Productive Morphological Processes for Language Rejuvenation of Goldfields Aboriginal Languages 2022
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Introduction

In the Goldfields region of Western Australia there are two Pama-Nyungan language families with thirteen distinct endemic speech forms. The Mirning family includes Ngadju, Kaalamaya and Mirniny. The Wati family includes Kuwarra, Maduwongga, Manytjilytjarra, Ngalia, Tjupan, Ngaanyatjarra, Wangkatja, Cundeelee Wangka, Martu Wangka and Pitjantjatjarra. These speech forms are identified as languages by their speech communities.

Several of the languages are severely endangered with speakers productive only at a phrasal level. One language is considered extinct with members speaking a smattering of words.

The Goldfields Aboriginal Language Centre Aboriginal Corporation (GALCAC) is working with 6 language communities, Mirniny, Ngadju, Kaalamaya, Maduwongga, Manytjilytjarra and Kuwarra, to recover lexical material from historical documents and speaker's recollections. The speaker's have exhaustively recorded their language knowledge, and comprehensive searches have been made of historical material in libraries, archives and personal collections in order to populate the lexicon for each language. These processes have resulted in incomplete lexical datasets of the languages, with gaps in all word classes, particularly evident in the verbal, pronominal, inflectional and derivational morphology.

Sue Hanson examined the productive morphological processes employed by the Goldfields languages and found that there are several highly productive morphological universalities. These typological processes can be used to inform language rejuvenation with the speech communities in instances where there is an existing root morpheme.

In lexical gaps where a morpheme no longer exists, language rejuvenation processes suitable for morphemic creation will be employed, and these will be described in a forthcoming paper mid 2023.

The 6 productive morphological processes that can be used to rejuvenate a lexicon where a morpheme is available, are identified as:

1. Verbalisation – creation of a verb from a morpheme of another word class.
2. Verb paradigm – inflection of a verb root according to a verb paradigm
3. Reduplication of complete nominal root
4. Compound words – two words compounded to create a new lexical item
5. Nominalisation – creation of a nominal from another word class

6. Derivation and Inflection – derivation – a process for creating a new word in a different word class, and inflection – creation of a new morpheme of the same word class.

In this paper is information about each morphological process, a table identifying the processes for several Goldfields language, comment on whether the productive morphological process is employed in that language, and an example of the process from existing material.

GALCAC's lexical collection policy stipulates that only morphemes collected from first language speakers during natural speech are included in the lexical databases to ensure that the data is clearly sourced to first language speakers of the target language. Morphemes that have arisen in natural speech from three different speakers in 3 separate occasions provides unequivocal identification that the morpheme is part of the lexicon. Part of the language loss process is the loss of productive morphological processes. Therefore languages with partial speakers employ frozen morpheme forms that the speaker is unable to change as the processes for derivation, inflection, nominalisation and verbalisation have been lost.

Many of the languages which have a limited existing lexicon, and for which exhaustive lexical recovery efforts have been made, will benefit from using the morphological productive processes to flesh out the lexicon and to re-learn derivation and inflection processes. Workshops will be held with speakers and people with a linguistic heritage connection to the vernacular, in order to decide if the morphological processes will be used. Once morphological processes have been adopted, the lexicon can be expanded and, more importantly, speakers will become empowered to be morphologically productive.

Identifying the morphological productive processes that are common to Goldfields languages means that a single existing morpheme can be used to fill many gaps in the lexical inventory of the target language. For example, in the Tjupan language, the nominal yalta *cold* will create a large number of morphemes when the morphological processes are applied. Using these processes, yalta becomes the root for over 450 lexical items. This paper demonstrates the morphological productive process using yalta *cold* from the Tjupan language in order to demonstrate some of the processes.

1. Verbalisation

1.1 Verbaliser Suffix

The addition of a verbaliser suffix to a nominal root creates a verb stem which can then be inflected for tense, aspect and person. English nominals can also be verbalized by the same process.

