The Jen Cluster
comparative analysis of wordlists

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Jen cluster: varieties

– **Burak**
– **Loo** of Galdemaru and Waamura
– **Maghdi** (Tala)
– **Mak** (LeeMak) of Panya and Zoo
– **Kyãk** (Bambuka)
– **Moo** (Gomu)
– **LeeLau** (Munga LeeLau)
– **Munga Doso**
– **Dza** (Jenjo) and Joole
– **Tha** (Joole Manga)

Recurring components of autonyms:

– **Munga/Manga**   [mɨŋ-gã]   'river' (*lit.* 'big water')
– **Lee**   [le]   'they/PL'

Jen cluster: general background

– Location: southern Muri Mountains between the Taraba/Gombe State border and the Benue river

– Classification: Adamawa-Gur

– Neighbouring languages:
– E: (Adamawa) Dadiya, Bangwinji, Tso, Kwa
– N&W: (West Chadic) Tangale, Pero, Kushi, Kholok, Nyam
– SW: (Jarawan Bantoid) Kulung
– S: (Jukunoid) Shoo-Minda-Nye, Jiba
– S: (Central Sudanic) Laka

Jen cluster: sources used

- Kleinewillinghoefer (1995/2015) comparative 100 word list
- Swadesh list
- used for
  - lexicostatistical analysis of the closeness of the varieties

- Othaniel (2017) BA thesis & comparative 300 word list
- transcribed by a literate & linguistically trained Dza speaker
- used for
  - finding sound correspondences across the cluster

Jen cluster lexicostatistics
(a. colour-graded green>yellow>red)

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Comparison: Jen cluster

Grid Display: ○ Tally / ○ Total = ● Percent

	BU Burak	LOg Loo	LOw Loo	MA Maghdi	LMp Lee Mak	LMz Lee Mak	KY Kyak	MO Moo	LE LeeLau	THA Tha (Joole Manga)	MIN Munga Doso	DZA Dza	JOL Joole
BU Burak	100	92	88	79	71	72	52	52	50	53	48	47	46
LOg Loo	92	100	95	76	72	71	52	49	48	52	48	48	48
LOw Loo	88	95	100	76	71	71	53	51	50	51	48	50	50
MA Maghdi	79	76	76	100	83	83	61	58	57	56	46	48	47
LMp Lee Mak	71	72	71	83	100	97	66	61	64	59	52	56	52
LMz Lee Mak	72	71	71	83	97	100	66	62	65	60	52	56	52
KY Kyak	52	52	53	61	66	66	100	92	93	65	68	69	66
MO Moo	52	49	51	58	61	62	92	100	88	62	62	64	62
LE LeeLau	50	48	50	57	64	65	93	88	100	65	66	68	64
THA Tha (Joole Manga)	53	52	51	56	59	60	65	62	65	100	73	71	70
MIN Munga Doso	48	48	48	46	52	52	68	62	66	73	100	90	91
DZA Dza	47	48	50	48	56	56	69	64	68	71	90	100	98
JOL Joole	46	48	50	47	52	52	66	62	64	70	91	98	100

Jen cluster lexicostatistics
(b. immediate groupings 80%+)

Jen cluster lexicostatistics
(c. larger groupings 70%+)

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Comparison: Jen cluster

Grid Display: ○ Tally / ○ Total = ⦿ Percent

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LMp Lee Mak	71	72	71	83	100	97	66	61	64	59	52	56	52
LMz Lee Mak	72	71	71	83	97	100	66	62	65	60	52	56	52
KY Kyak	52	52	53	61	66	66	100	92	93	65	68	69	66
MO Moo	52	49	51	58	61	62	92	100	88	62	62	64	62
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DZA Dza	47	48	50	48	56	56	69	64	68	71	90	100	98
JOL Joole	46	48	50	47	52	52	66	62	64	70	91	98	100

Jen cluster lexicostatistics
(d. primary groupings 60%+)

