Turner 2005: 252;	7
Ú, OꞸMET LE, SEN I, ȻÁĆEN, TE Janet	ʔəw̓ ʔanɔt=ɬə?=sən ʔi? kʷečəŋ θə Janet	contr sit\vpfv=pst=1sg.sbj contin call	I was at home when Janet called.		CT Fieldwork 2006	101

Figure 4 Example Sentences containing ȻÁĆEN kʷečəŋ 'yell, call'

The third table in the database contains roots for the verbs in the 'Verb' table. The 'Root' and 'Verb' tables are linked in much the same way as the 'Sentence' and 'Verb' tables.

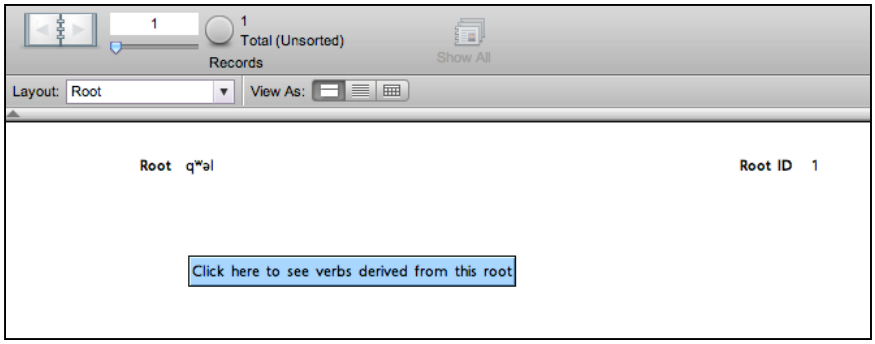


Figure 5 'Root' Table in Form View

A note here may be useful for those not familiar with linguistics. The 'Root' table is slightly different from the others in that it contains entries which do not necessarily occur in actual speech. It contains *roots*, abstract strings of consonants and vowels which are intended to represent the basic meaning of each verb. These have long been considered important in linguistic research on Salish languages (Czaykowska-Higgins & Kinkade 1998: 23-24). The reason for including the 'Root' table in the database is so that we can easily search for words which are related to each other. For example, the word *TC̓ET tkʷət* 'break it' and the word *TEC̓NOW̱ təkʷnaxʷ* 'break it accidentally' are normally analyzed as containing the same root. Both contain the meaning 'break'. Thus, both are linked to the same record in the 'Root' table, which I have represented like this: *təkʷ.* Other researchers and speakers may have different ideas of how to represent these roots, and I had to make decisions early on and stick to them in order to keep the database consistent. For example, I had to decide whether to represent the root of the word *tkʷ* as *təkʷ* or *tkʷə*. I chose *təkʷ* because when the root is found on its own it appears as *təkʷ,* meaning 'get broken'.[7] By clicking on the button which says 'Click here to see verbs derived from this root', it is possible to view all verbs found in the database which are derived from the root.

In constructing this database I continue to recognize that all of the language material contained within it is not merely data to be analyzed, but is also a dynamic part of Saanich culture, connected to the speakers who worked with me and also to the community as a whole. However, I do believe that a database can be a useful way of learning more about a language. Note that the database described in this paper is not a natural language corpus, which provides examples of real spoken and/or written language use. Most of the sentences in

[7] Though Montler (1986) and Leonard & Turner (2010) do not treat the schwa as part of roots of this type.

the database were provided as individual sentences, although we discussed possible contexts in which the sentences could be used. However, the database does include some examples from natural langauge use, and it was sometimes difficult to decide how to incorporate these into the database. For the 'Sentence' table, I treated as a sentence anything containing one matrix clause and possibly subordinate clause(s). However, sometimes it would have been more appropriate to provide a full utterance, sequence of sentences, or even a full conversation. This is indicated in the 'notes' section of the various records where possible. A corpus of SENĆOŦEN conversations would be another useful resource, and is left for future work.

This database is intended for linguistic research and language learning/teaching. I particularly wanted to make a single resource useful for both purposes, in order not to duplicate work, but also for openness: this allows community members who are not involved in linguistics to see what linguists do with their language, and ensures that both audiences have access to the same materials. In the next section, I will provide an example of how to use the database for linguistic research.

4 Application

This section provides an example of how the database has been used in my PhD work on aspect. In my thesis (Turner 2011) I looked at the use of certain suffixes (grammatical and derivational aspects) with different types of verbs. One part of the investigation looked at restrictions on the use of imperfective aspect, which provides an internal view of an event or a series of repetitive/habitual events. This is in opposition to perfective aspect, which refers to the event as a whole. Imperfective is indicated by various types of internal changes to the shape of the verb (Montler 1986, 1991; Turner 2007, 2011; Leonard & Turner 2010). For example, the perfective in (1a) has the shape CVC (consonant-vowel-consonant), while the imperfective in (1b) has a more complex shape, involving *reduplication* or copying of the first two sounds in the word.