The English languages uses a number of suffixes to verbalise. A productive verbalising process is the addition of –ing, for example *google* becomes the verb *googl**ing**.*

-rri- / -arri Verbaliser

Vowel final morphemes take –rri and consonant final morphemes take –arri, to adhere to the consonant-vowel syllable pattern

yalta**rri**ni
yalta-**rri**-ni
cold verbaliser present
to become cold

work-**arri**ku
work-**arri**-ku
work verbaliser future
will work.

-mila- Verbaliser

This suffix is used in Pitjantjatjarra to verbalise nominals borrowed from English. It is possible that –mila is Aboriginal English for *me langa*, a term used by early Europeans as a type of pigeon English.

kilina**mila**rni
kilina-**mila**-rni
clean verbaliser present
cleaning

paya**mila**rni
paya-**mila**-rni
pay verbaliser present
paying

Reduplicated Descriptors Verbalised

Reduplicated descriptors may also be verbalised. A Tjupan example is:

kampa	*burnt*
kampa-kampa	*burnt to a cinder*
kampa-kampa-**rri**-ngu	*became burnt to a cinder*

1.2 Additional of a Verb to a Nominal

A verb root can be added directly to a nominal to create a verb stem. A Martu Wangka example is below.

tipiny(pa)   *skewer stick for closing the stomach of game*

tipiny**pu**wa
tipiny-**pu**-wa

skewer-engage-past
the stick was employed to close the stomach incision in the game

tipiny**ju**la
tipiny-**ju**-la
skewer-close-past
used to close up the stomach incision in the game

2. Verb Paradigm

The verb stem, which may consist of the bare root verb or the verbalised nominal, must be inflected for tense or aspect with a suffix, except in the case of the imperative for the NULL verb class, in most languages of the Goldfields region.

The Wati language family of Goldfields languages usually have four verb classes and one or two irregular classes, as for most WDLs. Most verb classes in the Goldfields are labeled WA, LA, RRI and NULL, indicated by the imperative form. Membership of these classes is determined by transitivity, morae and for, as yet, other undetermined morphological reasons. The verb classes will be examined in a forthcoming GALCAC paper 2023.

The paradigm below, reflects the range of verb inflections found in Goldfields languages but not necessarily found in every language. The yalta example is from Tjupan language.

past	yalta-rri-**ngu**
past serial	
past continuous	yalta-rri- ∅
past habitual	
past characteristic	
present	yalta-rri-**na**
present causative	yalta-rri-**nyi**
present continuous	yalta-rri-**ji-njangka**
present habitual	
past characteristic	
future	yalta-rri-**ku**
future serial	
future continuous	
future habitual	yalta-rri-**naku**
future, cusp of	yalta-rri-**njangka**
characteristic	yalta-rri- ∅
future causative	yalta-rri-**jilku**
imperative	yalta-rri-**wa**
hortative	yalta-rri-**lanyi**
imperative continuous	yalta-rri-**karri-la**
imperative causative	yalta-rri-**jila**
sequential	yalta-rri-**kayi**
irrealis	

intent	yalta-rri-**wa**
inchoative	
prevent	yalta-rri-**jaku**
non finite	yalta-rri-**nja**
possibility	
simultaneous	yalta-rri-**kayi-nyi**

The –rri verbalised form becomes a WA class verb and is inflected as for the WA class paradigm. The verbs created by the use of the –rri verbaliser are transitive. The WA verb class appears to consist of transitive verbs, in the Goldfields Wati languages.

The verbs created using the –arri verbaliser are intransitive and NULL class.

However, some languages use –rri and –arri depending on the vowel or consonant final element, and these forms are transitive. This may be the same for all Goldfields Wati languages, however this will be more closely examined in the forthcoming GALCAC verb class 2023 paper.

3. Reduplication of Complete Nominal Root

Nominal reduplication is a very productive morphological process in the Wati languages of the Goldfields region and appears in the smaller lexical dataset for the Mirniny family of languages. Complete and partial reduplications are permissible however for the purposes of this study, only complete reduplications have been included as the phonological rules resulting in partial reduplication have yet to be identified.

There are two types of reduplications; a semantic reduplication and an intensifier reduplication.

3.1 Semantic Reduplications

A semantic relationship between the non-reduplicated form and the resulting reduplicated form is apparent.