Some isoglosses for the two primary groupings

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
belly	fû	fú	fū	fú	wá	wá	wá	ɥà	ɥà	ɥá
tomorrow	vḛ̄	vē	və̌	və̌	būŋ	bûŋ	būŋ	bə́ŋ	bìŋ	bèŋ
dig	jă	jā	jà	já	zà	zà	ðà	ðà	hà	hà
take	pí	pí	pí	pɨ́	lē	lē	ləǐ	jɨ̌	dɨ̌	dɨ̌
shoe	wèŋmī	wɔ̀ŋmǐ	wə̀ɣməǐ	wáŋmú	ɔ̋	ɔ̋	əʊ̋	hʊ̌	bìm	hʊ́
guinea corn	jă	jā	íʃà	jítā	mìn	mīn	mìn	mù	mùm	mwú
moon	pǐ	pí	píː	pɨ̄	fī	fí	fî	fɨ̂	fíɥìm	ìɥɨ́
kill	wòb	wə̀b	wòp	wèb	zə̀p	zə̀p	ðə̂p	θə̀	jə̀	jə̀
walk	wē(lé)	wēlé	wé(lè)	wō̤	zō	zɔ̀	ðəù	ðòbò	hò	hō

Jen cluster in tree format
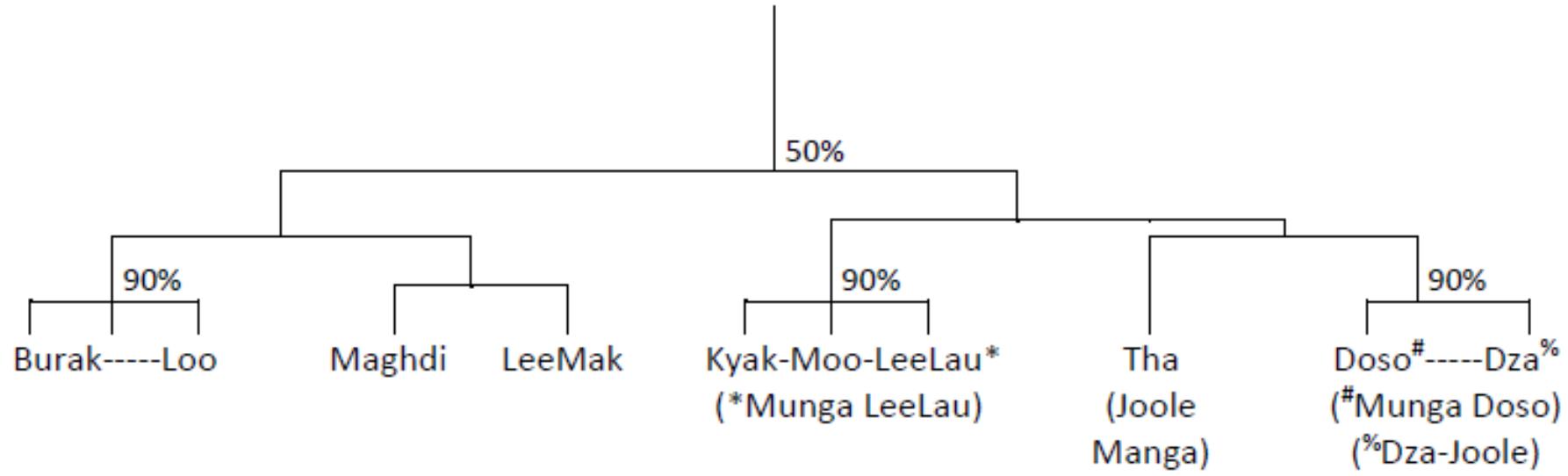
Phonology across a cluster: pilot study

– Talodi cluster (Niger-Congo, *Kordofanian/Nubaic*)
– 9 languages (Norton & Alaki 2015), 5 currently written

– Tocho /c/   Dagik /s/
– cɔrɛ   sɔrɛ   'seed'
– carək   sarək   'belly'
– cəŋgi   səŋgi   'sun'
– ciŋ   si   'thigh'
– cɔd̪ɔk   sɔð̪ɔ   'star'
– cəɲik   sən̪i   'tooth'

– Sound correspondences systematically reveal different phonemes / alphabet needs for each language of the cluster

Jen cluster phonology – vowels

- Dza 9-vowel system (Othaniel 2016)

i	ɨ	u
e	ə	o
ɛ	ɑ	ɔ

- Reconstructable vowels for the Jen cluster

*i	*ɨ	*u
(*e)	*ə	(*o)
	*ɑ	

- "3 central vowels" language type
- Mid front/back vowels problematic
  - **ATR:** There are no series showing stable ATR contrasts *e/*ɛ *o/*ɔ across the cluster (and it is hard to see how these developed in Dza)
  - **Irregularity:** mid vowels occur in irregular series with diphthongs…

