Searching for “Agent Zero”
The origins of a relative case system

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Gurindji Kriol, a mixed language spoken in northern Australia, combines a Kriol VP with a Gurindji NP, including case suffixes (Meakins 2011a). The Gurindji-derived case suffixes have undergone a number of changes in Gurindji Kriol, for example the ergative suffix \textit{-ngku/tu} now marks nominative case (Meakins 2011b, 2015). This study explores a new innovation in case morphology among Gurindji Kriol-speaking children: the use of \textit{-ngku/tu} to mark possessors as well as subjects, i.e. the emergence of a relative case system. Although rare in Australian languages, syncretism between agents and possessors is not uncommon cross-linguistically, reported in Caucasian Eskimo-Aleut, Mixe-Zoquean and Yucatecan-Mayan languages (Allen 1964; Blake 1994; Palancar 2002). In the case of Gurindji Kriol, the relative case system found its origins in allomorphic reduction which led to syncretism between ergative and dative case forms. This syncretism was shaped by the syntactic grouping of subjects and possessors as dependents of verbs and possessums, respectively. Although partial syncretism between ergative and dative case is not unusual in Australian languages historically, it has gone to completion in Gurindji Kriol and can be observed in two other instances of rapid linguistic change in Australia: Ngiyambaa (Donaldson 1980) and Dyirbal (Schmidt 1985). The re-organisation of the case system can be traced back to a small group of second-generation Gurindji Kriol speakers at Nitjpurru (Pigeon Hole) and this change has since been transmitted laterally through familial connections to other children at Daguragu. There are also indications that it has begun propagating to other children at Kalkaringi and is now being acquired by the next generation of Gurindji Kriol speakers.

\textbf{Keywords:} case system, Gurindji Kriol, language contact, language change, child language, children’s agency
1. Introduction

Shifts in case alignment are often observed after a change has taken place, either reconstructed through comparisons with related languages, for example Dench’s (2001) observation about the shift from an ergative system to an accusative system in the Central Pilbara languages of Western Australia; or in comparison with source languages in contact situations, for example, the collapse of the distinction between nominative and accusative in Pennsylvania German which brought about ‘common’ case (Huffines 1989). This paper describes an in-progress change in case alignment in Gurindji Kriol, a mixed language which has undergone rapid change in the last 40 years, making it possible to glimpse changes as they occur. This paper identifies the sociolinguistic and morpho-syntactic drivers of change in the case system and charts its progress as it is currently propagating through the speech community.

Gurindji Kriol is spoken in northern Australia by Gurindji, Bilinarra and Ngarinyman people in four remote Aboriginal communities of Kalkaringi, Daguragu, Nitjpurru (Pigeon Hole) and Yarralin. This mixed language uses case markers from Gurindji, including structural and semantic case suffixes; however changes have occurred in the absorption of these case markers into the mixed system. For example, when the ergative markers -ngku/-tu were transferred in the process of mixed language genesis, their function was extended to marking intransitive subjects which led to the creation of a marked nominative system (Meakins 2015). In addition, -tu was extended to dative functions (Meakins 2011b).

This paper describes a further extension of the other nominative case allomorph -ngku to indicating possessors by a small group of Gurindji Kriol-speaking children. As (1) and (2) demonstrate, subjects and possessors now show identical marking in this group of children. (In all examples Gurindji-sourced morphemes are in italics, and Kriol-sourced morphemes are in plain font.)

1. An dat warlaku-ngku i=m gon jampjamp-karra dat bi-ngku haib and the dog-NOM 3SG.S=PRS go jump.REDUP-CONT the bee-NOM hive ‘And the dog is jumping at the beehive.’ (CHILD: KB: FM14_43_2i: 1:08min)

2. Dat bigija-wan-tu i bin kik-im im brom dat tetul-tu the big-NMLZ-NOM 3SG.S PST kick-TR 3SG.O ABL the turtle-NOM parntawurru-nginyi back-ABL ‘The big one kicked the him from the turtle’s back.’ (CHILD: JI: FM15_54_3b: 1:44min)

1. All Gurindji Kriol examples are referenced as (i) child or adult speaker; (ii) speaker ID (using actual speaker initials to ensure identifiability with Gurindji people but anonymity with non-Gurindji people); (iii) recording number; (iv) start time in recording.
Blake (1994) refers to identical marking of transitive subjects and possessors as relative case. Thus it appears that in just three generations, these case forms have transformed from markers of ergative case to nominative case and ultimately relative case. Relative case is not found in Australian languages, although it is not uncommon elsewhere. For example, syncretism between agents and possessors is reported in Caucasian Eskimo-Aleut, Mixe-Zoquean and Yucatecan-Mayan languages (Allen 1964; Blake 1994; Heine 1997; Palancar 2002). Elsewhere in Australia, partial syncretism between ergative and dative case, particularly in the -ku allomorph in Pama-Nyungan languages, is common, perhaps providing the seeds for case realignment. In some other more recent language shift situations in Australia, for example Ngiyambaa (Donaldson 1980) and Dyirbal (Schmidt 1985), syncretism has occurred across all ergative and dative case forms resulting in the collapse of this case distinction. We argue that syncretism of the subject and possessor marking in Gurindji Kriol is not random but rather the result of the syntactic grouping of subjects and possessors as dependents of verbs and possessums, respectively.