Tjupan

| mara | *hand* |
| mara-mara | *crawl* |

3.2 Intensifier Reduplications

A second productive process is the reduplication of nominals which are classed as descriptive modifiers. The reduplication results in an intensification of the state of the descriptor.

Tjupan

japu	*small*	
japu-japu	*tiny*	
mulju	*deep*	
mulju-mulju	*very deep*	

4. Compound Words

Compound words are new words created from two or more existing words.

Tjupan

jinakujarra	jina-kujarra	foot-two	*twenty*
jinapika	jina-pika	foot-sore	*sore footed*
marakujarra	mara-kujarra	hand-two	*ten*
mulyamaru	mulya-maru	nose-black	*black goanna*

5. Nominalisation

The addition of a nominalising suffix to a verb or descriptor creates a nominal. For example, English uses the suffix **–er** to change the verb *farm* to the nominal *farm**er***.

Martu Wangka   **-nyja nominaliser**

ngarri**nyja**   *liar*

pupa**nyja**npa
pupa-**nyja**-n-pa
squatt-nominaliser-2sg-EMPH
squatter   (the one who squats)

Cundeelee Wangka   **-nytja nominaliser**

katjilyarra**nytja**	*runner*
mularrkuli**nytja**	*believer*
alpamanku**nytja**	*helper*
muku-muku**nytja**	*persuader*

Tjupan   **-nyja nominaliser**

ninti**nyja**	*teacher*
wangkapayi**nyja**	*talker*
pungku**nyja**	*fighter*

The addition of –payi / -lpayi acts as a pseudo-nominaliser indicating someone who undertakes the action always or habitually.

Cundeelee Wangka   **-payi / -lpayi**

katjilarra**lpayi**	always running	*runner*
mularrkuli**lpayi**	always believing	*believer*
alpamanku**payi**	always helping	*helper*
muku-muku**lpayi**	always persuading	*persuade*r
pungku**payi**	always fighting	*fighter*
wangka**payi**	always talking	*talker*

6. Inflection and Derivation

6.1 Inflection

Nominal inflection is a very productive morphological process used in most Goldfields Aboriginal languages with a long list of possible inflectional suffixes.

The below example indicates some of the possible inflections in Tjupan language for the morpheme, yalta *cold*.

Tjupan

yalta**ka**	with use of the cold	comitative
yalta**nku**	by use of the cold	instrumental
yalta**yingku**	caused by the cold	caused
yalta**lku**	cause to be cold	causative
yalta**lakula**	next to the cold, still cold	associative
yalta**pa**	for the cold	dative
yalta**ngka**	in the cold	locative
yalta**npa**	is the cold	emphasis
yalta**yiku**	like the cold	semblance
yalta**lkula**	for the purpose	purposive
yalta**ku**	belongs to the cold	genitive
yalta**tu**	the cold I'm talking about	ergative
yalta**nguru**	the cold side	indicative
yalta**jarnu**	from the cold	ablative
yalta**jala**	talking about the cold	topicaliser
yalta**puru(la)**	cold time	characterising
yalta**wiya**	there is no cold	negation
yalta**rti**	the aim is the cold	terminal
yalta**karna**	the aim is to make it cold	target
yalta**yumu**	the cold has finished	completive
yalta**wala**	with the cold	ablative
yalta**jarra**	along with the cold	perlative

6.2 Derivation

Descriptor nominal roots may take a case suffix to create a nominal stem which can then be inflected with the verbaliser suffix and an obligatory tense suffix.

descriptor - case - verbaliser - tense

In the below example, the nominal yalta *cold* is inflected with –yumu *completed*. The resulting noun stem yaltayumu *the cold is finished* can take the verbaliser -rri to become a verb stem, and then the range of WA class tense inflections.

