

Two types of X-marking in Akan conditionals

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Conditional Constructs across world languages

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Outline

1 Introduction: X-marking in conditionals

2 The view from Akan

- Novel fieldwork data

3 Towards a Proposal

4 Outlook and Conclusions

Introduction: X-marking in conditionals

When expressing remote possibilities, conditionals exhibit extra marking (X-marking) (von Fintel & Iatridou 2023)

- (1) If Danya **plays** with white, he **will win** the game. [realis]
(Indicative / O-marked conditionals)
- (2) If Danya **played** with white (tomorrow), he **would win** the game. [potentialis]
(Simple Past / Present X-marked conditionals)
- (3) If Danya **had played** with white, he **would have won** the game. [irrealis]
(Past Perfect / Past X-marked conditionals)

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- (3) If Danya **had played** with white, he **would have won** the game. [irrealis]
(Past Perfect / Past X-marked conditionals)

■ X-marking in English $\rightsquigarrow$ **fake past** (Iatridou 2000)

Fake Past in X-marked conditionals

Two lines of analysis:

- **Past as Modal (PaM)**: Past tense is “repurposed” to the modal domain
→ Remote possibilities are accessed through distancing from the actual world
- **Past as Past (PaP)**: Past tense is interpreted temporally
→ Remote possibilities are accessed from an earlier point at which they were still viable

- von Fintel & Iatridou (2023): Purely PaP approaches struggle to handle impossible (time-independent) or *Future Less Vivid* (FLVs) conditionals

(4) *Impossible conditional*

If there had been no big bang, we wouldn't be here.

(5) *FLV*

If Monica came to the party tonight, we'd have caipirinhas.

(von Fintel & Iatridou 2023, p. 1479)

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- S. Kaufmann (2023): Both PaP and PaM are at play in English counterfactual conditionals

The Crosslinguistic picture

Two types of X-marking

- Recent work has shown that some languages morphologically distinguish between modal and temporal remoteness (cf. Mizuno 2023 for Japanese, M. Kaufmann & Todorović 2024 for Serbian).

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Research Questions

- How are X-marked conditionals expressed in Akan?
- What does Akan contribute to the PaP/PaM debate?

The view from Akan

- Akan (Kwa, Niger Congo)
- Two native speakers of the Asante Twi variety
- Semantic fieldwork guidelines (Matthewson 2004)



Source: Wikipedia map of African languages

The basic structure of Akan conditionals:

- (6) Sɛ Kofi ba áà, Ama ani bɛ-gye.
 COND Kofi come REL Ama eye FUT-glitter
 ‘If Kofi comes, Ama will be happy.’
 [*antecedent* sɛ ...p... áà], [*consequent* ...q...]

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No formal semantic work, but independent claims on “modal particle” *anka* (Amfo 2005) and tense interpretations in conditionals (Duah & Savić 2020)

Duah & Savić (2020): Past tense and future are interchangeable in Akan counterfactual conditionals

- (7) ɔkyena wó bà-àye áà, anka m'ε-to bì.
 tomorrow 2SG come-**PST** REL MOD 1SG=FUT-buy some
 'If you would come tomorrow, I would buy some of it.'
- (8) ennora me tè-èyè áà, anka m'ε-frɛ nò.
 yesterday 1SG hear-**PST** REL MOD 1SG=FUT-call 3SG.O
 'If I heard it yesterday, I would have called her.'
- (9) ennora ɔ-bɛ-ba áà anka ɔ-bɛ-frɛ wó.
 yesterday 3SG-**FUT**-come REL MOD 3SG-FUT-call 2SG.O
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- **Fake Past** in conditionals with “non-veridical operators” *áà* and *anka*

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 tomorrow 2SG come-**PST** REL MOD 1SG=FUT-buy some
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- (11) ennora me tè-èyè áà, anka m'ε-frɛ nò.
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- (12) ennora ɔ-bɛ-ba áà anka ɔ-bɛ-frɛ wó.
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 'Yesterday if he would come, he would call you.'

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tomorrow 2SG come-**PST** REL MOD 1SG=FUT-buy some
'If you would come tomorrow, I would buy some of it.'
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yesterday 1SG hear-**PST** REL MOD 1SG=FUT-call 3SG.O
'If I heard it yesterday, I would have called her.'
- (12) ennora ɔ-bɛ-ba áà anka ɔ-bɛ-frɛ wó.
yesterday 3SG-**FUT**-come REL MOD 3SG-FUT-call 2SG.O
'Yesterday if he would come, he would call you.'

Problems with Duah & Savić (2020):

- Reliance on translations and the absence of minimal pairs make it difficult to assess the conditional type (SP vs PP)
- It remains unclear whether the interpretation of remoteness arises from *anka*, from (fake) tense morphology, or from their interaction.