The emergence of relative case in Gurindji Kriol is an innovation confined to children, and is not used by adult speakers. We show that the source of this innovation can been traced back to Gurindji Kriol-speaking children at Nitjpurru (Pigeon Hole), a small Aboriginal community of approximately 50 people. The innovation then spread to Daguragu through Gurindji children with familial connections in Nitjpurru. There is now evidence that the relative case alignment has been adopted by other Gurindji children at Kalkaringi and is being learnt by the next generation.

The data for this study is drawn from the Gurindji Kriol corpus which consists of 140 speakers (including 51 children aged 6 to 14 years) consisting of 90 hours and 48,596 utterances (mostly two clauses or more). As well as narrative texts, tokens of the -ngku variant were elicited using a head-tail snap card game designed specifically to induce NP-NP possessive structures which are rare in the corpus. This data was collected by Meakins and Algy between 2014–2015. The pictures for the card game are from the FELIKS programme resource book (Berry 2011b: 49–54).
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Players had a set of cards, each with half an animal on it, either a head or tail. To play, the participants had to ask the other players if they had the head/tail of a card they had. See Meakins (2011b: 52–53) for further details.

2. The -ngku variant and its language ecology

Like viruses in a patient, grammatical forms mutate within one speaker before spreading through a language community. Because the innovative use of -ngku has occurred recently, it is possible to search for the first speaker or cluster of speakers to have completed the grammatical leap from subject to possessor marking, here dubbed “Agent Zero”. In this section, we explore some sociolinguistic factors which define the group who mark possessors with -ngku and, in doing so, we also search for the origins of the -ngku variant.

Firstly, it is clear that the innovative use of -ngku originated in children. Its use is currently restricted to a group of Gurindji Kriol-speaking children at Daguragu and Pigeon Hole who were born between 2000 and 2010. A total of 18 children (35% of children in the corpus) use the -ngku variant to mark possessors, as well as subjects. No adults were recorded using -ngku to mark possessors, and, importantly, 11 of the adults who were recorded were primary caregivers for some of the -ngku children. The caregivers did not use this variant, and therefore cannot be the source of the innovation. Note that the use of -ngku is also unlikely to be related to the gender of the speaker. Of the 18 children recorded using -ngku to mark possession, 8 are female and 10 are male.

The other common factor uniting this group of -ngku users is location, specifically Nitjpurru (Pigeon Hole), the small Bilinarra community located 80km north of Kalkaringi/Daguragu (see Figure 1). The majority of this community, particularly Bilinarra people under the age of 40, also speak Gurindji Kriol. Without exception, all six children recorded from Pigeon Hole used the -ngku form to mark possessors. Of the remaining 12 children, nine live in a cluster of four neighbouring houses on the eastern side of the area called East Riverside at Daguragu. The nine children belong to two families who have familial connections at Nitjpurru. One other child lives in a separate part of Daguragu and also has family in Nitjpurru. All 10 children regularly visit Nitjpurru and spend extended time periods there, for example, during school holidays. Of the two remaining -ngku users, one is a four-year-old child who shares the same grandmother as the Daguragu child who does not live at Riverside. Importantly, they have grown up in the same house. The remaining child is from Kalkaringi and her place in the picture will be discussed shortly.
Ten of the 18 children who use the -ngku variant apply it categorically. This number includes all of the Nitjpurru children and four of the nine East Riverside Daguragu children. For these children, the shift to a single case form to indicate subjects and possessors is complete. The shift is still in progress for eight of these children who use -ngku in variation with -yu, as exemplified by (3)–(5) and, in fact, (5) is a correction from -yu to -ngku. Variation of this nature is expected in any situation of language change, and indeed variation in the use of -wu and -yu (vowel-final stems) and -tu and -ku (consonant-final stems) among adult Gurindji Kriol speakers will be discussed in Section 4.3.

(3) An dat warlaku-ngku i=m luk dat bi-yu hawuj and the dog-NOM 3SG.S=PRS look the bee-DAT house 'The dog stares at the bee’s home.' (CHILD: BP: FM10_19_2: 5:20min)

(4) Dat warlaku-ngku i=m rungap-karra dat bi-ngku hawuj the dog-NOM 3SG.S=PRS bark-CONT the bee-NOM house 'The dog barks at the bee’s home.' (CHILD: BP: FM10_19_2: 5:46min)
(5) Dat ngakparn-tu i bin jamp langa da bebi-\textit{yu} ... bebi-\textit{ngku} pram
the frog-NOM 3SG.S PST jump LOC the baby-DAT ... baby-NOM pram
‘The frog jumped into the baby’s ... baby’s pram.’