The below example demonstrates the nominal stem yaltayumu *not cold.*

Tjupan

past	yalta-yumu-**rri-ngu** *the cold was finished*
past serial	
past continuous	yalta-yumu-**rri-** ∅ *the continuous cold has finished*
past habitual	
past characteristic	
present	yalta-yumu-**rri-na** *the cold finished now*
present causative	yalta-yumu-**rri-nyi** *the cause for the cold finishing*
present continuous	yalta-yumu-**rri-ji-njangka** *the cold is continuing to finish*
present habitual	
past characteristic	
future	yalta-yumu-**rri-ku** *the cold will finish in the future*
future serial	
future continuous	
future habitual	yalta-yumu-**rri-naku** *the cold habitually finishes*
future, cusp of	yalta-yumu-**rri-njangka** *the cold is about to finish*
characteristic	yalta-yumu-**rri-**∅ *the cold finishes*
future causative	yalta-yumu-**rri-jilku** *causes the cold to finish*
imperative	yalta-yumu-**rri-wa** *cause the cold to finish!*
hortative	yalta-yumu-**rri-lanyi** *encourage to make the cold finish*
imperative continuous	yalta-yumu-**rri-karri-la** *make the cold stop and keep making it stop*
imperative causative	yalta-yumu-**jila** *make the cold finish*
sequential	yalta-yumu-**rri-kayi** *(from warm to cold)*
irrealis	
intent	yalta-yumu-**rri-wa** *I intent to make the cold finish*
inchoative	
prevent	yalta-yumu-**rri-jaku** *prevent the cold finishing*
non finite	yalta-yumu-**rri-nja** *the cold will finish sometime*
possibility	
simultaneous	yalta-yumu-**rri-kayi-nyi (ya)** *the cold will finish at the same time (as something else)*

Morphological Processes by Language

Kuwarra

Morphological process	Results
Verbaliser	Kuwarra uses **-rri-** infix as a verbaliser wilturringu wiltu-**rri**-ngu hard-verbaliser-PAST *became hard*
Verbal Morphology	Kuwarra has -la, -rri/-rra, -wa, null class and irregular verb classes. 10 tenses
Reduplication	karli *boomerang* karli-karli *crooked* puyu *smoke* puyu-puyu *smokey* parrka *leaf* parrka-parrka *mistletoe*
Compound	mulyakana mulya-kana nose raw *cheeky* marawaturini mara-waturini hand massage *crack the knuckles*
Nominaliser	Kuwarra needs more analysis to determine the existence of a nominaliser. To be checked with speakers.
Inflection and Derivation (root-suffix)	**Inflection** -karti, -kurtu, -kutu directional yapurra**kurtu** *to the west* -l purposive palya**l**nu *made it purposefully* -ngka locative tjunti**ngka** *in the cave* -nya is attribute the subject of the topic. palu**nya** *that person* -ta is accusative kuwan**ta**lku *I want to listen* -tjarra commutative kartirlka**tjarra** *with maggots* -rata coupling tjurtu**rata** *two sisters* -ku possessive palu**ku** *her/his/its* -ntja nominative kuka ngaa**ntja** *this meat* -tja and -tjanu ablative. ngurra**tjanu** *from camp* **Derivational** tjuni *stomach* -tarra *with* tjunitarra *pregnant with child* -rata *coupling* kamaru *uncle* kamarurata *uncle and nephew*

Kaalamaya

Morphological process	Results
Verbaliser	**-rri** kun-kunnga**rri** *lie down and sleep* Maatu ngaja**rri** *to go high*
Verbal Morphology	Limited data available to obtain a full verb inflection paradigm or verb classes. -iny present wiint**iny** *abscond* -nta present cont nyunga**nta** see you -ku past *partin**ku**wirt* arose -ka past cont. wiinpu**ka** *absconded* -la imperative jurti**la** *tie it!* -lku future pitha**lku** will go
Reduplication	**Semantic** kura *eye* kura-kura *blowfly* mayi *food* mayiny-mayiny *afraid* murrin *star* murrin-murrin *yellow* tjuma *story* tjuma-tjuma *dream* **Intensifier** jaka- *bad, ugly* jaka-jaka *tired, feel not good* pirti *dry* pirti-pirti *dry grass time, spring* kakany *watch* kakanypal-kakanypal *unobserved*
Compound	jarntaparna jarnta-parna *emu-ground location* jinajarntu jina-jarntu *foot-object shoe* jinkamula jinka-mula *evil-nose mouse*
Nominaliser	Not found in limited available data
Inflection and Derivation **(root-suffix)**	-lu, -tu nominative -nti accusative -nya, -nga focus -rta warning -kut unobtainable -kun, -kari without -karti towards, to -pang privation -pa emphatic -na dative

