From *TshwaneLex* to *TshwaneTerm*: Tailoring Terminology Management for South Africa*

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Abstract: The addition of a restricted number of features to the dictionary (compilation) software *TshwaneLex* suffices to turn this application into a terminology management system. This article gives a brief overview of those extra features, using the *Department of Arts and Culture* (DAC) AIDS list as case study.

Keywords: LEXICOGRAPHY, TERMINOLOGY LIST, TERMINOLOGY MANAGEMENT SYSTEM, SOFTWARE, TSHWANELEX, TSHWANETERM, DAC AIDS LIST

Samenvatting: Van *TshwaneLex* naar *TshwaneTerm*: terminologiebeheer op maat voor Zuid-Afrika. De toevoeging van een beperkt aantal uitbreidingen aan de woordenboek(aanmaak)software *TshwaneLex* is voldoende om dit programma met succes als terminologiebeheersysteem in te zetten. Dit artikel geeft een kort overzicht van die extra uitbreidingen, en gebruikt de *Department of Arts and Culture* (DAC) AIDS lijst als illustratie.

Sleutelwoorden: LEXICOGRAFIE, TERMINOLOGIELIJST, TERMINOLOGIEBEHEERSYSTEEM, SOFTWARE, TSHWANELEX, TSHWANETERM, DAC AIDS LIJST

1. The need for a South African terminology management system

This article is a sequel to De Schryver and Joffe's (2005a) 'From *TshwaneLex* to *TshwanePedia*', in which it is pointed out that the high degree of customisability found in the dictionary (compilation) software TshwaneLex may be exploited for the production of a wide variety of reference works. The variety under discussion here are terminology lists, and by extension the move from an environment to compile dictionaries with, Tshwane*Lex*, to a terminology management system, Tshwane*Term*.

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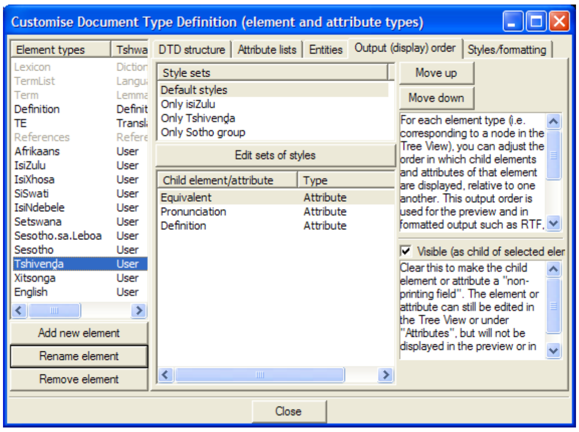
When Mariëtta Alberts, the 'Focus Area Manager: Standardisation and Terminology Development' of the *Pan South African Language Board* (PanSALB), pointed out that the South African terminographers who work at the *Department of Arts and Culture* (DAC) and elsewhere in the country do not have adequate tools at their disposal, *TshwaneDJe HLT* decided to produce a solution for them. In analogy with the design of TshwanePedia, and in order to create a successful application, the extra features that were added to the TshwaneLex base revolve around the 'window layout', 'multimedia' and 'export'. For the illustrations below a draft AIDS terminology list compiled by DAC, which was parsed and imported into TshwaneTerm, is used.

2. From TshwaneLex to TshwaneTerm

To begin with one can point out that terminology databases typically contain a rather large number of languages in parallel. Creating a Document Type Definition (DTD) in TshwaneLex that can handle multilingual or interlingual data is straightforward, as the customisability already allows for the addition of fields to entries for more languages, and in fact *any number* of languages. In South Africa this usually means that one will want to work with an eleven-lingual database, and that each terminographic entry will contain data in all eleven official languages. Compared to dictionary articles, terminology entries are less complex, in the sense that, at least in theory, only one equivalent is supposed to be provided per language. To terminographers, seeing the 'structure' of the entries (in the Tree View) is thus a matter of lesser importance, as that structure is repetitive and basically the same throughout. Instead, more (vertical) space is needed to see more languages in parallel. For that reason, a so-called optional 'High Tools window layout' was implemented, which is accessible with a single 'hotkey'. Addendum 1 shows a screenshot of the TshwaneTerm interface with the high view enabled. (Note that when the high view is not enabled, the top section is taken up by the Tree View. If one for example wants to add a second translation equivalent for a particular language, as is the case for siSwati in the screenshot, then this can simply be done by adding the extra field(s) in the Tree View first.)

