The expression of exhaustivity and scalarity in Burmese

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Colloquial Burmese *ŋa* appears to have two uses:

(1) **Exhaustive *ŋa* (cleft):**

Aung-ŋa ye-ko-*ŋa* ʔauʔ-kɛ-dɛ.
Aung-NOM water-ACC-MA drink-PAST-REAL

‘It’s WATER that Aung drank.’
Colloquial Burmese *ma* appears to have two uses:

(1) **Exhaustive ma (cleft):**
Aung-ga ye-ko-*ma* ʔauʔ-kɛ-dɛ.
Aung-NOM water-ACC-MA drink-PAST-REAL
‘It’s WATER that Aung drank.’

(2) **Scalar ma (‘even’-like):**
Aung-ga ye-ko-*ma* mə-ʔauʔ-kɛ-dar.
Aung-NOM water-ACC-MA NEG-drink-PAST-DAR
≈ ‘Aung didn’t even drink WATER.’
• John Okell’s 1969 reference grammar says there are two ṭa:

\[
\begin{align*}
\text{hmá ṭ A} & \quad \text{‘only if, only when’} \\
\text{hmá ṭ B} & \quad \text{‘emphatic, even, so much as’}
\end{align*}
\]

with no description of their distribution.
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with no description of their distribution.

• We show that the scalar reading requires the combination of  
local negation and sentence-final –dar.
Proposal

- $m_{\alpha C}(p)(w^*)$ introduces the not-at-issue content:

  $$\forall q \in C \ [q \prec_{\text{likely}} p \rightarrow \neg q(w^*)]$$

  “All less likely alternatives are false.”

  At-issue meaning is unaffected.

  ($\approx$ Velleman et al 2012’s semantics for English *it* clefts.)
Proposal

- $m \alpha_C(p)(w^*)$ introduces the not-at-issue content:

$$\forall q \in C \ [q \ <_{\text{likely}} p \rightarrow \neg q(w^*)]$$

“All less likely alternatives are false.”

At-issue meaning is unaffected.

($\approx$ Velleman et al 2012’s semantics for English *it* clefts.)

- $C$ includes conjunctive alternatives
Exhaustive \( \text{ma} \)

Aung drank water

Aung drank beer
Exhaustive *ma*

- Aung drank water
- Aung drank beer
- Aung drank water and beer
Exhaustive *ma*

Aung drank water  
\(\check{\text{likely}}\)

Aung drank water and beer

Aung drank beer  
\(\check{\text{likely}}\)
Exhaustive *ma*

Aung drank water $>_{\text{likely}}$ Aung drank beer

$\backslash$ likely  $\backslash$ likely

Aung drank water and beer
Exhaustive *ma*

- Aung drank water
  - prejacent
- Aung drank beer
  - likely
- Aung drank water and beer
  - likely

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New & Erlewine
Exhaustive *ma*

\[ m_\alpha C(p) \sim \neg \text{beer} \land \neg (\text{water} \land \text{beer}) \]
Exhaustive *mā*

\[ \text{prejacent} \]

Aung drank water \( \triangleright \text{likely} \) Aung drank beer

Aung drank water and beer \( \triangleleft \text{likely} \)

\[ mα_c(p) \sim \neg \text{beer} \land \neg (\text{water} \land \text{beer}) \]

Together with \( p = \text{water} \), \( \Rightarrow \neg \text{beer} \)

*Exhaustive*: ‘It’s water that Aung drank.’ = (1)
Exhaustive .RowHeaders{ma}

Aung drank water  >_{likely}  Aung drank beer

\n
Aung drank water and beer
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Exhaustive $mα$

Aung drank water $>_\text{likely}$ Aung drank beer

$>_\text{likely}$

Aung drank water and beer

$mα_c(p) \sim \neg (\text{water} \land \text{beer})$
Exhaustive dataProvider

Aung drank water  > likely  Aung drank beer

\[ \neg \text{likely} \]

Aung drank water and beer

\[ \neg \text{likely} \]

\[ m_a c(p) \sim \neg (\text{water} \land \text{beer}) \]