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
lie (down)	ləú	ləú	ləú	lʌū	ló	lŏ	ló	ləú	lweì	lwé
cook	jŏ	jō	jəùwē	jəû	jō	jŏ	jò	jəù	ɥì	ɥì
fall	wō	wǒ	jəù	jə́w	ō	ō	ò	ʔò	ò	ō
suck		ɑú		ə̃ú	ɔŋ	ɔŋ	ɔŋ	ŋəù	ṳ̀	ṳ̋

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
knee	lòk	lók	lòk	lwə̀ŋ	ƙə́ŋ	zìɥáŋ	lwə́ŋ	lòjàŋ	ɗwə̀ŋ	d͡zwə́ŋ
bark	kòklɛ̀	kòlɛ̄	kôŋ	kwə̀ŋ	pwə̀m	pòŋ	kwòŋ	kwə̀ŋ	pwə́	pwə̀
spear	mòm	mwə̀m	mɔ́m		mwə̀m	mwə̄m				
ten	ʃɔ́b	ʃôb	ʃúwób	swəb	swə̀b	swə̄b	sɔ̀p			

– Irregular offglide *e>əi/_# in open syllables

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
tooth	lé	ləî	ləǐ	ləǐ	lɛ̄	lɛ̄	ləî	jɨ̀jɨ̌	ɗì	d͡ʒì
calabash	ɗɛ̄	ɗɛ̄	ɗəî	ɗəǐ	ɗɛ̄	ɗē	ɗəǐ	ləǐ	lì	d͡ʒì
wife	lí-ʃɛ̂	lí-ʃəî	ʃē	lɨ̌-sɨ́jē	ì-sí	sí	ʃɨ́m	ʃì	hē	hē
left	mɛ̄	márə̀	màlɛ̀	məǐ	mɛ̄	mɛ̄	məǐ	mɨ̂ǐ	mì	mì

– Irregular onglide *e>jə/_C in closed syllables?

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
(none in wd. list)										

Nasalised vowel development VN > Ṽ

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	Leelau	Tha	Doso	Dza
big			gɔ̀ŋ	gwɜ̂ŋ	gɔ̌zĭ	āŋgā̃	áŋgā̃	nágò	áŋgɑ̃̀	àkɑ̃̀
red	ɲīīn	ɲēnē	ɲɛ́nɛ̀	ɲín	zēn	zēn	ðə́nì	áʒɛ̃̄	jɛ̃́	jɛ̃̄
work	túmî	tŭmí	túmí	ɳ̀tò	tó	t͡ʃò	tō		t͡sùm	tṹ

Nasalised vowel development NV > CṼ

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
meat	ɲɔ̂m	ɲə́m	ɲə́m	ɲə̀m	ɲɔ̌	ɲə̌m	ɲə́m	ɲē	ŋ̟ɜ̃̀m	jɔ̃́
bad								ɲə́w	ŋ̟ĩ̂w	

Jen cluster phonology – consonants

– Stable correspondences p t d k m n (ŋ/_#) l j w
– Widespread but not fully stable ɓ ɗ b g g͡b ɲ f r ɥ
– Further consonants seen in unstable correspondences t͡s d͡z
  t͡ʃ d͡ʒ v θ ð s z ʃ ʒ ɣ h ɥ j̊ ʍ ƙ c ɟ k͡p ʔ
– (Occasional allophonic variants in Mak s̩ l̩ x for s l k)

– Some sound changes in Dza
  – no *r (e.g. 'two' *rap but Dza juŋ)
  – deimplosion *ɓ > b etc.
  – devoicing *b > p etc.

– Chain shift ɓ > b > p in Dza

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	Leelau	Tha	Doso	Dza
ask	ɓíp	bép	ɓíp	ɓíp	ɓí	ɓíp	ɓìp	bìm	ɓí	bí
rope	ɓél	ɓə̄l	ɓə̄l	ɓə̀l	ɓíl	bə́l	ɓə̀l	ɓə̀ì	ɓə̀ì	bè
egg	bə̄ŋ	bə̄ŋ	bə̀ŋ	bə́ŋ	bùŋ	bùŋ	būŋ	bɨ̌ŋ	bìŋ	pɨ̄ŋ
stab	bèt	bɛ̄t	bə̀	bə̀	bɛ̄	bjɛ̄	bəì	bə̀	bəù	pə̀

