



A path of grammatical change from weak NPIs to strong NPIs in Shuri Okinawan and Bùlì

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Abstract. No languages remain unchanged. Syntax, semantics, and phonology are all subject to change, and NPIs are no exception. We report our new discovery of an ongoing grammatical change between two types of NPIs, from weak NPIs (Grammar A) to strong NPIs (Grammar B), in two unrelated endangered languages, Okinawan (spoken on the main island of Shuri Okinawa, Japan) and Bùlì (a Mabia/Gur language spoken in Northern Ghana). We put forth a tentative hypothesis that this change is being driven by computational simplicity.

Keywords. negative polarity item (NPI); negative concord item (NCI); negation; grammatical change; Shuri Okinawan; Ryukyuan; Bùlì; Mabia/Gur languages

1. Introduction. No languages remain unchanged. NPIs also change. Eckardt (2012) discusses how some scalar NPIs are derived from non-scalar expressions. Sano (2012) discusses how a non-NPI turns into an NPI, and then into a non-NPI again. We report our new discovery of an ongoing grammatical change between two types of NPIs, from weak NPIs (Grammar A) to strong NPIs (Grammar B), in two unrelated endangered languages, Okinawan (spoken on the main island of Okinawa, Japan) and Bùlì (a Mabia/Gur language spoken in Northern Ghana). We believe that this direction of change in both languages is not coincidental and put forth a tentative hypothesis that this change is being driven by computational simplicity.

Typologically, NPIs come in two varieties, weak NPIs and strong NPIs, with the following properties (the latter is also called Negative Concord Items (NCIs)) (Vallduví 1994, Giannakidou 2000, Watanabe 2004, Hiraiwa 2019, among many others).

| | Weak NPI | Strong NPI |
|--------------------------------|----------|------------|
| a. Affirmative | * | * |
| b. Negation | ✓ | ✓ |
| c. Question | ✓ | * |
| d. Conditional | ✓ | * |
| e. <i>almost</i> -Modification | * | ✓ |
| f. Fragment Answer | * | ✓ |
| g. Long-distance | ✓ | * |

Table 1. Two Types of NPIs

NPIs are disallowed in affirmative declaratives and are licensed in negative clauses. Weak NPIs are also allowed in questions and conditionals (whether they are affirmative or negative) and licensed by a negation in a higher clause. On the other hand, they cannot be modified by

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an adverb *almost* and neither do they occur in fragment answers. Strong NPIs have the opposite properties.

2. NPIs in Shuri Okinawan. Shuri Okinawan is a Northern-Ryukyuan language spoken on the mainland Okinawa. The language is severely endangered, just as other Ryukyuan languages are, its speakers are bilinguals of Shuri Okinawan and Japanese. Most very fluent speakers are elderly, typically in their eighties or older (for some theoretical work on Shuri Okinawan, see Miyara 2000, 2015a,b, 2019, Hiraiwa 2016, 2017, 2020, 2022).

In Shuri Okinawan, NPIs are built on an indeterminate such as *ta*: ‘who/person’ and *nu*: ‘what/thing’ and the scalar particle *-n* ‘also’. Indeterminates are so called by Kuroda (1965) because they change their meanings depending on particles with which they are combined with or environments in which they occur. Examples below show that they are NPIs because they cannot occur in affirmative declaratives.

- (1) Shuri Okinawan
- a. ***Ta:-n** tʃan.
who-N come.PAST
‘Someone came.’ (Affirmative)
- b. *Wanne: **nu:-n** kadan.
1 SG.TOP what-N eat.PAST
‘I ate something.’ (Affirmative)
- (2) Shuri Okinawan
- a. **Ta:-n** ku:ntan.
who-N come.NEG.PAST
‘No one came.’ (Negation)
- b. Wanne: **nu:-n** kamantan.
1 SG.TOP what-N eat.NEG.PAST
‘I didn’t eat anything.’ (Negation)

Indeterminate-based NPIs in Shuri Okinawan are weak NPIs for very fluent elderly speakers (typically above their eighties) (see Hiraiwa 2019 for a different initial observation; see footnote 1). Thus, an indeterminate, when combined with the scalar particle *n*, can occur in non-negative questions and conditionals. Let us call this variant of Shuri Okinawan *Grammar A*. Note that in these environments, it can alternate with an existential indeterminate *ta:-gana* ‘someone’ or *nu:-gana* ‘something’ (*-gana* is a kind of question morpheme (see Hiraiwa 2019)).

