

# Comparing the incomparable

Michael Cysouw

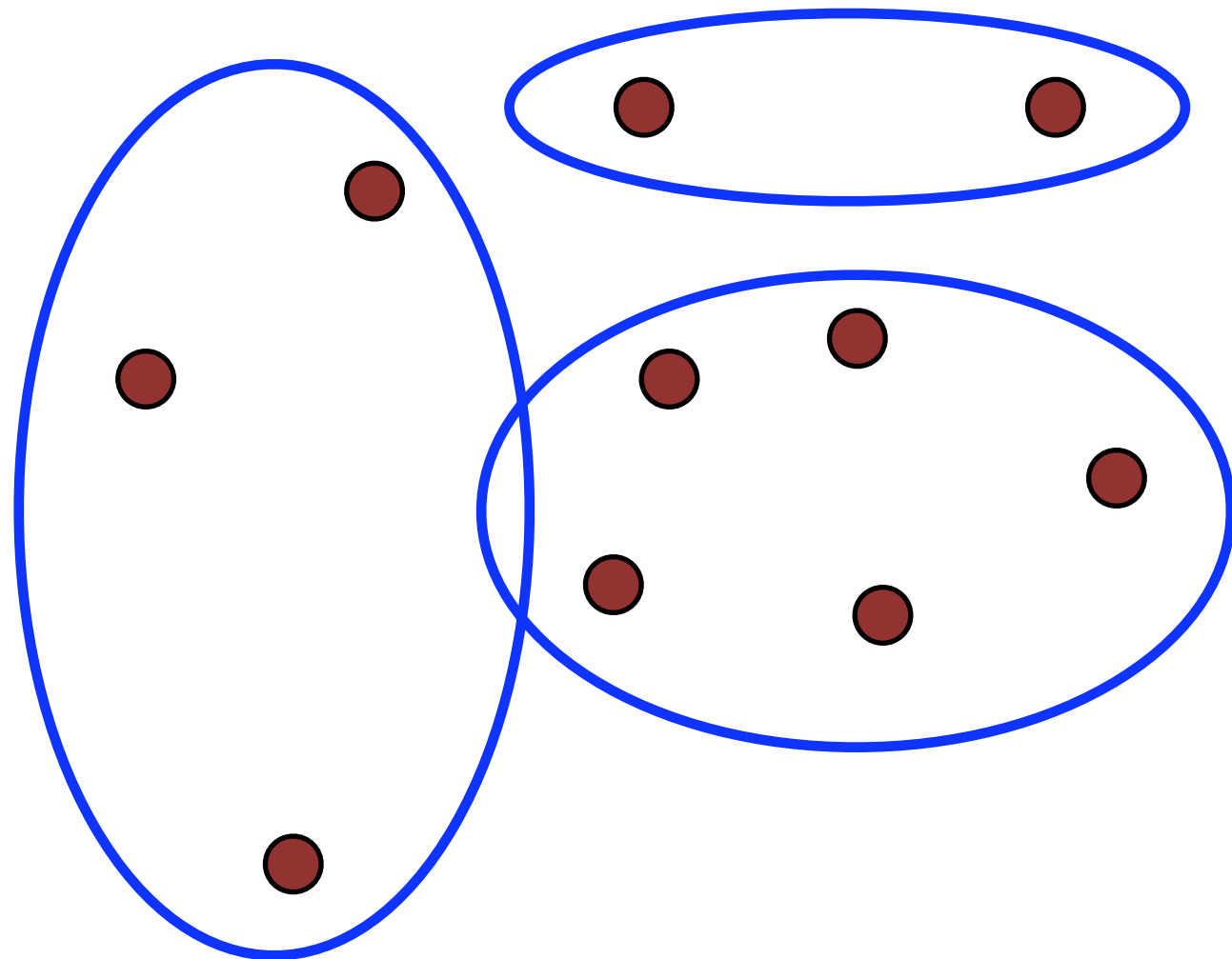
*Max Planck Institute for Evolutionary Anthropology  
Meeting Forschergruppe 'Verbale Argumente'*