Secondly, a multimedia feature available in TshwaneTerm is enhanced support for audio files, through a data type 'Sound file', that can be added at *any level* in the DTD. Sound files are thus not restricted to the head-term (and, say, its morphological derivations) but can truly appear anywhere in the DTD, and they can be of any length. For the terminology list shown in Addendum 1, an audio recording was added of the pronunciation of the equivalents in each of the eleven languages. Just as for the images, sound files are stored centrally, and the compiler simply uses 'Browse …' to select one.

The third and most important feature, however, is the ability to be able to generate multiple 'editions' from a single database (cf. De Schryver and Joffe 2005: 56-59). This is done by creating different sets of styles, each of which basically 'lets through' different parts of the data. In the screenshot shown below, for example, four style sets have been defined: a default style (which corresponds with the view in Addendum 1), and then three 'masks' to output only the isiZulu, or only the Tshivenda, or only the Sotho-group languages.



Element types	Tshwa
Lexicon	Diction
TermList	Langu
Term	Lemma
Definition	Definit
TE	Transl
References	Refere
Afrikaans	User
IsiZulu	User
IsiXhosa	User
SiSwati	User
IsiNdebele	User
Setswana	User
Sesotho.sa.Leboa	User
Sesotho	User
Tshivenḓa	User
Xitsonga	User
English	User

Style sets
Default styles
Only isiZulu
Only Tshivenḓa
Only Sotho group

Child element/attribute	Type
Equivalent	Attribute
Pronunciation	Attribute
Definition	Attribute

For each element type (i.e. corresponding to a node in the Tree View), you can adjust the order in which child elements and attributes of that element are displayed, relative to one another. This output order is used for the preview and in formatted output such as RTF.

☑ Visible (as child of selected eler

Clear this to make the child element or attribute a "non-printing field". The element or attribute can still be edited in the Tree View or under "Attributes", but will not be displayed in the preview or in

In Addendum 2 screenshots of samples of the 'isiZulu mask' and the 'Sotho mask' are shown. One can easily toggle between the different editions, and thus views, with a single key press.

The use of sets of styles within a single database is very powerful indeed. Not only can subsets of the data be output in various formatted ways, as illustrated in Addendum 2, but one can also successfully prepare, say, both a pocket edition and a full edition of the same data simultaneously. Or one can generate different views of the same data, such as a print view and an electronic/online view, or one can generate monolingual, bilingual and semi-bilingual reference works from the same database, etc. All of these possibilities are especially useful when one deals with large amounts of data, as in multilingual terminography — South Africa's richness situation par excellence.