(CHILD: KH: FM15:62_2a: 2:57min)

For a number of reasons, it seems likely that the -\textit{ngku} variant of possessive marking originated in a single child, “Agent Zero”, in Nitjpurru rather than Daguragu. Firstly all of the Nitjpurru children use the variant but only 12 of the 45 children in the corpus from Daguragu and Kalkaringi use the variant. Moreover all of the Nitjpurru children use the variant categorically whereas some of the Daguragu children still use it in variation with -\textit{yu}, suggesting that the shift has not gone to completion in these children. Under this scenario, propagation of the -\textit{ngku} variant occurred by lateral transmission from the Nitjpurru children to the Daguragu children, particularly the East Riverside children. In the case of the four-year-old child growing up in the same house as one of the other Daguragu children, he probably acquired the variant from the older child. This is perhaps the first evidence of L1 acquisition of -\textit{ngku}, as a possessor marker, rather than lateral transmission between peers. Evidence also exists that the variant has started propagating from Daguragu children (with Nitjpurru connections) to other Daguragu/Kalkaringi children. For example, one child at Kalkaringi was recorded using -\textit{ngku} in variation with -\textit{yu}, as shown in (5).

3. An emergent relative case system in Gurindji Kriol

In this section, we argue that use of the -\textit{ngku}, whereby subjects and possessors are marked identically, is representative of more than simply a sociolinguistic marker of identity. We suggest that the sociolinguistic profile of its use is symptomatic of a change in progress in the argument marking system of Gurindji Kriol and is indicative of the emergence of a relative case system in the speech of Gurindji and Bilinarra children. Relative case systems have not been observed in Australia, but are not uncommon cross-linguistically, as shown in Section 3.2. We discuss the morpho-syntactic path of its emergence in detail in Section 4.3.

3.1 Syncretism between nominative and dative allomorphs

As introduced in Section 1, the -\textit{ngku} and -\textit{tu} suffix is used by a group of Gurindji Kriol-speaking children to mark both subjects and possessors, exemplified in (1)–(2), (6)–(9). (Note that many adult speakers use the -\textit{tu} allomorph in both functions already, as will be discussed in Section 4.3.) For these children, complete syncretism exists between nominative and dative allomorphs.
An abta da karu-ngku i bin jamp-ap langa reindiya-ngku nek-ta and after the child-nom 3sg.s pst jump-up loc deer-nom neck-loc

‘Then the child jumped up on the deer’s neck.’

(CHILD: VS: FM13_36_1g: 2:27min)

Dat karu bin gu langa dat bi-waliya-ngku hauuj-ja na the child pst go loc the bee-pauc-nom house-nom loc seq

‘The kid went to the bee-hive then.’  (CHILD: VS: FM13_36_1g: 2:27min)

An dat tetul-tu i=m bait-im dat warlaku-ngku teil and the turtle-nom 3sg.s=prs bite-tr the dog-nom tail

‘The turtle bites the dog’s tail.’  (CHILD: KB: FM15:54_2a: 2:20min)

Dat mami-wan-tu i=m put-im dat titibotul dat ngakparntu the mother-nmlz-nom 3sg.s=prs put-tr the baby.bottle the frog-nom mawuj-ta mouth-loc

‘The mum put the bottle in the frog’s mouth.’

(CHILD: KB: FM15_51_2a: 3:03min)

The children’s use of -ngku and -tu is mostly restricted to dependent-marking in possessive constructions (as well as subjects). Other nominals which are marked dative by adult speakers, including indirect objects (10), benefactives, malefactives, purposives (11), animate goals (12)–(13) are marked using -yu or the Kriol-derived dative preposition bo by the same child speakers who use -ngku to mark vowel-final possessors.

(10) Dat karu-ngku i bin tok bo da warlaku

the child-nom 3sg.s pst talk dat the dog

‘The child talked to the dog.’  (CHILD: VS: FM13_36_1g: 2:57min)

(11) Da partiki-yu na, hant-ing bo partiki

the nut-dat seq hunt-detrn dat nut

For the nuts, hunting for the nuts.  (CHILD: MI: FM14_38_1f: 0:08min)

(12) I bin jamp streit bo da jangkarni-wan ngakparn

3sg.s pst jump straight dat the large-nmlz frog

‘He jumped straight for the large frog.’  (CHILD: VS: FM15_54_1b: 5:06min)

(13) An dei bin rarraj nyanuny dat warlaku-yu

and 3pl.s pst run 3sg.dat the dog-dat

‘They ran for his dog.’  (CHILD: MI: FM10_25_1b: 0:31min)

Note though that tantalising hints of further extension to other dative-marked functions also exist. Two examples of -ngku marking indirect objects occur in the
corpus (interesting from two children in the same Daguragu household), as shown in (14) and (15). It remains to be seen whether this extension to datives has widespread uptake in the community.

(14) Ai tok-in bo dat tubala-ngku
1sg.s tok-ATEL dat the 3DU-NOM
‘I’m talking to the two of them.’

(CHILD: KC: FM15_63_1g: 0.00min)

(15) I bin jou-im dat karu-ngku
3sg.s PST show-TR the child-NOM
‘She showed it to the kid.’