-jarra, -ngu comitative	
-puka, -ran characteristic	

Ngadju

Morphological productive process	Results
Verbaliser	**-arr** murriny**arr** murri-nya-**arr**-∅ dead-ACC-verbaliser- null tense *die* **-rri** murru**rri** murru-**rri**-∅ turned-verbaliser-null tense *to turn around*
Verbal Morphology	**Present** nyamantuka**n** *blinking* ngarlku**n** *eating* **Imperative** nyinaki**n**! *There is one!* naata**ta** *to let burn* kala**tja** *to set a fire* kuntal**tja** *to make juicy* marra**ti** *to bring, carry* murru-murri**ti** *to turn back, reverse* marra**tji** *to bring, carry* wayarr**tji** *to let hang down* tjun**yi** *to squeeze.* kuwa**na** *to hear, listen* nyi**na** *to sit, be* miitha**ntju** *to hiss, show tongue again and again* marna**ntju** *to flash i.e. lightning* pulu**ntja**rrina *to give a shock* mantanga**li** *to meet each other* kaya**li**ngku *to wind, curl* maya tjun**kutji** *talk together* marn**ku** *should have got* marn**ku**tjan *ought to get it*

	ngarringu**k**! *Lie down!* kuwanakarra**k**! *Listen, you mob!* Pata**tjin** tjutju! *Don't you dogs fight!* nyurral**pun** *getting tied* ngalpa**warri** *to become big, to grow up* matayi nyina**ki**n *he sits/is/lives* mathalu ngannya nangu**ki**n *he sees me* ngatjukutja nyina**pi**n *we two sit* ngatjukutjalu matana nangu**pi**n *we two see her* matayi nyina**pirri**n *they sit* mathalu ngannya nangu**pirri**n *the two see me* marlpa nyina**lpa**n *they sit/live* marlpa ngalparrulu mathana nangu**karra**n *lots of people see her*
Reduplication	**Intensifier** ruka *curve* ruka-ruka *winding* **Semantic** wartu *eye* wartu-wartu *to be watchful*
Compound	**Noun-Noun** murni-ngy-pirri *lips-of-end piece* i.e. *moustache* **Noun-Verb** kala-parparn *fire-kindling* i.e. *lightning* **Verb-Verb** mirra-karnti *call and be wrong i.e. to revoke/call back'* kuti-kuwana *drop and listen i.e. to laugh* patja-kuwana *bite and listen i.e. to taste* kati *to jump/drop* *mampu**kati** drop in a hole i.e. to die* marnu *to hand/get* kila**marnu** *to get it back* pungu *to hit* yana**pungu** *to be negated, to finish/stop* katja**pu**n *getting small, half moon* patja *to bite* **patja**pungu *to get wild with/fight back*

Nominaliser	kuti**rr** *runner* yunguntja**rr** *the one that gives it* katanyura-**rri** *head-tier, Afghan person*
Inflection and Derivation	**Inflectional Suffixes** **ergative** -lu, -tu kurpan**tju** *the baby did something* **essive** -na, -nya Marlpaku puringarri**nya** wanitjakin *The man was throwing the stones* **instrumental** -ku, -lu, -u, -tu, -ngu wartu ngalpa**ku** *with big eyes* **without** -panya, -pany abessive, *without any* ngurra**pany** *without knowledge* i.e. *ignorant* **diminutive** -ka tjirr**ka** *little spike* **vocative** -ya Puya**ya**! *Brother!* **from** -kiti kaalun**kiti** *racecourse goanna country* **genitive/possessive** -wanya, -tjanya, -wala ngaata**wanya** nanta *the whitefulla's seat* **Inflectional Suffixes - Directional** **ablative** -ngu maatju**ngu** *from the top* **locative** -ka, -kayi, -ta, -a, -la, -tja yuu**ka** *on the mountain* **additive** -ku, -u, -k mantjaliy**u** *for food/bread* **allative** -rti, -rta, -karti wamu**rti** *towards camp* **Derivation** **noun-affix** yama-rti *same-ward* i.e *close together* karnti-li-tja *wrong-side-ish* i.e. *stranger* -kata *having* karnungalpa**kata** *having lots of fat i.e. very fat* -kala *like* kala**kala** *like fire* ngatju**kala** *like me* -l-, -la *type of/sort of* karnti**li**tja *wrong type one i.e. wrong* walyi**la** *bad type i.e. bad* -mala *minded/keen on* murrku**mala** *money-minded* -ngatarunya *way/in the style of* marlpa**ngatarunya** *in the Aboriginal way* -piti *bearing/related to a place* kata**piti** *the hair of the head* -tja. –itja *from a place or time i.e. -ish/ese/an* tjurrkak**itja** *southerner* makunk**itja** *something long ago*