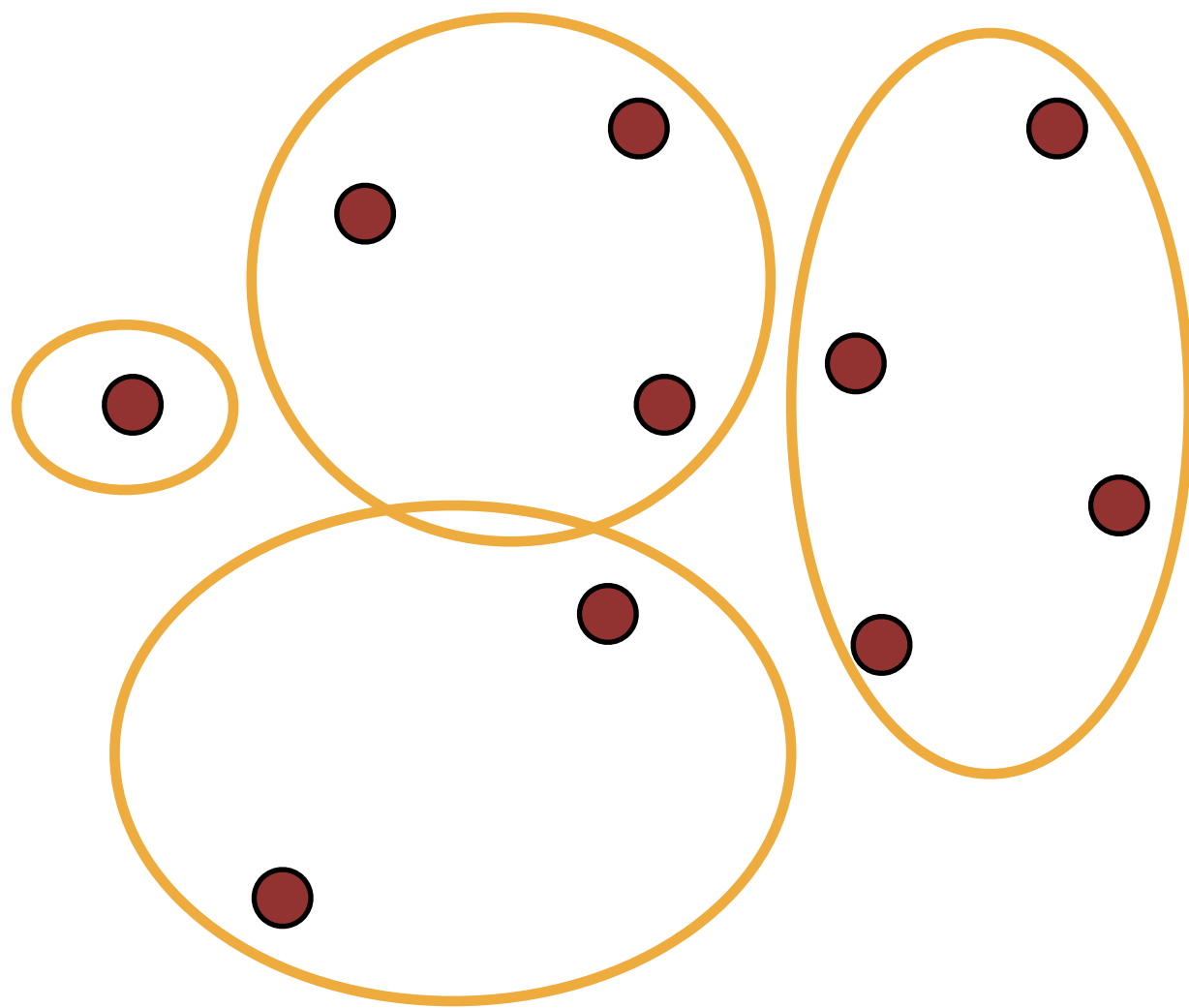
|                               | Nias      | Wappo    | Maasai       |
|-------------------------------|-----------|----------|--------------|
| S intransitive predicate      | mutated   | -i       | lowered tone |
| A transitive predicate        | unmutated | -i       | lowered tone |
| P transitive predicate        | mutated   | ∅        | lexical tone |
| citation form                 | unmutated | ∅        | lexical tone |
| vocative                      | ?         | ∅        | lexical tone |
| S nominal predication         | mutated   | ∅        | lowered tone |
| Predicate nominal predication | unmutated | ∅        | lexical tone |
| S existential clause          | mutated   | -i       | ?            |
| S locational clause           | mutated   | -i       | lowered tone |
| comparee                      | mutated   | -i       | ?            |
| base of comparison            | unmutated | ∅        | ?            |
| S in Topic/Focus              | unmutated | -i       | lexical tone |
| attributive possessor         | mutated   | genitive | ?            |
| predicative possessor         | mutated   | -i       | ?            |
| predicative possessee         | mutated   | ∅        | ?            |
| S in subordinate clause       | ?         | ∅        | lowered tone |
| causer                        | unmutated | -i       | lexical tone |
| other valence increase        | mutated   | ?        | lexical tone |
| S of passive/antipassive      | unmutated | -i       | lexical tone |
| base of inflection            | ?         | ∅        | ?            |
| base of compounding           | ?         | ∅        | ?            |