(CHILD: BP: FM15_48_1c: 3.17min)

Currently, though, these examples are marginal, and the new use of the -ngku variant is predominantly restricted to possessors. Most of the examples of possessive constructions using -ngku in the corpus (not including the possession card game tasks) mark part-whole relations, for example (2), (6), (8) and (9), specifically body parts; however (7) and (3)–(5) are examples of other types of possessums. In this respect, the use of -ngku is not signalling the re-emergence of the inalienable distinction, typified by part-whole relations, in particular body parts (Chappell and McGregor 1996: 4). This distinction was in the process of being lost when the dative suffix was absorbed into Gurindji Kriol from Gurindji (which does make this distinction by zero-marking possessors in inalienable possessive constructions) (Meakins and O’Shannessy 2005).

Thus, where adult speakers of Gurindji Kriol mark the possessor with the dative, a group of child speakers of Gurindji Kriol have re-organised the case paradigm whereby the possessor function is now marked nominative, and the dative remains distinct. These differences between adult and child speakers in nominative and dative case marking of possessors are demonstrated in Table 1.

Table 1. A comparison of adult and child Gurindji Kriol case forms

<table>
<thead>
<tr>
<th></th>
<th>Nominative case</th>
<th>Possessor function</th>
<th>Dative case*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Gurindji Kriol</td>
<td>V-FINAL -ngku</td>
<td>-yu</td>
<td>-yu</td>
</tr>
<tr>
<td>speakers</td>
<td>C-FINAL -tu</td>
<td>-tu</td>
<td>-tu</td>
</tr>
<tr>
<td>Child Gurindji Kriol</td>
<td>V-FINAL -ngku</td>
<td>-ngku</td>
<td>-yu</td>
</tr>
<tr>
<td>speakers</td>
<td>C-FINAL -tu</td>
<td>-tu</td>
<td>-tu</td>
</tr>
</tbody>
</table>

* Also marked by the Kriol preposition bo for all speakers.

Blake (1994: 151–153) refers to the case common to both subjects of transitive clauses and possessors as relative case. We interpret the reorganisation of the case paradigm by some Gurindji Kriol-speaking children as the emergence of a relative case system, whereby subjects and possessors are marked identically.
Syncretism of this kind is rare in Australia languages. Alienable possessors are more commonly marked with dative case (if the language does not have a separate genitive case) (Blake 1977: 35; Dixon 1980: 293), and the ergative often indicates instrumentals (Blake 1977: 51). Gurindji and adult speakers of Gurindji Kriol exhibit both of these patterns, as will be described in Section 4.3. Nonetheless, one example of the use of subject marking on possessors can be observed in Bardi (Nyulnyulan, Australia). In this case, the ergative can mark possession when the possessum is elided (Bowern 2012: 201), as shown in (16).

(16) Bardi
Liina-nim=jin
Lena-erg-3m.poss
‘It’s Lena’s.’ (Bowern 2012: 201)

Elsewhere in Australian languages, partial syncretism exists between ergative and dative case allomorphs; however there are no instances where a complete collapse of the distinction between ergative and dative case has been observed. One example of partial syncretism comes from Jingulu (Mirndi (non-Pama-Nyungan), Northern Australia). Pensalfini (2003: 178) lists the ergative suffix as -rni, -nga, and -ka and the dative suffixes as -rna, -nga and -ka. The form of the marker is dependent on the gender of the stem: -ka and -nga appear on feminine nouns (-ka appears on kin terms only) and -rna and -rni appear on other nominals. This means there is syncretism between dative and ergative case marking on all feminine nominals (Pensalfini 2003: 180). Similarly, across Pama-Nyungan languages in Australia, it is not uncommon for dative and ergative marking to have similar forms. Ergative case is commonly -ngku, -lu, or -Tu (where T assimilates to the place of articulation of the stem’s final consonant) (Blake 1994; Dixon 1980: 302), while dative case has fewer allomorphic variants, typically -ku, -wu (Dixon 1980: 297). Therefore partial syncretism between ergative and dative case forms often occurs in consonant-final dative allomorphs -ku and the consonant-final ergative allomorph -Tu where the final consonant of the stem is velar. This type of syncretism occurs in Gurindji, as shown in Table 3, although the -ku ergative allomorph is the result of a nasal-stop cluster dissimilation process (McConvell 1988).

3.2 Relative case systems cross-linguistically

Although relative case alignment is undocumented in Australia, these systems occur elsewhere, but particularly in a number of Caucasian languages, e.g. Abaza; Eskimo-Aleut languages, e.g. Western Greenlandic and Yu’pik; Mixe-Zoquean languages, e.g. Zoque; and Yucatecan-Mayan languages, e.g. Itzà Maya (Heine 1997: 151). Relative case alignment manifests itself in the case-marking system of
a language or the agreement (or pronominal cross-reference) system. Allen (1964) gives Western Greenlandic (which he refers to as ‘Eskimo’) as an example of a relative case system involving dependent marking where both possessors and subject of transitive clauses are marked with a relative case suffix.

