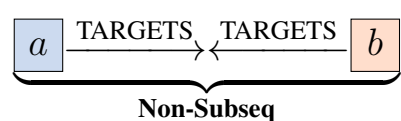
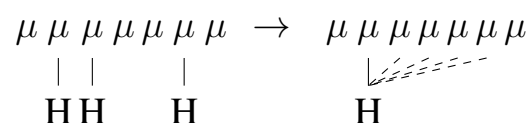


Overview

- **Research question:** What is the computational nature of tone processes?
- **Background:** Tone includes *unbounded circumambient* (UC) processes which are **non-subsequential** (Jardine, 2016).



- Example: unbounded tone plateauing (UTP; Hyman and Katamba, 2010)

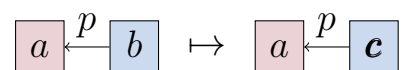


- **Result:** Extending subsequentiality to autosegmental representations (ARs; Goldsmith 1976 et seq.) captures UC patterns.

Logical Definitions

- QF logical transductions with recursion offer a representation-independent notion of subsequentiality (Chandlee and Jardine, 2019)

$$c(x) \stackrel{\text{def}}{=} b(x) \wedge a(p(x))$$

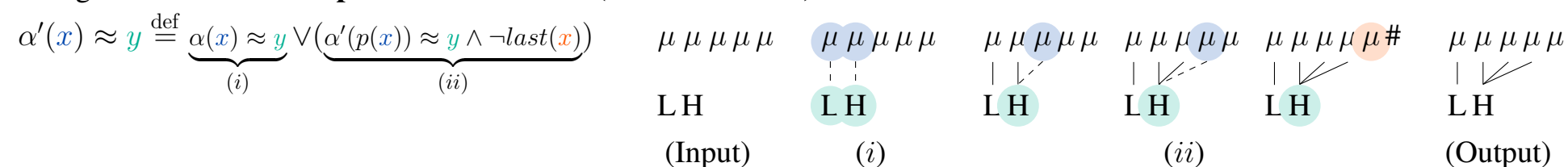


- The equation represents a phonological process that turns *b* into *c* after *a*.

Analyses

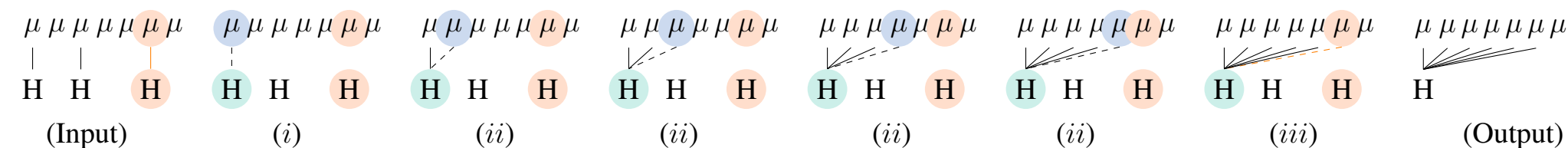
AR mappings involve definition of $\alpha'(x) \approx y$

Cilungu: **Unbounded H Spread to the Penult** (Bickmore 1996)



Luganda: **Unbounded Tone Plateauing** (Hyman and Katamba, 2010)

$$\mathbf{a}: R(x, y) \stackrel{\text{def}}{=} \underbrace{(\alpha(x) \approx y \wedge \text{first}(y))}_{(i)} \vee \underbrace{(R(p(x), y) \wedge \neg(\text{last}(\alpha(x))))}_{(ii)} \quad \mathbf{b}: \alpha'(x) \approx y \stackrel{\text{def}}{=} R(x, y) \vee \underbrace{(\text{last}(\alpha(x)) \wedge \text{first}(y))}_{(iii)}$$



Similar analysis also possible for unbounded blocking of spreading in Copperbelt Bemba (Bickmore and Kula 2013, 2015; cf. handout)

Discussion

- Fixing the complexity but enriching the representation captures these UC processes
- This supports the hypothesis that ARs are the right representation for tone (Jardine, 2018, Hyman 2014)
- Provides further evidence for the subsequentiality of phonological processes (Heinz and Lai, 2013)
- Specifically, representation is a key part of the hypothesis (see also Rogers et al. 2013, Jardine and Heinz 2016)
- What about non-myopic vowel harmony in Tutrugbu (McCollum and Essegbey, 2018)?
- The full expressivity of this formalism over ARs has yet to be examined
- For more details and handout, please visit:



Acknowledgements

We thank the members of Jardine's 2019 seminar on logical descriptions of phonological processes as well as the members of PhonX and MathLing (The Rutgers phonetics & phonology and the mathematical/computational linguistics reading groups, respectively).

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