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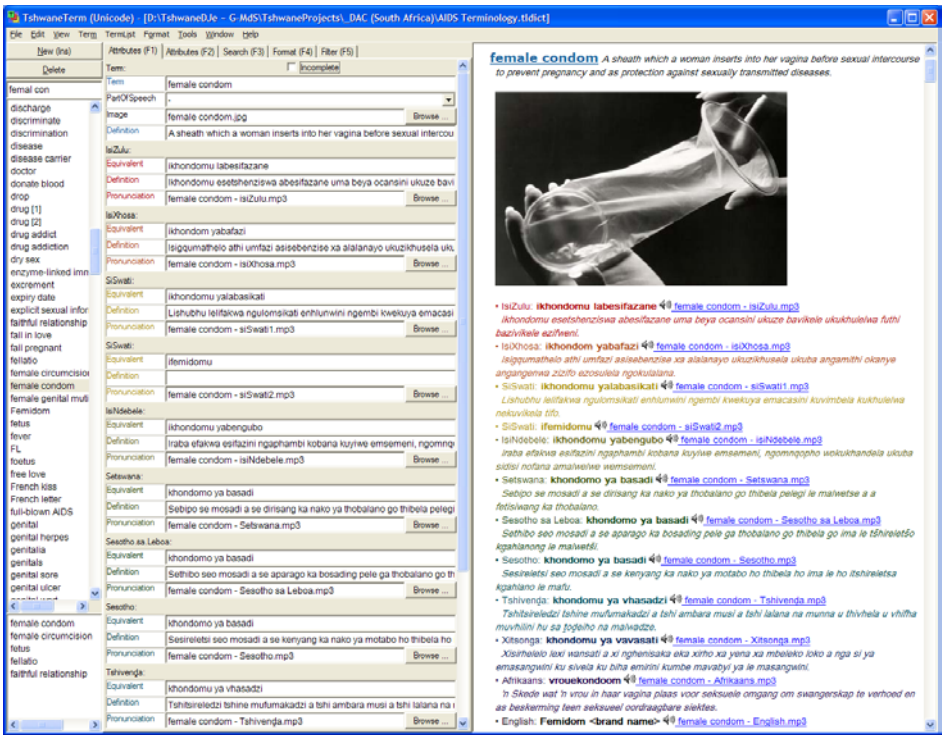
Addendum 1: Screenshot of TshwaneTerm, in 'High Tools window layout'


TshwaneTerm (Unicode) - [D:\TshwaneDJe – G-MdS\TshwaneProjects_DAC (South Africa)\AIDS Terminology.tldict]
File Edit View Term TermList Format Tools Window Help
New (Ins)
Delete
Attributes (F1) | Attributes (F2) | Search (F3) | Format (F4) | Filter (F5)
□ Incomplete
Browse ...

femal con

discharge
discriminate
discrimination
disease
disease carrier
doctor
donate blood
drop
drug [1]
drug [2]
drug addict
drug addiction
dry sex
enzyme-linked imn
excrement
expiry date
explicit sexual infor
faithful relationship
fall in love
fall pregnant
fellatio
female circumcisio
female condom
female genital muti
Femidom
fetus
fever
FL
foetus
free love
French kiss
French letter
full-blown AIDS
genital
genital herpes
genitalia
genitals
genital sore
genital ulcer

female condom
female circumcision
fetus
fellatio
faithful relationship

Term:
Term: female condom
PartOfSpeech: .
Image: female condom.jpg
Definition: A sheath which a woman inserts into her vagina before sexual intercou

IsiZulu:
Equivalent: ikhondomu labesifazane
Definition: Ikhondomu esetshenziswa abesifazane uma beya ocansini ukuze bavi
Pronunciation: female condom - isiZulu.mp3

IsiXhosa:
Equivalent: ikhondom yabafazi
Definition: Isigqumathelo athi umfazi asisebenzise xa alalanayo ukuzikhusela uku
Pronunciation: female condom - isiXhosa.mp3

SiSwati:
Equivalent: ikhondomu yalabasikati
Definition: Lishubhu lelifakwa ngulomsikati enhlunwini ngembi kwekuya emacasi
Pronunciation: female condom - siSwati1.mp3

SiSwati:
Equivalent: ifemidomu
Definition:
Pronunciation: female condom - siSwati2.mp3

IsiNdebele:
Equivalent: ikhondomu yabengubo
Definition: Iraba efakwa esifazini ngaphambi kobana kuyiwe emsemeni, ngomnqo
Pronunciation: female condom - isiNdebele.mp3

Setswana:
Equivalent: khondomo ya basadi
Definition: Sebipo se mosadi a se dirisang ka nako ya thobalano go thibela pelegi
Pronunciation: female condom - Setswana.mp3

Sesotho sa Leboa:
Equivalent: khondomo ya basadi
Definition: Sethibo seo mosadi a se aparago ka bosading pele ga thobalano go th
Pronunciation: female condom - Sesotho sa Leboa.mp3