- (3) Shuri Okinawan (Grammar A)
- a. {**Ta:-n/Ta:-gana**} tʃo:t-i:?
who-N/who-Q come.PAST-Q
‘Did anyone come?’ (Question)
- b. ’Ja:-ja {**nu:-n/nu:-gana**} kad-i:?
2 SG.TOP what-N/what-Q eat.PAST-Q
‘Did you eat anything?’ (Question)

- (4) Shuri Okinawan (Grammar A)
- a. {**Ta:-n/Ta:-gana**} tʃi:ne:, nara:tʃi k^wiri jo:.
 who-N/who-Q come.COND know do.for.me SFP
 ‘If anyone comes, please let me know.’ (Conditional)
- b. ’Ja:-ja {**nu:-n/nu:-gana**} n:ɕʒi:ne:, nara:tʃi k^wiri jo:.
 2SG what-N/what-Q see.COND, know do.for.me SFP
 ‘If you see anything, please let me know.’ (Conditional)’

Given the typology of NPIs in Table 1, it is expected that in Okinawan speakers with Grammar A should reject *almost*-modification of NPIs and a use of NPIs in fragment answers, while they accept long-distance licensing of NPIs. This prediction is borne out, as the following data show.

- (5) Shuri Okinawan (Grammar A)
- a. *Ansuka **ta:-n** ku:-n-tan.
 almost who-N come-N-PAST
 ‘Almost no one came.’ (Almost-modification)
- b. *Ansuka **nu:-n** kamantan.
 almost what-N eat.NEG.PAST
 ‘I ate almost nothing.’ (Almost-modification)
- (6) Shuri Okinawan (Grammar A)
- a. Context: Did anyone come?
 ***Ta:-n**.
 who-N
 ‘No one.’ (Fragment answer)
- b. Context: Did you eat anything?
 ***Nu:-n**.
 what-N
 ‘Nothing.’ (Fragment answer)
- (7) Shuri Okinawan (Grammar A)
- a. Wanne: [ama-nkai **ta:-n** wun ndi] umuranta-figa, ...
 1SG there-DAT who-N be.PRES C think.NEG.PAST-but...
 ‘I didn’t think that anyone was there, but ...’ (Long-distance licensing)
- b. Wanne: [ama-nakai **nu:-n** an ndi] umuranta-figa, ...
 1SG there-DAT what-N be.PRES C think.NEG.PAST-but...
 ‘I didn’t think that anything was there, but ...’ (Long-distance licensing)

| Grammar A | |
|--------------------------------|---|
| a. Affirmative | * |
| b. Negation | ✓ |
| c. Question | ✓ |
| d. Conditional | ✓ |
| e. <i>almost</i> -Modification | * |
| f. Fragment Answer | * |
| g. Long-distance | ✓ |

Table 2. Weak NPIs in Shuri Okinawan

However, younger speakers take the same weak NPIs to be strong NPIs, which show exactly the opposite distributional properties. Let us call such a variant of Shuri Okinawan *Grammar B*. Thus, they do not accept the combination of an indeterminate and the scalar particle *-n* in questions and conditionals and instead, they must use an existential indeterminate.

(8) Shuri Okinawan (Grammar B)

- a. {***Ta:-n/Ta:-gana**} tʃo:t-i:?
 who-N/who-Q come.PAST-Q
 ‘Did anyone come?’ (Question)
- b. ’Ja:-ja {***nu:-n/nu:-gana**} kad-i:?
 2SG-TOP what-N/what-Q eat.PAST-Q
 ‘Did you eat anything?’ (Question)

(9) Shuri Okinawan (Grammar B)

- a. {***Ta:n/Ta:-gana**} tʃi:ne:, nara:tʃi k^wiri yo:.
 who-N/who-Q come.COND know do.for.me SFP
 ‘If anyone comes, please let me know.’ (Conditional)
- b. ’Ya:-ya {***nu:-n/nu:-gana**} n:ɕji:ne:, nara:tʃi k^wiri yo:.
 2SG what-N/what-Q see.COND, know do.for.me SFP
 ‘If you see anything, please let me know.’ (Conditional)’

As expected, for Shuri Okinawan speakers of Grammar B accept *almost*-modification of NPIs and a use of NPIs in fragment answers.