(1) a. YÁ, SEN DOQ
yɛʔ=sən ƛəkʷ
go=1SG.SBJ go.home
'I'm going home now (haven't gone yet).'

b. I DODEQ SEN
ʔiʔ=ƛə~ƛəkʷ=sən
COM=IPFV~go.home=1SG.SBJ
'I'm on my way home (already walking).'

It has previously been suggested (Turner 2007, Kiyota 2008) that imperfective aspect was not available with certain verb types, including those verbs containing the 'non-control' suffix *-n(ax^{w})* which indicates that the verb is transitive, and that the event it denotes was or will be carried out to completion (i.e., entails culmination) (Davis 1978, Watanabe 2003, Kiyota 2008). In addition, the non-control suffix often describes events which were caused accidentally, or which were completed only through a great degree of effort (Thompson 1985, Montler 1986).

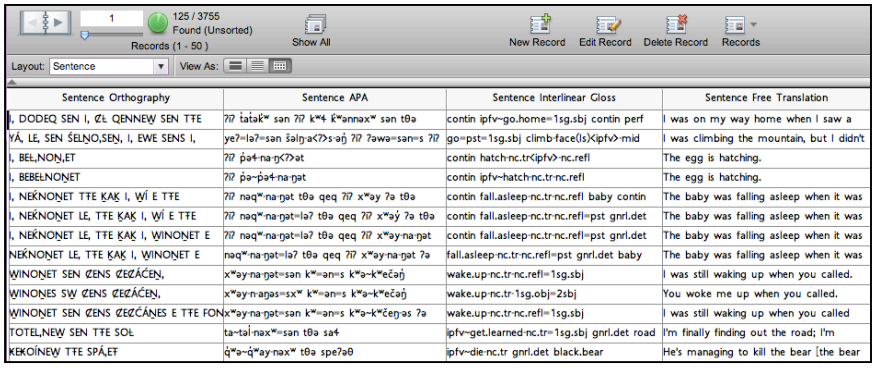
(2)	NEḰNOW̱ SEN	TŦE	K̲AK̲
	nəq^{w}-nax^{w}=sən	tθə	qeq
	fall.asleep-NC.TR=1SG.SBJ	GNRL.DET	baby
	'I finally made the baby go to sleep.'		

Further fieldwork showed, however, that the imperfective aspect can in fact be used with the non-control suffix, but with some restrictions: 1) It cannot be used to describe a single instantaneous event[8]; 2) It is not always acceptable in all contexts; 3) It is rarely found in discourse (Turner 2011).

The database helped me to see what different kinds of uses were possible and which were not, for particular verbs. This was achieved by doing advanced searches. It is possible to perform searches based on multiple criteria in Filemaker. In the *find* mode, I entered in NC.TR, the linguistic abbreviation for 'non-control', into the *Interlinear gloss* field. That ensured the search returned only records with NC.TR in their glosses, hence only sentences with at least one verb containing the non-control transitive suffix. Then I added another 'find' criterion, which was IPFV (imperfective) in the same field. When I hit 'find', I obtained all records with both the non-control transitive suffix and the imperfective contained within them. This is shown in Figure 6.

In the top left corner, you can see that the search found 125 'Sentence' records with both imperfective aspect and the non-control transitive suffix. Once you have performed a search like this, only records satisfying the search criteria are in view. In order to then go back and see all the records again, all you have to do is choose 'Show all'.

[8] This is a property which it shares with the English progressive, discussed in literature on aspect since at least Vendler (1957).