Together with \( p = \text{beer}, \Rightarrow \neg \text{water} \)

Exhaustive: ‘It’s beer that Aung drank.’
$ma$ under negation

prejacent

Aung drank water

>likely

Aung drank beer

>likely

Aung drank water and beer
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\[ m_a \text{ under negation} \]

Aung drank water

\text{prejacent}

\text{Aung drank beer}

\text{\textgreater{} likely}

\text{Aung drank water and beer}

\text{\textless{} likely}

\text{Neg\textit{(m}_a\textit{C}(p))) at-issue: \neg water}
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$mα$ under negation

\begin{align*}
\text{prejacent} & \\
\text{Aung drank water} & \text{>likely} & \text{Aung drank beer} \\
\text{\textless\ likely} & & \text{\textless\ likely} \\
\text{Aung drank water and beer} & & \\
\end{align*}

$\text{NEG}(m\alpha_C(p))$ at-issue: $\neg\text{water}$

$m\alpha_C(p) \sim \neg\text{beer} \land \neg(\text{water} \land \text{beer})$

Together, $\Rightarrow \neg\text{beer}$
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### $\mathfrak{ma}$ under negation

- **Prejacent**
  - Aung drank water
  - $\triangleright_{\text{likely}}$ Aung drank beer
  - $\triangleleft_{\text{likely}}$ Aung drank water and beer

### Logic Form (LF)

- $\neg \mathfrak{ma}_c(p)$ at-issue: $\neg \text{water}$
- $\mathfrak{ma}_c(p) \sim \neg \text{beer} \land \neg (\text{water} \land \text{beer})$

Together, $\Rightarrow \neg \text{beer}$
The expression of exhaustivity and scalarity in Burmese

*ma* under negation

Aung drank water >_likely Aung drank beer

Aung drank water and beer

\[
\text{LF:}
\]

\[
P \quad \neg \quad m\alpha_C
\]
The expression of exhaustivity and scalarity in Burmese

$mα$ under negation

Aung drank water $>_\text{likely}$ Aung drank beer

Aung drank water and beer

$\text{NEG}(mα_c(p))$ at-issue: $\neg$beer
The expression of exhaustivity and scalarity in Burmese

$\mathfrak{ma}$ under negation

Aung drank water

$\neg$ likely

Aung drank water and beer

$\neg$ likely

$\neg$ likely

$\neg$ beer

$\neg (\text{water} \land \text{beer})$

$\neg \mathfrak{ma}_C(p)$ at-issue: $\neg \text{beer}$

$\mathfrak{ma}_C(p) \leadsto \neg (\text{water} \land \text{beer})$

LF:

$\mathfrak{ma}_C$

$\neg$

P

$\mathfrak{ma}_C$

prejacent

Aung drank beer
Aung drank water

Aung drank beer

Aung drank water and beer

\(\neg \text{beer} \)

Here, \(m_0A\) contributes nothing!
Therefore ungrammatical by Non-Vacuity (\v{C}rnic 2011)
Upshot

- *ma* references likelihood, but does not express that the prejacent is low or high on the scale (cf. *even*).
Upshot

• m̥a references likelihood, but does not express that the prejacent is low or high on the scale (cf. even).

• Nonetheless, under negation, the use of m̥a requires that there are less likely alternatives and that they are false.
Upshot

• $ma$ references likelihood, but does not express that the prejacent is low or high on the scale (cf. even).
• Nonetheless, under negation, the use of $ma$ requires that there are less likely alternatives and that they are false.
• With wide scope, $ma$ is always grammatical as an exhaustive.
At the poster

- The function of sentence-final –*dar*

- *Wh-ŋa* NPIs:

  (3) ŋa ɓɛ-panθi-ko-*ŋa*  mɛ-yu-κɛ-bu.
  1 which-apple-ACC-MA  NEG-take-PAST-NEG
  ‘I didn’t take any apple(s).’

- Snacks from Singapore

Thank you!