(10) Shuri Okinawan (Grammar B)

- a. Ansuka **ta:-n** ku:-n-tan.
 almost who-N come-N-PAST
 ‘Almost no one came.’ (Almost-modification)
- b. Ansuka **nu:-n** kamantan.
 almost what-N eat.NEG.PAST
 ‘I ate almost nothing.’ (Almost-modification)

(11) Shuri Okinawan (Grammar B)

- a. Context: Did anyone come?
Ta:-n.
 who-N

- ‘No one.’ (Fragment answer)
- b. Context: Did you eat anything?
Nu:-n.
 what-N
 ‘Nothing.’ (Fragment answer)

(12) Shuri Okinawan (Grammar B)

- a. Wanne: [ama-nkai {***ta:-n/ta:-gana**} wun ndi] umuranta-figa, ...
 1SG there-DAT who-N/who-Q be.PRES C think.NEG.PAST-but...
 ‘I didn’t think that anyone was there, but ...’ (Long-distance licensing)
- b. Wanne: [ama-nakai {***nu:-n/nu:-gana**} an ndi] umuranta-figa, ...
 1SG there-DAT what-N/what-Q be.PRES C think.NEG.PAST-but...
 ‘I didn’t think that anything was there, but ...’ (Long-distance licensing)

| Grammar B | |
|--------------------------------|---|
| a. Affirmative | * |
| b. Negation | ✓ |
| c. Question | * |
| d. Conditional | * |
| e. <i>almost</i> -Modification | ✓ |
| f. Fragment Answer | ✓ |
| g. Long-distance | * |

Table 3. Strong NPIs in Shuri Okinawan

We propose the following descriptive hypothesis.¹

- (13) In Shuri Okinawan, indeterminate-based NPIs are weak NPIs for elderly generations (Grammar A) and strong NPIs for younger generations (Grammar B), and are undergoing a grammatical change from weak NPIs (Grammar A) to strong NPIs (Grammar B).²

3. NPIs in Bùlì. Bùlì belongs to the Mabia/Gur language family and is spoken in the Upper-East region of Ghana with approximately 170,000 speakers (for work on Bùlì, see Akanlig-Pare 2005, ?, Ferreira and Ko 2003, Hiraiwa 2003, 2005, 2016, Kröger 1992, Sulemana 2019, 2021, among others).

Akanlig-Pare & Hiraiwa (2022) observed that reduplicated NPIs built on noun class pronouns in Bùlì are weak NPIs (e.g. *wā:-ī wā:-ī* (*wā* is a Class 1 (singular human); *-ī* is an in-

¹ In Hiraiwa (2019), the first author made an observation that in Shuri Okinawan, indeterminate-based NPIs show mixed properties of strong and weak NPIs. However, this observation is likely to be misguided, if what we have reported here is correct.

² Our younger informant (in her sixties) consistently used the relevant expressions as strong NPIs. She mentioned that she had heard elderly speakers utter these NPIs in questions and conditionals, although she didn’t use them in such contexts. Our elderly informant (in her eighties) confirmed this in her natural utterances and in her linguistic intuition, accepting them in downward-entailing contexts as well as in questions (see also Miyara 2021 for relevant data where NPIs function as weak NPIs in Okinawan). Interestingly, however, even she sometimes expressed strong preference for them to be used under negation. This indicates that a grammatical change of weak NPIs (Grammar A) to strong NPIs (Grammar B) are an on-going change synchronically as well as speaker-internally.

definiteness suffix). Thus, they occur in the scope of negation, questions, and conditionals, but cannot stand as a fragment short answer. Furthermore, they can be licensed at long-distance by a non-local negation. We dub this variant of Bùlì as *Grammar A*.³

(14) Bùlì (Grammar A)

- a. *Mí jǎ wā̄-i wā̄-i.
1 SG see.PERF NC-i NC-i
'I saw someone.' (Affirmative)
- b. Mí àn jǎ wā̄-i wā̄-i ā.
1 SG NEG1 see.PERF NC-i NC-i NEG2
'I did not see anyone.' (Negation)
- c. Fí jǎ wā̄-i wā̄-i â:?
2 SG see.PERF NC-i NC-i SFP
'Did you see anyone?' (Question)
- d. Āsī fī dìn jà wā̄-i wā̄-i lá, ...
if 2 SG COND see.PERF NC-i NC-i DEM
'If you see anyone, ...' (Conditional)
- e. *Wā̄-i wā̄-i ā.
NC-i NC-i NEG2
'No one.' (as an answer to 'Who came?') (Fragment answer)
- f. Mí kàn pōlī/wē:nī [àjǐn mí jǎ wā̄-i wā̄-i] ā.
1 SG NEG1 think/say C 1 SG see.PERF NC-i NC-i NEG2
'I don't think/will not say that I saw anyone.' (Long-distance licensing)

| | Grammar A |
|--------------------|-----------|
| a. Affirmative | * |
| b. Negation | ✓ |
| c. Question | ✓ |
| d. Conditional | ✓ |
| e. Fragment Answer | * |
| f. Long-distance | ✓ |

Table 4. Weak NPIs in Bùlì

However, just as in the case of Shuri Okinawan, we have found again that for a younger generation of Bùlì speakers, the distribution is exactly the opposite: the same NPIs function as strong NPIs, and in questions and conditionals as well as in the scope of a non-local negation, the non-reduplicated existential quantifier *wa:i* 'someone' are used. We dub this variant of Bùlì as *Grammar B*.⁴

³ The *almost*-modification test is excluded because we couldn't find a relevant adverb in Bùlì.