(17) Western Greenlandic
   a. Tiyiania-p iylu-a
      fox-rel house-his
      ‘The fox’s house.’
   b. Tiyiania-p iylu takuf-a-a
      fox-rel house saw-he-it
      ‘The fox saw the house.’ (Allen 1964: 339)

Relative case alignment is also found in bound pronoun systems and agreement systems. For example, Abaza (North West Caucasian, Russia) (18) and Yup’ik (Eskimo-Aleut, Alaska) (19) have an ergative-absolutive pattern in their bound pronouns that is reflected in possessive constructions (Allen 1964; Blake 1994). Similarly, in Itzà Maya (Yucatecan, Guatemala) the possessum is marked with possessive pronominal prefixes that reference the possessor, as seen in (20a). These pronominal prefixes are identical to ergative verbal agreement, as in (20b) (Hofling 1990).

(18) Abaza
   a. D-I-pa-b
      3sg.m.abs-3sg.f.erg-son-is
      ‘He is her son.’
   b. D-I-ša-d
      3sg.m.abs-3sg.f.erg-kill-pst
      ‘She killed him.’ (Allen 1964: 339–340)

(19) Yup’ik
   a. Angya-g-puk
      boat-3du.abs-1du.erg
      ‘Our boats.’
   b. Ceńirciqa-g-puk
      visit.fut-3du.abs-1du.erg
      ‘We shall visit them.’ (Blake 1994: 152)

(20) Itzà Maya
   a. U-tsimin
      3sg.poss-horse
      ‘His horse.’
   b. T-u-yil-ah
      com-3sg.erg-see-dpm
      ‘He saw her.’ (Hofling 1990: 543–544)
Related systems which involve syncretism between ergative and dative case marking also occur but are rare. In Kabardian (North West Caucasian, North Caucasus, Turkey, Jordan and Syria), oblique case marks locative/dative, benefactive, causer, and ergative. Similarly in Tiriyó (Cariban, Brazil and Suriname) the ergative marks allative/dative, ergative, and 'causee’ (Palancar 2002: 227, 299–300).

Note that all of the relative systems discussed involve the use of either an ergative suffix or pronoun to mark possession, i.e. the transitive subject and possessor are treated the same morphologically. The Gurindji Kriol system differs slightly because subject marking occurs on intransitive subjects as well as transitive subjects. However there are a number of reasons to treat the Gurindji Kriol children’s case system as a relative system. Firstly, the case form -ngku/-tu is historically an ergative and continues to be used by speakers of Gurindji as an ergative (as will be discussed in Section 4.3). Secondly, the use of nominative case to mark possessors is not reported in the literature no doubt due to the rarity of marked nominative systems. In WALS, only 6 of the 190 languages exhibit a marked-nominative system (Handschuh 2015). Unmarked nominative case is far more common; however, due to the lack of overt case marking, it is fruitless to search for identical marking of subjects and possessors in these languages. Finally, the syntactic motivations behind grouping transitive subjects and possessors apply to marked nominative languages. Subjects of verbs, whether transitive or intransitive, are dependents of predicates, as are possessors. In the case of subjects, the predicate is a verb and the scope is the clause, and in the case of possessors, the possessum is the predicate and the scope is an NP. Thus identity in marking between subjects and possessors is equally plausible as it is between transitive subjects and possessors.

4. Morpho-syntactic origins of the relative case system in Gurindji Kriol

Clues for the morpho-syntactic origins of the relative case system in child speakers of Gurindji Kriol come from an examination of how similar systems have developed elsewhere (Section 4.1). The cross-linguistic typological literature provides functional explanations for the genesis of such systems, however it is clear that, in the case of Gurindji Kriol, allomorphic reduction also plays a role. In Section 4.2 we turn our attention to other language shift situations in Australia where syncretism between the ergative and dative have resulted from reductive processes in allomorphy. We argue in Section 4.3 that the relative system in Gurindji Kriol is likely the product of allomorphic reduction which was guided by functional motivations that group subjects and possessors.
4.1 The development of relative systems cross-linguistically

Explanations for the development of relative case systems generally involve an extension from possessor to transitive subject whereby a possessor is reinterpreted as an agent. Allen (1964) is variously cited as being the first to demonstrate the link between transitivity to possession constructions (Blake 1994: 152; Dixon 1994: 219; Heine 1997: 209). This link was originally observed as the extension of the auxiliary in perfect or perfective verb constructions (e.g. I have eaten) to predicative possession (e.g. I have an apple) in European languages such as French, English, Portuguese and Modern Greek (Allen 1964: 337); however Allen observes that this correlation is not confined to predicative possession but also is found in attributive possession. For example, Lehmann (1995: 111) suggests that ergative and genitive syncretism can arise from reanalysing a very specific construction with deverbal nouns, which are marked with possessive case in agent roles. Lehmann proposes that the deverbal nouns can become more verbal, with the genitive case marker, over time, becoming reanalysed as ergative case.