Maduwongga

Morphological process	Results
Verbaliser	Maduwongga uses **-rri-** infix as a verbaliser *to become.* munga**rri**n munga-**rri**-n night-verbaliser-PAST *became night* yulyala**rri**n yulya-la-**rri**-n good-IMP-Verbaliser-PAST *became better* **reduplicated descriptors** narltur naltur-naltu**rri**ngu naltur-naltu-**rri**-ngu arrogant-arrogant-verbaliser-PAST- *was very arrogant* **verbalise nominals** yamatji**rri**n yamatji-**rri**-n friend-verbaliser-PRES *befriending*
Verbal Paradigm	Maduwongga has -la, -rri/-rra, -wa, null class and irregular verb classes. 10 verb conjugations **-n** present kuntilpungu**n** *to turn around* **-wa** imperative –wa class kupilarriw**a** *turn around!* **-la** imperative –la class warnila *throw down!* **-rri** imperative –rri class yulapararri**rri** *cry!* **-nga** past –wa class pakurri**ngu** *became tired* **-ngu** past –la class warni**la** *threw down* **-nu** past habitual –la class ruukuli**nu** *kept thinking*
Reduplication	**Semantic** mara *hand* mara-mara *to crawl* kirnti *a cold* kirnti-kirnti *cough* **Intensifier** narltur *arrogant* naltur-narltur *very arrogant*

	karpi- _to tie up_ karpi-karpi- _to continue tying up_
Compound	pinalungku pina-lung-ku ear-block-PAST _deaf_
Nominaliser	Present Maduwongga data does not indicates any examples of nominalisation.
Inflection and Derivation	**Inflection** -na, -ngka location. Kapi**ngka**. _In the water._ -tarra commitative . Yirpa**tarra**. _With a goanna._ -pirni plural. Yapu**pirni**. _Many rocks._ -kurru directional. Yapu**kurru**. _To the rock._ -ku possessive. Naku**ku**! _Look!_ -lu ergative Nayu**lu**. _Me._ maa- prefix which means away from the speaker **Maa**pitja! _Go away from me!_ **Derivation** -tarra _with_ jintu _hair_ jintu**tarra** _hairy._ tjuni _stomach_ tjuni**tarra** _pregnant, with child._

Mirniny

Morphological process	Results
Verbaliser	**-rra** ngalpa**rra** ngalpa-**rra**-rn dead-VERB-PAST _died._ wiyu**rra**rnu wiyu-**rra**-rnu throat-VERB-PAST _breathed._ piyu**rra** piyu-**rra**-∅ afraid-VERB-null _frighten_ **-ra** patja**ra**nu patja-**ra**-nu

	use mouth-VERB-PAST *growled* nguny**ra** ngunya-**ra**-∅ funny-VERB-null *laughed* **-ma** maya**ma**n maya-**ma**-n language-VERB-PRES *talking* purtu**ma** purtu-**ma**-∅ Small-VERB -null *give birth*
Verbal Morphology	**null** class kuwarna *hear or perceive* IMP kuwarna∅ PAST kuwarna**rnu** PRES kuwarna**n** CONT COMM kuwarna**mi** **-rra class** ma *get* IMP ma**rra** PAST ma**nu** FUT ma**wu** PRES CONT ma**rltu** **-rri class** karta *break* IMP karta**rri** PAST karta**ngu** PRES karta**rn** **-rrtja** class paya *dig* IMP paya**rrtja** PAST paya**rnu** PRES paya**rn** **-wa** class pu *hit* IMP pu**wa** PAST pu**ngu** PRES pu**ngkarn**