Sentence Orthography	Sentence APA	Sentence Interlinear Gloss	Sentence Free Translation
I, DODEQ SEN I, Ƛ̓Ł QENNEW SEN TTE	ʔiʔ ƛ̓aƛ̓aƙʷ sən ʔiʔ kʷɬ ƙʷənnəxʷ sən tθə	contin ipfv~go.home=1sg.sbj contin perf	I was on my way home when I saw a
YÁ, LE, SEN ŚELṈO,SEN, I, EWE SENS I,	yeʔ=ləʔ=sən šəlŋ-aʕʔs-əŋ̓ ʔiʔ ʔəwə=sən=s ʔiʔ	go=pst=1sg.sbj climb-face(ls)<ipfv>-mid	I was climbing the mountain, but I didn't
I, BEŁ,NOṈ,ET	ʔiʔ p̓aɬ-na-ŋʕʔət	contin hatch-nc.tr<ipfv>-nc.refl	The egg is hatching.
I, BEBEŁNOṈET	ʔiʔ p̓ə~p̓aɬ-na-ŋət	contin ipfv~hatch-nc.tr-nc.refl	The egg is hatching.
I, NEḰNOṈET TTE ḴAḴ I, W̱Í E TTE	ʔiʔ nəqʷ-na-ŋət tθə qeq ʔiʔ xʷəy ʔə tθə	contin fall.asleep-nc.tr-nc.refl baby contin	The baby was falling asleep when it was
I, NEḰNOṈET LE, TTE ḴAḴ I, W̱Í E TTE	ʔiʔ nəqʷ-na-ŋət=ləʔ tθə qeq ʔiʔ xʷəý ʔə tθə	contin fall.asleep-nc.tr-nc.refl=pst gnrl.det	The baby was falling asleep when it was
I, NEḰNOṈET LE, TTE ḴAḴ I, W̱INOṈET E	ʔiʔ nəqʷ-na-ŋət=ləʔ tθə qeq ʔiʔ xʷəy-na-ŋət	contin fall.asleep-nc.tr-nc.refl=pst gnrl.det	The baby was falling asleep when it was
NEḰNOṈET LE, TTE ḴAḴ I, W̱INOṈET E	nəqʷ-na-ŋət=ləʔ tθə qeq ʔiʔ xʷəy-na-ŋət ʔə	fall.asleep-nc.tr-nc.refl=pst gnrl.det baby	The baby was falling asleep when it was
W̱INOṈET SEN ȻENS ȻEȽ́ÁĆEN,	xʷəy-na-ŋət=sən kʷ=ən=s kʷə~kʷečəŋ̓	wake.up-nc.tr-nc.refl=1sg.sbj	I was still waking up when you called.
W̱INOṈES SW̱ ȻENS ȻEȽ́ÁĆEN,	xʷəy-n-əŋəs=sxʷ kʷ=ən=s kʷə~kʷečəŋ̓	wake.up-nc.tr-1sg.obj=2sbj	You woke me up when you called.
W̱INOṈET SEN ȻENS ȻEȽ́ĆÁṈES E TTE FON	xʷəy-na-ŋət=sən kʷ=ən=s kʷə~kʷčeŋ-əs ʔə	wake.up-nc.tr-nc.refl=1sg.sbj	I was still waking up when you called
TOTEŁ,NEW SEN TTE SOŁ	ta~təl-nəxʷ=sən tθə saɬ	ipfv~get.learned-nc.tr=1sg.sbj gnrl.det road	I'm finally finding out the road; I'm
ḴEḴOÍNEW TTE SPÁ,ET	q̓ʷə~q̓ʷəy-nəxʷ tθə speʔəθ	ipfv~die-nc.tr gnrl.det black.bear	He's managing to kill the bear [the bear

Figure 6 Results of Search for Imperfective Non-control Transitives

Since I filled in the 'Sentence' table before the other tables, the search method described above was the method I used in my PhD research. However, it has a limitation: it returns not only sentences containing verbs with both the non-control suffix and the imperfective aspect, but also sentences containing one verb with the non-control suffix and another verb in the imperfective aspect. An alternative method is available using the 'Verb' table instead. Recall that I have included fields for aspect and valence in the 'Verb' table. From here, you can search for records containing *imperfective* in the aspect field and *non-control transitive* in the valence field. It is then possible to view the example sentences for each of the verbs found. This second method will be a better means to count how many imperfective non-control transitive verbs are found in the database, but the first method, despite giving some irrelevant examples, is better for getting a general picture of the kinds of contexts where imperfective non-control transitives can be used.

This section has provided one example of how to use the database for linguistic research. Further information on how to search the database will be available on the website and is available on the Filemaker website. The database could also be used to contribute to dictionary projects, by extracting all of the records in the 'Verb' table. It could also contribute to language learning, by allowing learners to look up a word and see how it can be used.

5 Access

The database will be housed on a server at the University of Surrey, accessible from http://saanich.surrey.ac.uk or from the Surrey Morphology Group main page http://www.surrey.ac.uk/english/smg/. The Surrey Morphology Group maintains a number of other web databases on grammatical features and morphological phenomena, as well as an online dictionary of the Nakh-Daghestanian language Archi.

