

Repeat I times:

For every agent A :

1. With probability $\frac{\gamma}{n}$ let agent A add a new distributed vowel
2. Let agent A merge their vowels until no merges are possible
3. Select random neighbour B with probability = $1/4$
4. Play the imitation game:

1. **A:** Select random vowel \mathbf{v}_A from repertoire, synthesise and send it. If no vowels in repertoire, generate random vowel.
2. **B:** Receive synthesised vowel \mathbf{v}'_A and find the closest repertoire match \mathbf{v}_B . If no vowels in repertoire, generate new vowel as close as possible to \mathbf{v}_A .
3. **B:** Send synthesised closest match \mathbf{v}'_B as response.
4. **A:** Receive synthesised response \mathbf{v}'_B and find closest repertoire match.
5. **A:** Send *True* if closest match is \mathbf{v}_A , otherwise send *False*.
6. **B:** Receive success boolean. If *True*, shift \mathbf{v}_B closer to \mathbf{v}_A , if *False* and \mathbf{v}_B success rate $> \beta_S$, move \mathbf{v}_B away from \mathbf{v}_A and generate new vowel as close as possible to \mathbf{v}_A , otherwise still shift \mathbf{v}_B closer to \mathbf{v}_A .

5. With probability α let all agents remove vowels with success rate $< \beta_H$