Explanations for the origins of relative case systems can also be found in discussions of the development of morphologically ergative languages. As Trask (1979: 398) notes, “re-interpretation of such a possessor as an agent would automatically bring about ergative case-marking. Thus, a sentence of the general form To me/Of me/At me (is) a window broken, on being re-interpreted to mean ‘I have broken a window’, would yield a […] pattern with the agent overtly marked”. Palancar (2002: 224–228, 310), however, produces a cross-linguistic survey of the functions of agent markers, suggesting different origins of ergative marking. He posits a thematic category of energizer to account for the case-syncretisms involving ergative markers. He identifies many extension paths to ergative marking, suggesting again that agent marking can be derived through possessive marking, but also along with other peripheral cases including dative, locative, ablative, allative and instrumental.

Like Lehmann and others, Palancar assumes that possessor marking has extended to agent marking. This is the opposite of the direction of extension observed in children’s Gurindji Kriol where subject marking has extended to possessor marking. All of this discussion of the link between possessive and ergative marking also relies on functional explanations (i.e. possessors as agents, or Palancar’s thematic category of energizer) to provide links between subject and possessor roles. While functional explanations provide part of the picture, the story of the rise of relative case in Gurindji Kriol seems to rely on a constellation of motivations.

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3. Deverbal being nouns derived from verbs, which “differ from verbal nouns in that operate as autonomous common nouns” (Jaggar 2001: 285) (see also Taylor 2001: 242).
including allomorphic reduction leading to syncretism (Section 3.1). Given that allomorphic reduction is one of the outcomes of language shift (including contact) situations (Dorian 1978; Gal 1989; Janse and Tol 2003), it is possible that an explanation for the extension of the nominative marking possessors can be found here.

### 4.2 Language shift and allomorphic reduction in Australia

According to Matras (2007: 44), “the most widespread changes are in the possessive construction” in contact languages. Musgrave (2005: 4–5) suggests that possessive constructions are a likely nexus for change due to the inflectional nature of the structure and the tendency for morphological reduction to occur in language contact and shift scenarios (e.g. Campbell and Muntzel 1989: 186). Possessive constructions in Australian languages have undergone different kinds of morphological reduction in shift and contact situations. Two reductive processes are common: (i) the loss of the inalienable/alienable distinction which has occurred in Areyonga Teenage Pitjantjatjara (Langlois 2004: 84), Arabana (Hercus 2005: 38), Paakantyi (Hercus 2005: 35), Light Warlpiri and Gurindji Kriol (Meakins and O’Shannessy 2005), Wumpurrarni English (Disbray and Simpson 2005), Young People’s Dyirbal (Schmidt 1985: 60–61); and (ii) allomorphic reduction. It is the latter process which provides some clues to the origins of relative case in Gurindji Kriol.

Loss in case allomorphy is common in Australia, both historically (Blake 1994) and in recent times as a result of a shift to English. In the case of the ergative and dative, allomorphic reduction has led to complete syncretism in case paradigms. For example, Donaldson (1980: 85) notes a reduction in stem conditioned allomorphy in the ergative case suffixes in Ngiyambaa in younger speakers. Donaldson (1980: 82–83) provides a table which displays homophonous forms for six out of 12 nouns listed in ergative and dative case, as reproduced as Table 2.

Importantly, Donaldson (1980: 84–85) notes that young speakers have completely lost the distinction between ergative and dative case markers, producing -gu in all phonological environments for both ergative and dative suffixes, with -gu originally being an allomorph of both cases, but predominantly the ergative. As one might then predict, this shift has induced not only syncretism between ergative and dative case markers, but also an instance where agents and possessors are marked identically as, like many Australian languages, the dative case is used to mark possessors in attributive possessive constructions in Ngiyambaa (Donaldson 1980: 107).

One of the most well documented cases of ergative and dative syncretism due to language contact in Australia is given by Schmidt (1985), in her account of Young People’s Dyirbal. Schmidt (1985: 44–126) provides a detailed account of allomorphic change across generations of Dyirbal speakers. She gives the different
Searching for “Agent Zero”

Schmidt (1985: 47–52) describes a cline in allomorphic reduction related to speaker proficiency in Dyirbal. The most proficient speakers retained the most allomorphic variation and the less proficient speakers had fewer allomorphic alternations. Those on the lower end of the proficiency spectrum had one ergative case form -gu, was generalised to all stems (Schmidt 1985: 47, 51–52). The dative case marker in traditional and Young People’s Dyirbal is also -gu (Dixon 1972: 236; Schmidt 1985: 58). This reduction in allomorphic variation has then produced syncretism in ergative and dative case marking for some speakers. Although dative case is not used to mark possession in Dyirbal, this case study provides further evidence for the tendency to conflate dative and ergative case.

Thus there is an apparent trend in situations of shift in Australia languages to collapse the distinction between ergative and dative case markers through a process of incremental syncretism. As discussed in Section 3.1, this is also an historical trend in Australian languages; however it has only ever resulted in partial syncretism in the case paradigm not the full collapse of a distinction between subject marking (usually the ergative) and possessor marking (often the dative). The following section draws together functional, syntactic and phonological explanations to provide a story of the emergence of relative case alignment in Gurindji Kriol-speaking children.