Reduplication	**Semantic**
	kalu *a flea*
	kalu-kalu *ball of fibre*
	pantji *rib*
	pantji-pantji *centipede*
	pilyu *markings on a board or spear*
	pilyu-pilyu *beetle*
	Intensifier
	kutjarra *two*
	kutjarra-kutjarra *four*
	ngurlkin *twist*
	ngurlkin-ngurlkin *twisted*
	kupi *whirlwind*
	kupi-kupi *whirlwinds*
Compound	marnamara
	marna-mara
	ground-hand
	mallee hen
Nominaliser	**-nytju** mirni**nytju** *man*
Inflection and Derivation	**allative**: -rri- wamu**rri** *to the camp*
	abessive: -parrangu, -marrangu wartu**marrangu** *blind*
	ablative: -ngu, -tjungu wamu**ngu** *away from the camp*
	dative: -ku, -tja tjutju**ku** *going for dogs*, mara**tja** *get it for me*
	ergative: -lu/-tu, -tju matja**lu** *erg*, Mirniny**tju** *man*
	instrumental: -ku , -ngu katji**ku** *with a spear* wiparu**ngu** *snake*
	locative –ka, -nga, -ta, -tja
	karla**ka** *in the fire*
	warlpi**ka** *on the water*
	warta**nga** *in the tree*

Pitjantjatjarra

Morphological process	Results
Verbaliser	**-rri**
	ngunytju**rri**nganyi
	ngunytju-**rri**-nganyi
	mother-VERB-PRES
	mothering
	ninti**rri**ngu
	ninti-**rri**-ngu

	know-VERB-PAST *learnt* warri**rri**nganyi *becoming cold* mula-mula**rri**nganyi *hopeful* paku**rri**nganyi *becoming tired* **-mila** kilina**mila**rni *cleaning* paya**mila**rni *buying, paying*
Verbal Morphology	4 verb classes – ra, -wa, -la, Ø 14 conjugations
Reduplication	**Semantic** mulya *nose* mulya-mulya *itch in nose indicating danger* purtju *a rash* purtju-purtju *itchy* **Intensifier** mula *true* mula-mula *truthfully* mukulya *fond of* mukulya-mukulya *fanatical about*
Compound	ngarnamara ngarna- mara stick/piece of wood-hand *mallee hen* mulyamaru mulya-maru nose-black *black-headed monitor*
Nominaliser	nominaliser suffixes: -nytja; -ntja; -nkunytja; -ngkunytja nintirri**ngkunytja** ninti-rri-ngkunytja *know*
Inflection and Derivation **(root-suffix)**	**ablative** -langurru , -nguru **accusative** -nga , -nya **allative** -kutu **genitive** -mpa , -ku **locative** -la , -ngka , -ta **pair** -rra-

Ngaanyatjarra

Morphological process	Results

Verbaliser	**-rri** katu**rri**ngku *get up* yirrala**rri**ku *become a pool* purlka**rri**ngku *get bigger* ngurlu**rri**ngu *become afraid*
Verbal Morphology	Four verb classes l, zero, n, ng **future** -lku, -ku, -nku, -ngku **command** –la, null, -rra, -wa **continuous command** –nma, -ma, -nama/-nkuma, -ngama/-ngkuma **present** -ra, -rra, -nkula, -ngkula **past** –rnu, -ngu, -nu, -ngu **participle** –ra, -rra, -nkula, -ngkula **past continuous** –ranytja/-rningi, -rranytja, -nkulanytja/-nangi, -ngkulanytja/-ngangi **habitual** –lpayi, -payi, -nkupayi, -ngkupayi **cessative** –ltjarra, -tjarra, -nkutjarra, -ngkutjarra **regressive** –nytja/-ngi
Reduplication	**Semantic** mara *hand* mara-mara *crawl* pulparru *powdery* pulparru-pulparru *look ashen/pale* purlka *large* purlka-purlka *half grown* **Intensifier** nyimpin *flip-flop sound* nyimpin-nyimpin *slapping sound* tjulurr *alarmed* tjulurr-tjulurrpa *on the alert* walka *colour* walkaly-walkaly *bright coloured pattern* wilyirr *wrinkle* wilyirr-wilyirr *wrinkled up*
Compound	kuurl-tirrtja school-teacher *teacher*
Nominaliser	addition of **–nytja** or **–ntja** to verb stem, both transitive and intransitive verbs. tjunku**nytja** *putter* kartarntanku**nytja**nya *breaker* pukulmanku**nytja** *happy maker* ungku**nytja** *giver* mira**nytja** *shouter*