⁴ It seems that languages differ as to whether an fragment answer requires a yes-no question (Shuri Okinawan) for a wh-question (Bùlì) as its antecedent. Watanabe (2004) uses both for a fragment answer in Japanese, but Giannakidou 2000 uses a wh-question for a fragment answer in Modern Greek.

- (15) Bùlì (Grammar B)
- a. Fí jíá { *wāā-ī wāā-ī/wāā-ī } â:?
 2SG see.PERF NC-i NC-i/NC-i SFP
 ‘Did you see anyone?’ (Question)
- b. Āsī fī dìn jíá { *wāā-ī wāā-ī/wāā-ī } lá, ...
 if 2SG COND see.PERF NC-i NC-i/NC-i DEM
 ‘If you see anyone, ...’ (Conditional)
- c. **Wāā-ī wāā-ī** ā.
 NC-i NC-i NEG2
 ‘No one.’ (as an answer to ‘Who came?’) (Fragment answer)
- d. Mí kàn pōlī/wēēnī [àjǐn mí jíá { *wāā-ī wāā-ī/wāā-ī }] ā.
 1SG NEG1 think/say C 1SG see.PERF NC-i NC-i/NC-i NEG2
 ‘I don’t think/will not say that I saw anyone.’ (Long-distance licensing)

| | Grammar B |
|--------------------|-----------|
| a. Affirmative | * |
| b. Negation | ✓ |
| c. Question | * |
| d. Conditional | * |
| e. Fragment Answer | ✓ |
| f. Long-distance | * |

Table 5. Strong NPIs in Bùlì

Thus, we submit the following hypothesis.

- (16) In Bùlì, reduplicated NPIs are weak NPIs for elderly generations (Grammar A) and strong NPIs for younger generations (Grammar B), and are undergoing a grammatical change from weak NPIs (Grammar A) to strong NPIs (Grammar B).

4. Discussions. Both in Shuri Okinawan and Bùlì, weak NPIs in elderly generations are strong NPIs in younger generations, which we do not take to be a coincidence.

| | Weak NPIs (Grammar A) | Strong NPIs (Grammar B) |
|--------------------------------|-----------------------|-------------------------|
| a. Affirmative | * | * |
| b. Negation | ✓ | ✓ |
| c. Question | ✓ | * |
| d. Conditional | ✓ | * |
| e. <i>almost</i> -Modification | *(or N/A) | ✓(or N/A) |
| f. Fragment Answer | * | ✓ |
| g. Long-distance | ✓ | * |

Table 6. NPIs in Shuri Okinawan ad Bùlì (Grammar A & Grammar B)

We reach the following descriptive hypothesis.

(17) The Weak/Strong NPI Hypothesis

Weak NPIs tend to change into strong NPIs cross-linguistically.

If we are looking at Shuri Okinawan alone, one might speculate that this shift is a mere result of the stronger influence from Japanese, because indeterminate-based NPIs in Japanese are strictly strong NPIs (Kuroda 1965, Watanabe 2004, Shimoyama 2008, Hiraiwa 2017). But this is not correct in two respects. First, Bùlì shows the same direction of change. Second, even though Bùlì speakers also speak English, typical NPIs in English such as *any* and *ever* are weak NPIs. Thus, the language contact hypothesis cannot explain the direction of change in the two unrelated languages.

Eckardt (2012) argues that scalar weak NPIs are ‘prototypical’, naturally derived from ALT(ernative) and SCALE. Thus, we hypothesize that the driving force for this grammatical change from weak NPIs to strong NPIs is computational simplicity. Grammar B is simpler than Grammar A in that Grammar B is only sensitive to negation (i.e. anti-additive environment) in the calculation of licensing conditions for NPIs. But Grammar A must pay attention not only to negation, but also to downward-entailing environments and questions in licensing NPIs. Therefore, we think that the currently on-going change is unidirectional, from weak to strong NPIs in these languages, in a way that maximizes computational simplicity.

Needless to say, we must await for a large-scale investigation of more speakers in both languages to confirm our hypothesis. But if our conjecture is correct, we also expect that the same directionality of change should be observed in NPIs in other languages, while the other directionality should be far less common.

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