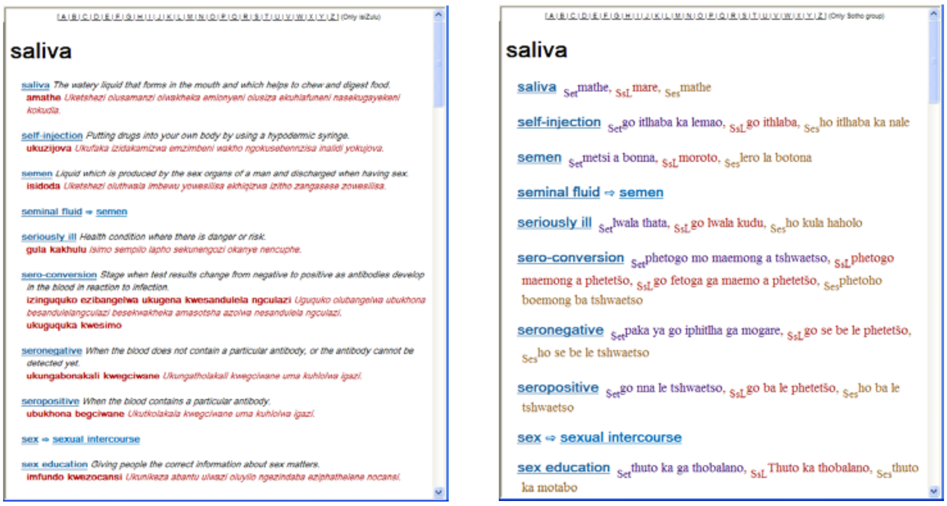
Sesotho:
Equivalent: khondomo ya basadi
Definition: Sesireletsi seo mosadi a se kenyang ka nako ya motabo ho thibela ho
Pronunciation: female condom - Sesotho.mp3

Tshivenḓa:
Equivalent: khondomu ya vhasadzi
Definition: Tshitsireledzi tshine mufumakadzi a tshi ambara musi a tshi ḽalana na i
Pronunciation: female condom - Tshivenḓa.mp3

female condom *A sheath which a woman inserts into her vagina before sexual intercourse to prevent pregnancy and as protection against sexually transmitted diseases.*

- IsiZulu: **ikhondomu labesifazane** 🔊 female condom - isiZulu.mp3
  Ikhondomu esetshenziswa abesifazane uma beya ocansini ukuze bavikele ukukhulelwa futhi bazivikele ezifweni.
- IsiXhosa: **ikhondom yabafazi** 🔊 female condom - isiXhosa.mp3
  Isigqumathelo athi umfazi asisebenzise xa alalanayo ukuzikhusela ukuba angamithi okanye angangenwa zizifo ezosulela ngokulalana.
- SiSwati: **ikhondomu yalabasikati** 🔊 female condom - siSwati1.mp3
  Lishubhu lelifakwa ngulomsikati enhlunwini ngembi kwekuya emacasini kuvimbela kukhulelwa nekuvikela tifo.
- SiSwati: **ifemidomu** 🔊 female condom - siSwati2.mp3
- IsiNdebele: **ikhondomu yabengubo** 🔊 female condom - isiNdebele.mp3
  Iraba efakwa esifazini ngaphambi kobana kuyiwe emsemeni, ngomnqopho wokukhandela ukuba sidisi nofana amalwelwe wemsemeni.
- Setswana: **khondomo ya basadi** 🔊 female condom - Setswana.mp3
  Sebipo se mosadi a se dirisang ka nako ya thobalano go thibela pelegi le malwetse a a fetiswang ka thobalano.
- Sesotho sa Leboa: **khondomo ya basadi** 🔊 female condom - Sesotho sa Leboa.mp3
  Sethibo seo mosadi a se aparago ka bosading pele ga thobalano go thibela go ima le tšhireletšo kgahlanong le malwetši.
- Sesotho: **khondomo ya basadi** 🔊 female condom - Sesotho.mp3
  Sesireletsi seo mosadi a se kenyang ka nako ya motabo ho thibela ho ima le ho itshireletsa kgahlano le mafu.
- Tshivenḓa: **khondomu ya vhasadzi** 🔊 female condom - Tshivenḓa.mp3
  Tshitsireledzi tshine mufumakadzi a tshi ambara musi a tshi ḽalana na munna u thivhela u vhifha muvhilini hu sa ṱoḓeiho na malwadze.
- Xitsonga: **khondomu ya vavasati** 🔊 female condom - Xitsonga.mp3
  Xisirhelelo lexi wansati a xi nghenisaka eka xirho xa yena xa mbeleko loko a nga si ya emasangwini ku sivela ku biha emirini kumbe mavabyi ya le masangwini.
- Afrikaans: **vrouekondoom** 🔊 female condom - Afrikaans.mp3
  'n Skede wat 'n vrou in haar vagina plaas voor seksuele omgang om swangerskap te verhoed en as beskerming teen seksueel oordraagbare siektes.
- English: **Femidom <brand name>** 🔊 female condom - English.mp3