Inflection and Derivation	Inflectional Suffixes
	possessive -ku
	locative -ngka, -la
	allative -kutu
	ablative –nguru
	perlative –wana/wanu
	elative –tja
	intensifier -nyka
	Inflectional Prefixes - Directional
	ma- *away*
	ngalya- *towards*
	parra- *around*
	wati- *across*
	kuti- *away*
	murru- *backwards*

Summary

This short paper has focused on only six of the universal morphological processes employed by Goldfields Aboriginal languages in order to identify the most productive processes to employ in rejuvenating Goldfields languages with incomplete lexical datasets.

The research shows that Ngaanyatjarra, Pitjantjatjarra, Tjupan, Maduwongga and Kuwarra employ these processes. The Ngadju, Kaalamaya, Mirniny and Manytjilytjarra data shows evidence of most of these processes in the limited lexical material available in these languages. Manytjilytjarra will not be included in the rejuvenation process as there may be opportunity to locate more speakers through a visit to Kiwirrkurra Community, and to investigate the language or dialect further in Punmu Community where Manyjilyjarra speakers reside. Manytjilytjarra and Manyjilyjarra appear to be dialects of each other, GALCAC paper Nov 2022.

GALCAC linguists and speakers will employ the six morphological production processes identified in this paper to rejuvenate Kuwarra, Ngadju, Kaalamaya, Maduwongga and Mirniny languages.

The first stage will include workshops with speakers and people with a linguistic heritage connection to the language in order to develop an understanding of these six morphologically productive processes. These workshops will focus on using a single existing morpheme in each language, as done with the Tjupan morpheme yalta *cold*, and demonstrate how the morphological processes enable a wide range of lexical items to be created. It is anticipated that these first workshops may trigger partial speaker's memories of morphological processes and act as memory aids.

After the workshop, speakers and heritage connectors will be asked whether they would like the morphological productive processes to be used to rejuvenate their language by focusing on creating paradigms using the existing morphemes. Healthy discussion will be held on the reasons for using these processes in

rejuvenation efforts and the reasons for not use them. Speech community agreement needs to be consensual in order to progress to the creation of a rejuvenated lexical dataset.

If the speech community decides to using these processes to rejuvenate the language, lexical items formed from the processes will be marked as rejuvenated items in the Toolbox lexical database. GALCAC linguists will work alongside the speech community to rejuvenate the language using these processes in workshops and enter the data into the Toolbox so it is clearly identified.

The rejuvenated Toolbox dataset will be made available to the speech community in due course, as wordlists and dictionaries. In future editions of dictionaries, the headwords created through the rejuvenation process will be marked so that they are clearly identified as items created through morphological rejuvenation processes, as opposed to items collected through natural speech or from historical documents.

The existing, common morphological processes used by Goldfields First Nations languages can be used to rejuvenate the languages which have incomplete lexicons. There is a high probability these processes were traditionally employed by the languages and had become lost during the period of European colonisation which caused an immense loss of language in the region. Morphological rejuvenation increases speaker's productivity of a language and leads to greater language purpose, use, retention and inter-generational transmission. People dispowered by language loss will experience feelings of reconnection, empowerment, pride and capability. Heritage language speakers will be in charge of their language's rejuvenation, use and future. The very nature of colonial linguicide has made recovery of complete language data sets impossible. However, using these morphological productive processes decolonises language loss and places speakers back in charge of their language, its use, development and future.

References

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