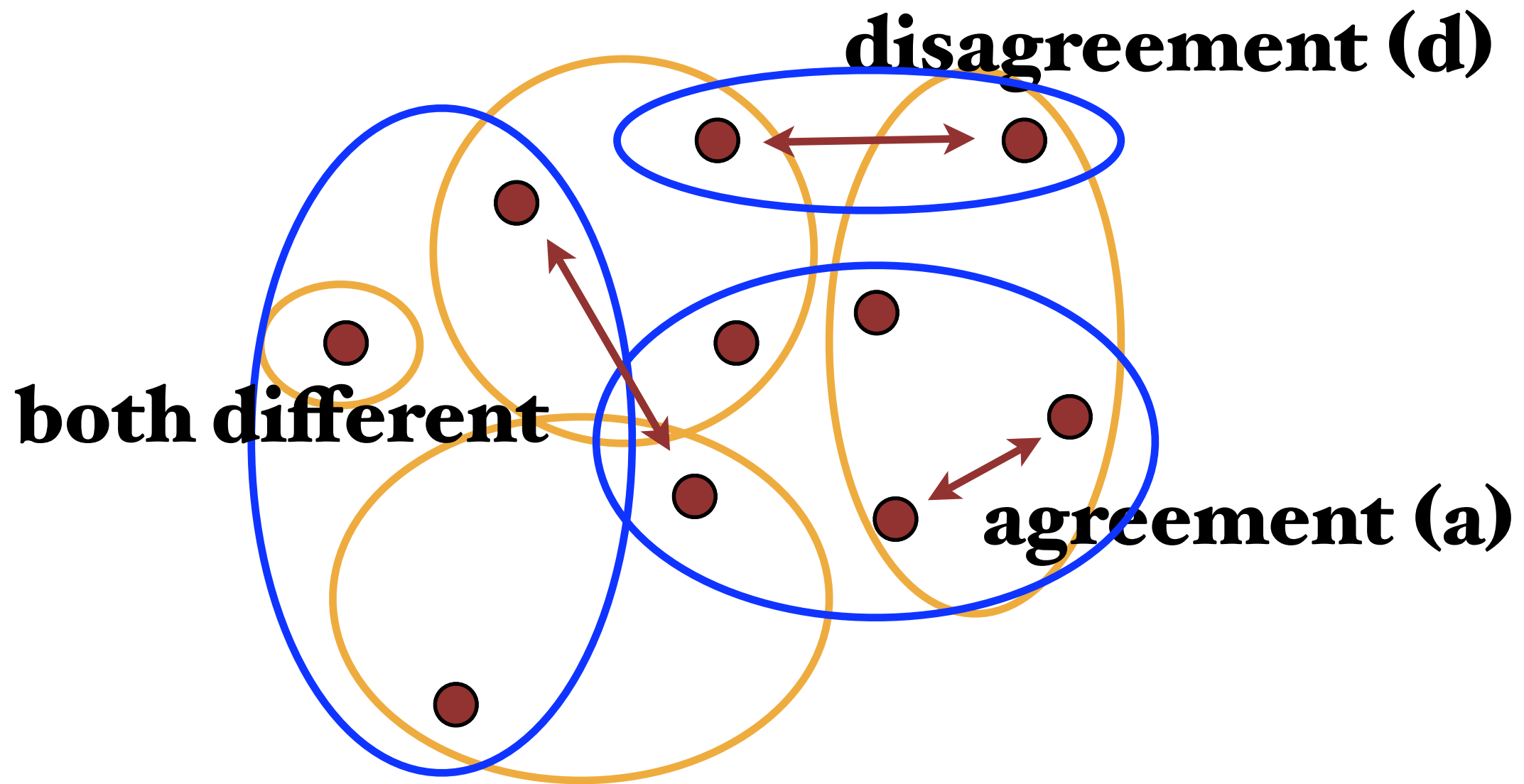
|                               | Nias      | Wappo    | Maasai       |
|-------------------------------|-----------|----------|--------------|
| S intransitive predicate      | mutated   | -i       | lowered tone |
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| citation form                 | unmutated | ∅        | lexical tone |
| vocative                      | ?         | ∅        | lexical tone |
| S nominal predication         | mutated   | ∅        | lowered tone |
| Predicate nominal predication | unmutated | ∅        | lexical tone |
| S existential clause          | mutated   | -i       | ?            |
| S locational clause           | mutated   | -i       | lowered tone |
| comparee                      | mutated   | -i       | ?            |
| base of comparison            | unmutated | ∅        | ?            |
| S in Topic/Focus              | unmutated | -i       | lexical tone |
| attributive possessor         | mutated   | genitive | ?            |
| predicative possessor         | mutated   | -i       | ?            |
| predicative possessee         | mutated   | ∅        | ?            |
| S in subordinate clause       | ?         | ∅        | lowered tone |
| causer                        | unmutated | -i       | lexical tone |
| other valence increase        | mutated   | ?        | lexical tone |
| S of passive/antipassive      | unmutated | -i       | lexical tone |
| base of inflection            | ?         | ∅        | ?            |
| base of compounding           | ?         | ∅        | ?            |