Addendum 2: Generating multiple 'editions' (views) from a single eleven-lingual terminology database with TshwaneTerm. Left: extracting isiZulu (and English). Right: extracting the three Sotho equivalents (*with a nod to D.J. Prinsloo*).



|A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z| (Only isiZulu)

saliva

saliva *The watery liquid that forms in the mouth and which helps to chew and digest food.*
amathe *Uketshezi olusamanzi oluakheka emlonyeni olusiza ekuhlafuneni nasekugayekeni kokudla.*

self-injection *Putting drugs into your own body by using a hypodermic syringe.*
ukuzijova *Ukufaka izidakamizwa emzimbeni wakho ngokusebenzisa inalidi yokujova.*

semen *Liquid which is produced by the sex organs of a man and discharged when having sex.*
isidoda *Uketshezi oluthwala imbewu yowesilisa ekhiqizwa izitho zangasese zowesilisa.*

seminal fluid ⇨ semen

seriously ill *Health condition where there is danger or risk.*
gula kakhulu *Isimo sempilo lapho sekunengozi okanye nencuphe.*

sero-conversion *Stage when test results change from negative to positive as antibodies develop in the blood in reaction to infection.*
izinguquko ezibangelwa ukugena kwesandulela ngculazi *Uguquko olubangelwa ubukhona besandulelangculazi besekwakheka amasotsha azolwa nesandulela ngculazi.*
ukuguquka kwesimo

seronegative *When the blood does not contain a particular antibody, or the antibody cannot be detected yet.*
ukungabonakali kwegciwane *Ukungatholakali kwegciwane uma kuhlolwa igazi.*

seropositive *When the blood contains a particular antibody.*
ubukhona begciwane *Ukutholakala kwegciwane uma kuhlolwa igazi.*

sex ⇨ sexual intercourse

sex education *Giving people the correct information about sex matters.*
imfundo kwezocansi *Ukunikeza abantu ulwazi oluyilo ngezindaba ezliphathelane nocansi.*

|A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z| (Only Sotho group)

saliva

saliva $_{Set}$mathe, $_{SsL}$mare, $_{Ses}$mathe

self-injection $_{Set}$go itlhaba ka lemao, $_{SsL}$go ithlaba, $_{Ses}$ho itlhaba ka nale

semen $_{Set}$metsi a bonna, $_{SsL}$moroto, $_{Ses}$lero la botona

seminal fluid ⇨ semen

seriously ill $_{Set}$lwala thata, $_{SsL}$go lwala kudu, $_{Ses}$ho kula haholo

sero-conversion $_{Set}$phetogo mo maemong a tshwaetso, $_{SsL}$phetogo maemong a phetetšo, $_{SsL}$go fetoga ga maemo a phetetšo, $_{Ses}$phetoho boemong ba tshwaetso

seronegative $_{Set}$paka ya go iphitlha ga mogare, $_{SsL}$go se be le phetetšo, $_{Ses}$ho se be le tshwaetso

seropositive $_{Set}$go nna le tshwaetso, $_{SsL}$go ba le phetetšo, $_{Ses}$ho ba le tshwaetso

sex ⇨ sexual intercourse

sex education $_{Set}$thuto ka ga thobalano, $_{SsL}$Thuto ka thobalano, $_{Ses}$thuto ka motabo