X-marking vs O-marking

In Akan conditionals, remote possibilities are typically expressed through the X-marker *anka*, whereas open possibilities optionally involve the O-marker *ɛnɛɛ*

- (13) Context (*realis*): Kofi was invited to a dinner party last week. You've heard that the chicken was spoiled, and now you wonder what happened.

- a. Sɛ Kofi di-ì akokɔ áà, (ɛnɛɛ) ɔ-yare-è.
 COND Kofi eat-PST chicken REL O 3SG.S-sick-PST
 'If Kofi ate chicken, then he got sick.'
- b. #Sɛ Kofi di-ì akokɔ áà, **anka** ɔ-yare-è.
 COND Kofi eat-PST chicken REL X 3SG.S-sick-PST
 'If Kofi had eaten chicken, he would have got sick.'

(14) Context (*irrealis*): Kofi was invited to a dinner party last week. You've heard that the chicken was spoiled, but luckily he didn't touch it.

- a. #Sε Kofi di-ì akokɔ áà, εnεε ɔ-yare-è.
 COND Kofi eat-PST chicken REL O 3SG.S-sick-PST
 'If Kofi ate chicken, then he got sick.'
- b. Sε Kofi di-ì akokɔ áà, **anka** ɔ-yare-è.
 COND Kofi eat-PST chicken REL X 3SG.S-sick-PST

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 'If Kofi ate chicken, then he got sick.'
- b. Sε Kofi di-ì akokɔ áà, **anka** ɔ-yare-è.
 COND Kofi eat-PST chicken REL X 3SG.S-sick-PST

Distribution of O/X-markers:

- *anka* and εneε are in complementary distribution.
 ⇨ εneε displays properties typical of demonstrative proforms
- *anka* may optionally feature in the antecedent clause instead of the conditional complementizer sε

Expressing modal remoteness

Does *anka* correlate with *irrealis* (strong counterfactual) meaning?

→ Equivalent to PP conditionals?

(15) Context (*potentialis*): Kofi was invited to a dinner party last week. You've heard that the chicken was spoiled. You don't think Kofi ate the chicken, however...

- a. Sɛ Kofi di-ì akokɔ áà, ɛnɛɛ ɔ-yare-è.
COND Kofi eat-PST chicken REL then 3SG.S-sick-PST
'If Kofi ate chicken, then he got sick.'
- b. Sɛ Kofi di-ì akokɔ áà, **anka** ɔ-yare-è.
COND Kofi eat-PST chicken REL X 3SG.S-sick-PST
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COND Kofi eat-PST chicken REL X 3SG.S-sick-PST
'If Kofi had eaten chicken, he would have got sick.'

anka contributes modal remoteness, but no strict counterfactuality

We also expect *anka* to occur in Anderson conditionals and future less vivids (future *potentialis*):

Future Less vivid conditionals

(16) Context (FLV): Ama invited Kofi to her party tomorrow. You don't think he will show up. However...

- a. Sɛ ɔ-ba ɔkyena áà, **anka** Ama ani bɛ-gye.
 COND 3SG-come tomorrow REL X Ama eye FUT-glitter
 'If he came tomorrow, Ama would be happy.'

Anderson conditionals

- (17) Target: *If a snake had bitten Kofi, we would have seen exactly the symptoms that Kofi shows. Therefore, we must conclude that Kofi was bitten by a snake.*

- a. sɛ **anka** ɔwɔ ka-à Kofi, yɛ-bɛ-hu
 COND X snake bite-PST Kofi 1PL-FUT-see
 nsɛnkyɛɛnnɛɛ wɔ ne ho.
 symptoms at 3SG.POSS self
- b. nsɛnkyɛɛnnɛɛ **anka** yɛ-bɛ-hu sɛ ɔwɔ ka-à
 symptoms X 1PL-FUT-see COND snake bite-PST
 nó áà, ná yɛ-re-hu seesei enti yɛ-bɛ-tumi
 3SG REL FOC 1PL-PROG-see now therefore 1PL-FUT-can
 a-ka sɛ, ɔwɔ a-ka nó.
 CONS-say COMP snake PRF-bite 3SG

If *anka* is a **modal X-marker**, what is the contribution of tense morphology?

- Does Akan additionally resort to **Fake Past** in X-marked conditionals?

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Future Less vivid conditionals

(18) Context (FLV): Ama invited Kofi to her party tomorrow. You don't think he will show up. However...

- a. Σε ɔ-ba(ɲ-à) ɔkyena áà, **anka** Ama ani
 COND 3SG-come(-PST) tomorrow REL X Ama eye
 be-gye.
 FUT-glitter
 'If he came tomorrow, Ama would be happy.'