– Shift ɗ > d (or d͡ʒ or d͡z) in Dza

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
yesterday	lɛ́	lɛ̄	líjè	lē	ɓ̃í	ɗí	làɓ̃ì	jɨ́	djə̀ù	dò
take				lē	lē	ləì	jɨ̌	dɨ̀	dɨ̌
calabash	ɗɛ	ɗɛ̄	ɗə̂ì	ɗə̀ì	ɗɛ̄	ɗɛ̄	ɗə̀ì	ləì	lì	d͡ʒì
dog	ɗwǎ	ɗwá	ɗwà	ɗwá	d͡zwâ	wìdwà	ɗwà	ɥìɥà	jídwà	ìd͡zwá

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
pull up	lūb	lùb	lúb	lūb	lɨ̆b	lùb	lùb	lù	ɗù	d͡zwū
tooth	lě	ləî	ləĭ	ləĭ	lɛ̄	lɛ̄	ləî	jɨ̌jɨ̌	ɗĭ	d͡ʒĭ
take					lē	lē	ləĭ	jɨ̌	ɗɨ̌	ɗɨ̌
locust bean tree			lwəĭ	l̩wəĭ	ɗwɨ̂	ɗwɨ̂	lwɨ̂	jĭ	ɗwìjɛ̃	d͡zwɨ̌
fire	lwà	lwà	lwâ	lwá	ɗwà	ɥà	lwà	ɥà	ɗwāː	d͡zwà
call	lú	lú	lúvəĭ		lɨ́bē	lɨ̆bē	lùbəĭ	dúbɨ̌	dúpɨ̌	d͡zúpɨ̌
nose	lúɾī	lúɾī	lwílî	ɗūrɘ́	ɗúr	ɗúr	ɗúr	ɗɨ̌	ɗwɨ̌	d͡ʒwɨ̂
name	lɨ̆n	lín	lɨ̆n	dín	ɗwín	ɗwín	ɗun	ɗɨ̌	ɗíjíŋ	d͡zúŋ
bite	lúm							dɨ̌		
calabash	ɗɛ	ɗɛ	ɗəî	ɗəĭ	ɗɛ̄	ɗē	ɗəĭ	ləĭ	lì	d͡ʒĭ
basket	ɗɔ́k	ɗɔ́k	ɗɔ́k	ɗɔ́k	ɗɔ̆k	ɗɔ̆k	ɗòk	ləú	lō	lò

– *Irregular correspondences involving l and ɗ and ƙ*

gloss	Burak	Loo	Maghdi	Mak	Kyãk	Moo	LeeLau	Tha	Doso	Dza
tongue	ɗə́k	ɗə́k	ɗə́k	lěn	ƙīm	ƙík	ljén	lə́ŋ	líjɛ̄m	lə́
knee	lɔ̀k	lɔ́k	lɔ̀k	lwə̀ŋ	ƙə́ŋ	zìɥáŋ	lwə́ŋ	lòjàŋ	ɗwə̀ŋ	d͡zwə́ŋ
today	ɗî	ɗî		ɗə̂sî	ƙījà	ƙìkà	ɗìgà		lɨ̀jɛ̀	d͡ʒènɨ̂
yesterday	lɛ̄	lɛ̄	líjè	lē	ƙî	ɗî	làlĭ	jɨ́	djə̀ù	dò

Conclusions

1. Jen is a cluster with 50% internal similarity. Autonyms in the area distinguish 10 language communities, but these form 6 language-like units of 90%+ internal similarity.

   - The earlier 'Bikwin-Jen' division is not supported by lexicostatistics – the primary division is between Burak…Mak and Kyãk…Dza

2. Jen sound correspondences are very complex

   - A *lot* of sound changes (especially in Tha/Doso/Dza) and it is rare to find the same correspondence series in more than one root

   - Some changes are conditioned by syllable structure or involve restructuring two adjacent sounds

   - Irregular correspondences suggest undiscovered morphology and also language contact

   - Dza, the first written Jen language, has lost implosives & the flap, but the other languages have them and will need to write them

   - ATR contrast is not supported by correspondence series so is not historically a feature of the Jen cluster. So most Jen languages are unlikely to need 4 mid vowels /eɛoɔ/ in a phonemic alphabet.

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