Table 2. Ergative/dative syncretism (bolded) in traditional Ngiyambaa (Donaldson 1980: 82)

<table>
<thead>
<tr>
<th></th>
<th>Ergative</th>
<th>Dative</th>
</tr>
</thead>
<tbody>
<tr>
<td>spear</td>
<td>mura-gu</td>
<td>mura-gu</td>
</tr>
<tr>
<td>dog</td>
<td>miri-gu</td>
<td>miri-gu</td>
</tr>
<tr>
<td>snake</td>
<td>dhuruŋ-gu</td>
<td>dhuruŋ-gu</td>
</tr>
<tr>
<td>sand goanna</td>
<td>dhuliːŋ-gu</td>
<td>dhuliːŋ-gu</td>
</tr>
<tr>
<td>child</td>
<td>buraː-dhu</td>
<td>buraːy-gu</td>
</tr>
<tr>
<td>emu</td>
<td>ṇurunh-dhu</td>
<td>ṇuru-ŋ-gu</td>
</tr>
<tr>
<td>mosquito</td>
<td>gamugin-du</td>
<td>gamugi-ngu</td>
</tr>
<tr>
<td>stone</td>
<td>gaɽul-u</td>
<td>gaɽul-gu</td>
</tr>
<tr>
<td>prickle</td>
<td>mugar-u</td>
<td>mugar-gu</td>
</tr>
<tr>
<td>rabbit</td>
<td>yura:ba-du</td>
<td>yura:bad-gu</td>
</tr>
<tr>
<td>fence</td>
<td>badi-gu</td>
<td>badi-gu</td>
</tr>
<tr>
<td>trap</td>
<td>dharaːb-gu</td>
<td>dharaːb-gu</td>
</tr>
</tbody>
</table>
4.3 The development of relative case in Gurindji Kriol

In this section, we argue that the rise of -ngku to mark possessors is the result of a staged process of allomorphic reduction coupled with functional and syntactic motivations which link subjects and possessors. The combined outcome is a reorganisation of the case system, i.e. the emergence of relative case system.

Firstly, the process of allomorphoric reduction which leads to partial or complete syncretism is a common language change process. In Section 4.2, Australian language examples of syncretisms between the ergative and the dative were presented. Similarly, Gurindji case marking has undergone rapid change over the last three generations. The case form under examination, -ngku, began its life as an ergative marker in traditional Gurindji. It was one of six allomorphs of the ergative, with one allomorph in common with the dative, -ku (Meakins et al. 2013: 20–21). In this respect, partial subject-possessor syncretism was already present in the system before contact with Kriol. When -ngku was absorbed into Gurindji Kriol during the genesis of the mixed language, it transformed into a nominative marker, extending from solely marking transitive subjects to additionally indicating intransitive subjects (Meakins 2015). At the same time, some speakers started using the consonant-final counterpart -tu as a dative marker such that partial syncretism between the ergative and dative was apparent (Meakins 2011b: 25–29). It was in the second generation of Gurindji Kriol speakers, now currently children, that -ngku came to mark possessors, with the result that syncretism between the ergative and dative became complete, collapsing the ergative and dative into one grammatical role, called relative case. The result has been case realignment from ergative to nominative to relative in a very short period of three generations. This incremental process of allomorphic reduction and syncretism is demonstrated in Table 3.

Table 3. Comparisons of case systems and allomorphy across three generations (syncretisms within generations bolded)

<table>
<thead>
<tr>
<th></th>
<th>Generation 1</th>
<th>Generation 2</th>
<th>Generation 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>v-final</td>
<td>-ngu, -lu, -ku</td>
<td>-wu</td>
<td>-ngu</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-wu, -yu</td>
</tr>
<tr>
<td>c-final</td>
<td>-tu, -ju, -kulu</td>
<td>-ku</td>
<td>-tu</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-tu</td>
</tr>
</tbody>
</table>

Nonetheless, allomorphic change and resultant syncretism only provides part of the picture. It does not offer motivations for the grouping of the subject and possessor (or other dative categories). Under a function-neutral scenario there is no
reason why the ergative couldn’t come to mark static spatial relations (i.e. act as a locative), for example, as it has happened in other Australian languages, for instance Wambaya (Nordlinger 1998). We suggest it is not an accident that subject marking has extended to marking possessives. Partial syncretism between ergative and dative case forms in Australian languages is not unusual, as discussed in Section 3.1, and complete syncretism between the ergative and dative has been observed in Ngiyambaa and Dyirbal, two languages which have undergone rapid change in recent times like Gurindji, as shown in Section 4.2. We suggest that reason for this syncretism is that subjects (particularly agents) and possessors show a number of syntactic similarities. As discussed in Section 4.1, both are dependents of predicates: verbs and possessums, respectively. This link may have allowed the interpretation of possessors as having agent-like or more abstractly energiser-like qualities (cf. Palancar 2002), hence the spread of the nominative into possessive constructions. Thus this syntactic and functional grouping of subject and possessor provided a path for the process of syncretism to occur. If a case system is to undergo change (which seems to be the case in extreme language shift scenarios), it will do so in a logical and functionally-driven fashion rather than in a random manner whereby the grammar unravels chaotically, which is often how language obsolescence is characterised.