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- a. Σε ɔ-ba(ɲ-à) ɔkyena áà, **anka** Ama ani
 COND 3SG-come(-PST) tomorrow REL X Ama eye
 be-gye.
 FUT-glitter
 'If he came tomorrow, Ama would be happy.'

- Past tense in FLVs cannot manipulate either accessibility (no clear past point of intervention) or reference times (future orientation)!

- Impossible conditionals involve time-independent impossibilities (S. Kaufmann 2023)

Impossible conditionals

(19) Target: *If humans lived forever, we wouldn't have cemeteries.*

- a. Sɛ nnipa tena daa áà, anka yenni
 COND humans live forever REL X 1.PL.NEG.have
 amusiei.
 cemeteries
- b. ??Sɛ nnipa tena-à daa áà, anka yenni
 COND humans live-PST forever REL X 1.PL.NEG.have
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Impossible conditionals

(19) Target: *If humans lived forever, we wouldn't have cemeteries.*

- a. Se nnipa tena daa áà, anka yenni
 COND humans live forever REL X 1.PL.NEG.have
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- b. ??Se nnipa tena-à daa áà, anka yenni
 COND humans live-PST forever REL X 1.PL.NEG.have
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↪ Past tense morphology in Akan must be interpreted temporally

Towards a Proposal

Akan exhibits a dedicated modal X-marker *anka*, contributing modal remoteness

- Kratzer-style analysis of conditionals with a covert operator expanding the modal background (cf. Ippolito 2013; Kratzer 1991)

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$$(20) \quad \llbracket \Box \rrbracket^{g,w,t} = \lambda t. \lambda p. \lambda q. \forall w' [w' \approx_t w \ \& \ p(w') \rightarrow q(w')]$$

'For all possible p-worlds w' accessible from w at t (by default, the utterance time), q is true in w' .'

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$$(20) \quad \llbracket \Box \rrbracket^{g,w,t} = \lambda t. \lambda p. \lambda q. \forall w' [w' \approx_t w \ \& \ p(w') \rightarrow q(w')] \\ \text{'For all possible } p\text{-worlds } w' \text{ accessible from } w \text{ at } t \text{ (by default, the utterance time), } q \text{ is true in } w' \text{'}$$

- *anka* introduces a restriction on the set of possible worlds, such that their likelihood to be antecedent-worlds is not above chance.

$$(21) \quad \text{For all worlds } w' \text{ accessible from } w, \text{ given a proposition } p, \\ \llbracket \textit{anka} \rrbracket: |\{w': p(w') = 1\}| \leq |\{w': p(w') = 0\}|$$

- Modal remoteness is underspecified
→ Variability between *potentialis* and *irrealis* is contextually resolved
- The absence of *anka* anti-presupposes that the modal background includes worlds that are more likely to make p true.
↗ *realis* meaning

Real Past in X-marked conditionals

Akan conditionals exhibit transparent mapping of tense marking to temporal meaning

→ Tense primarily contributes the temporal reference of the antecedent/consequent's eventuality

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Puzzle: Duah & Savić (2020)'s future-oriented past-tensed conditionals

- (22) ɔkyena wó bà-àye áà, anka m'ε-tɔ bì.
 tomorrow 2SG come-**PST** REL MOD 1SG=FUT-buy some
 'If you would come tomorrow, I would buy some of it.'

- What is the past tense contributing in these conditionals?

Real Past in X-marked conditionals

Past tense can only occur in non-past oriented conditionals, when these “rerun history” (S. Kaufmann 2023)

- (23) Context: Your friend was excited to go wedding dress shopping with you tomorrow, but you bought the dress yesterday to catch a sale. You say:

- a. $\text{S}\epsilon$ $\text{me-t}\phi\text{-}\acute{\text{o}}$ atade $\text{n}\acute{\text{o}}$ ϕkyena $\acute{\text{a}}\acute{\text{a}}$, anka
 COND 1SG.S-buy-PST dress DEF tomorrow REL X
 $\epsilon\text{-b}\epsilon\text{y}\epsilon$ nea ne $\text{bo}\phi$ $\text{y}\epsilon$ den .
 3SG.S-FUT-COP WH 3SG.POSS price COP strong
 ‘If I had bought it tomorrow, it would have been expensive.’

Past tense binds the accessibility time of the modal operator " $\Box$ " and shifts it to a time preceding the utterance time

- Remote possibilities are accessed from an earlier point rather than at the utterance time

(24) [PAST... $\Box$ p ...q...]
 $\forall w'[w' \approx_{g(7)} w \ \& \ p(w') \rightarrow q(w')]$ PSP: $(g(7) < t_c)$
 'For all possible p-worlds w' accessible from w at $g(7)$, q is true in w' .'