In granting access to linguistic materials resulting from fieldwork on endangered languages, there are two aims to keep in mind. First, there is the aim of sharing the material so that others can benefit from the research and claims

can be verified. Second, there is the aim of respecting speakers' wishes for privacy of certain material and of ensuring that the material is not exploited for commercial gain or uses detrimental to the speakers or their families. To begin with, access will be password protected and interested people will have to request to have a user account set up. Permission will be granted to people wishing to use the database for language learning or non-commercial research. In addition, access will be read-only. This means that users will not be able to make any changes to the database, or to download any part of it onto their own computers.[9] In this way it is similar to other electronic reference materials like dictionaries. Also no sacred or personal information is included in the database, and mentions of the speakers names have been removed, since they have requested to remain anonymous.

Although they will not be able to edit records, users will be able to jump between all three tables ('Sentence', 'Verb', and 'Root'), perform searches like those mentioned in §4, and sort data for their viewing. It is expected that some users will have comments and suggestions for the database as a whole and for individual records. On the website, I will request that people email me with comments and suggestions, referring to particular examples by using the ID numbers.

As mentioned in §2, the database is subject to ongoing revision. This includes the access requirements. I aim to continue to respect the wishes of the speakers and their families in terms of making material available and in terms of keeping material private.

6 Relationship to other web materials

The database is intended to complement existing web resources on the language. One is the FirstVoices website http://www.firstvoices.com/, which was originally created for SENĆOŦEN, but now includes language material on many other (primarily First Nations) languages. FirstVoices contains recordings of many practically useful sentences and words, grouped thematically (including many sentences from my fieldwork in 2008). It is very useful for learners, but not intended for linguistic research. For example, it does not contain phonemic transcriptions or grammatical analysis. Another site containing SENĆOŦEN language material is Timothy Montler's Saanich site http://www.lingtechcomm.unt.edu/~montler/Saanich/, which contains HTML versions of his *Outline of the Morphology and Phonology of Saanich, North Straits Salish* (1986) and *Saanich Classified Word List* (1991). It is very useful for its description of the language and lengthy word list covering most areas of the grammar and parts of speech. However, it does not use Dave Elliott's SENĆOŦEN alphabet, which is used by many learners in the Saanich community, and is not searchable to the same extent as a database. My database

[9] When setting access parameters for Instant Web Publishing with Filemaker, it is possible to specify whether or not users can edit, print, or export records.

does not contain sound files[10] or any grammatical description, and it is restricted to verbs. However, the database provides a way to link between verbs and sentences, lists material in both the SENĆOŦEN alphabet and the Americanist Phonetic Alphabet (APA), and provides interlinear glossing. Therefore, each of these three web resources is complementary, providing different information with different intended uses.

7 Possible expansions of the database

So far, the database has been used for research on aspect and verb classification. Therefore, I have provided fields for aspect, tense, and valence, and constructed it so there is a 'Verb' and a 'Sentence' table. For further research purposes, the database could be expanded to include information on other parts of speech, such as nouns, or other kinds of grammatical information.

Another limitation of the database is that I have not indicated primary or secondary stress in the examples. The main reason for this was practical: the keyboard input I was using did not have a quick way to represent the stressed vowels (particularly schwa). However, since there are no sound files attached to the database, stress information would be extremely useful, especially for people intending to do phonological research on SENĆOŦEN or for learners who do not know how to pronounce the words. Stress is something I hope to include in later versions, perhaps with the help of others.

8 Conclusion

This paper has reported on a SENĆOŦEN language database which will soon be made available over the web to interested language learners and researchers. The database contains lists of sentences, verbs, and verb roots, with links between the lists so that, for example, a user can look up a verb and then click on a button to see examples of its use in sentences. The database contains materials in both Dave Elliott's SENĆOŦEN alphabet and the Americanist Phonetic Alphabet (APA), and is intended to be equally useful to community members and linguists. It also provides interlinear glosses and information on tense, aspect, and valence.

I have pointed to several issues concerning the database's structure, contents, and access. The main thing to stress is that this is a working database which is subject to revision, based on feedback and the wishes of the speakers and their families. One benefit of sharing information through a web database is that it allows continuing revision.

[10] Including sound files in the database would also have proven difficult due to lack of time and resources. Adding sound files which are then accessible over the web adds further complexity to the database, and it takes a very long time to edit out files of sentences and link them to each record.

Appendix: Glossing abbreviations

1=1st person; COM=comitative; CONTIN=continuing; DET=determiner; GNRL=general; IPFV=imperfective; NC=non.control; SBJ=subject; SG=singular; TR=transitive.

Glossing follows the Leipzig Glossing Rules where possible. Please note that '=' in the glosses separates a clitic from its host.

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