Unlike the shift to an optionally marked nominative system in the previous generation of Gurindji Kriol speakers, the development of a relative case system is not directly the result of language contact. In the previous generation of Gurindji Kriol speakers, contact with a nominative-accusative system in Kriol precipitated a change to a marked nominative system with the ergative marker extended to indicating intransitive subjects (Meakins 2015). Similarly, contact with the word order-based argument disambiguation system in Kriol resulted in the optionality of argument marking (Meakins 2009; Meakins and O’Shannessy 2010). But in the case of the shift to a relative system, language change independent of contact provides the explanation for the development of the relative system. Firstly, there is nothing in the grammar of Kriol which groups subjects and possessors; and secondly, allomorphic reduction is common to shift scenarios.

Thus the case system in Gurindji Kriol continues to be on the move. The dative case marker has lost a function and the nominative has gained one, i.e. possessor marking. The process has occurred due to a convergence of a number of factors including syncretism, which has had a reductive effect on case allomorphy, and the grouping of subject and possessor grammatical and functional roles, which has shaped the direction of syncretism.
5. Conclusion

The case system of Gurindji Kriol has been the subject of numerous papers (Meakins 2011a, 2011b, 2015, 2016; Meakins and O’Shannessy 2005, 2010) largely because it is a system in flux and changes across generations have been well documented. Language change has been sped up to the extent that it is observable under the linguistic microscope. This study has presented the next stage of the re-analysis of the case forms -ngku and -tu as relative case from their nominative and, ultimately, ergative origins.

This paper has shown that the innovation probably found its origins in a small group of Gurindji Kriol-speaking Bilinarra children at Nitjpurru in northern Australia who all use the nominative case suffix -ngku categorically to mark both subjects and possessors, thereby instigating the emergence of a relative case system. We argue that the variant propagated to Daguragu via Gurindji children with familial connections to people at Nitjpurru, and is showing indications of spreading to other Gurindji children. This innovation is currently completely confined to children, with some evidence for its acquisition by L1 learners of Gurindji Kriol. No adult uptake has been observed – which would not have been surprising. Some features of adult Gurindji Kriol speakers have been adopted by the previous generation of Gurindji-Kriol code-switchers, for example, the use of the locative to mark goals instead of the allative.

We have demonstrated that the relative case system found its origins in allomorphic reduction which led to the complete syncretism of ergative and dative case forms, i.e. ngku and -tu. This instance of syncretism in Gurindji Kriol was not an isolated occurrence, but was preceded by two separate partial syncretic events which affected the ergative and dative allomorphs – first in Gurindji, and then in an innovative group of adult Gurindji Kriol speakers. Such partial syncretism between ergative and dative case is not unusual in Australian languages historically, and has gone to completion in two other cases of rapid linguistic change, i.e. Ngiyambaa and Dyirbal. In both cases, the syncretism was analysed as a symptom of language obsolescence and an indication of a linguistic system unravelling. In this paper we argue that such changes can be viewed in the context of other historical change which does not involve language loss. Syncretism is not simply reduction or simplification but a part of the normal re-organisation of case systems which occurs during typical language change.
Acknowledgements

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List of abbreviations

<table>
<thead>
<tr>
<th></th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>first person</td>
<td>LOC locative</td>
</tr>
<tr>
<td>2</td>
<td>second person</td>
<td>M masculine</td>
</tr>
<tr>
<td>3</td>
<td>third person</td>
<td>NMLZ nominaliser</td>
</tr>
<tr>
<td>ABL</td>
<td>ablative</td>
<td>NOM nominative</td>
</tr>
<tr>
<td>ABS</td>
<td>absolutive</td>
<td>O object</td>
</tr>
<tr>
<td>ATEL</td>
<td>atelic</td>
<td>PAUC paucal</td>
</tr>
<tr>
<td>COM</td>
<td>completive</td>
<td>POSS possessive</td>
</tr>
<tr>
<td>CONT</td>
<td>continuative</td>
<td>PRS present</td>
</tr>
<tr>
<td>DAT</td>
<td>dative</td>
<td>PST past</td>
</tr>
<tr>
<td>DETRAN</td>
<td>detransitiviser</td>
<td>REDUP reduplication</td>
</tr>
<tr>
<td>DU</td>
<td>dual</td>
<td>REL relative</td>
</tr>
<tr>
<td>DPM</td>
<td>distal patient marker</td>
<td>S subject</td>
</tr>
<tr>
<td>ERG</td>
<td>ergative</td>
<td>SEQ sequential</td>
</tr>
<tr>
<td>F</td>
<td>feminine</td>
<td>SG singular</td>
</tr>
<tr>
<td>FUT</td>
<td>future</td>
<td>TR transitive</td>
</tr>
</tbody>
</table>
References


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