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$$(24) \quad [\text{PAST} \dots \Box p \dots q \dots]$$

$$\forall w' [w' \approx_{g(7)} w \ \& \ p(w') \rightarrow q(w')] \qquad \text{PSP: } (g(7) < t_c)$$

‘For all possible p-worlds w' accessible from w at $g(7)$, q is true in w' .’

Puzzle: Temporal backshift and strengthening

- Why is past tense obligatory in backshifting conditionals if *anka* contributes modal remoteness?
 $\Leftarrow$ *anka* is strong enough to reach worlds as remote as those involving epistemic impossibilities, but not strong enough to reach less remote possibilities?

- *anka*-conditionals are underspecified and need strengthening to yield strong counterfactual meaning
 - ⇒ Rerunning history through past tense suggests that now is too late for states of affairs to change
- By contrast, impossible conditionals can be expressed through simple modal X-marking given their temporal independence and they are naturally strengthened by mere opposition with O-marking

Outlook and Conclusions

- These findings point to a division of labour in Akan X-marked conditionals:
 - ▶ a dedicated X-marker contributing modal remoteness
 - ▶ a temporal X-marker contributing backshifting

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- This distinction between modal and temporal remoteness converges with observations in Mizuno (2023) and Mizuno & S. Kaufmann (2019) for Japanese and M. Kaufmann & Todorović (2024) for Serbian.

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 - Interplay of modal and temporal X-markers can produce remoteness strengthening
 - This distinction between modal and temporal remoteness converges with observations in Mizuno (2023) and Mizuno & S. Kaufmann (2019) for Japanese and M. Kaufmann & Todorović (2024) for Serbian.
- (25) *Fake Past Generalization* (to be tested):
Languages with dedicated modal X-marking do not repurpose past tense morphology

- Challenges to PaP approaches in von Fintel & Iatridou (2023) are only apparent (cf. S. Kaufmann 2023)

(26) *Impossible conditional*

If there had been no big bang, we wouldn't be here.

(27) *FLV*

If Monica came to the party tonight, we'd have caipirinhas.

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(26) *Impossible conditional*

If there had been no big bang, we wouldn't be here.

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If Monica came to the party tonight, we'd have caipirinhas.

Open Questions

- *anka* forms a constituent with the consequent, but backshifting past occurs in the antecedent
- Can any past/distal tense rerun history?
- What's the temporal ordering imposed by TAM markers and what licenses past tense doubling?
 ⇐ Akan is not an SoT language (Armenante 2024)

Medaase!

Thank you!

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Countermathematicals

(28) Target: *If 9 were even, it would be divisible by two.*

- a. Sɛ (#ná) 9 so áà, **anka** 2 bɛ-tumi a-kyɛ.
 COND DIST 9 more REL X 2 FUT-be.able CONS-divide
 Intended: 'If 9 were one unit higher, 2 would be able to divide (it).'

Backshifting conditionals

(29) Context (future): Yesterday you missed the weekly football game because of prior commitments. Incidentally, the only day you had free this week was tomorrow. You say:

a. Sɛ yɛ-bɔ-ɔ ball nɔ ɔkyena áà, anka
COND 1PL.S-play-PST football DEF tomorrow REL X
mɛ-ba.

1SG.FUT-come

'If we had played tomorrow, I would have come.'

b. #Sɛ yɛ-bɔ ball nɔ ɔkyena áà, anka
COND 1PL.S-play football DEF tomorrow REL X
mɛ-ba.

1SG.S.FUT-come

lit. 'If we play tomorrow, I would come.'

Future Anderson conditionals

- (30) Context (Future): Kofi and his flatmates take turns in cooking during the week. Yesterday was Kofi's turn. Unfortunately Ama was out of town and will only be back tomorrow. That's a pity, cause she loves Kofi's food.
- (31) Kofi yε-ε aduan nó nnora....
 Kofi do-PST food DEF yesterday
 'Kofi cooked yesterday..'
- a. #Sε ɔkyena na ɔ-noa-à aduane mmom áà,
 COND tomorrow FOC 3SG-cook-PST food rather REL
 anka Ama ani bε-gye.
 X Ama eyes FUT-glitter
 'If Kofi had cooked tomorrow instead, Ama would have been happy.'

- b. Sɛ ɔ-noa aduane ɔkyena áà, anka Ama ani
 COND 3SG-cook food tomorrow REL X Ama eyes
 bɛ-gye.
 FUT-glitter
 'If Kofi cooked tomorrow, Ama would be happy.'
- c. #Sɛ ɔ-noa-à aduane ɔkyena áà, anka Ama ani
 COND 3SG-cook-PST food tomorrow REL X Ama eyes
 bɛ-gye.
 FUT-glitter
 'If Kofi had cooked tomorrow, Ama would have been happy.'