# Comparing languages

|                               | Nias      | Wappo    | Maasai       |
|-------------------------------|-----------|----------|--------------|
| S intransitive predicate      | mutated   | -i       | lowered tone |
| A transitive predicate        | unmutated | -i       | lowered tone |
| P transitive predicate        | mutated   | ∅        | lexical tone |
| citation form                 | unmutated | ∅        | lexical tone |
| vocative                      | ?         | ∅        | lexical tone |
| S nominal predication         | mutated   | ∅        | lowered tone |
| Predicate nominal predication | unmutated | ∅        | lexical tone |
| S existential clause          | mutated   | -i       | ?            |
| S locational clause           | mutated   | -i       | lowered tone |
| comparee                      | mutated   | -i       | ?            |
| base of comparison            | unmutated | ∅        | ?            |
| S in Topic/Focus              | unmutated | -i       | lexical tone |
| attributive possessor         | mutated   | genitive | ?            |
| predicative possessor         | mutated   | -i       | ?            |
| predicative possessee         | mutated   | ∅        | ?            |
| S in subordinate clause       | ?         | ∅        | lowered tone |
| causer                        | unmutated | -i       | lexical tone |
| other valence increase        | mutated   | ?        | lexical tone |
| S of passive/antipassive      | unmutated | -i       | lexical tone |
| base of inflection            | ?         | ∅        | ?            |
| base of compounding           | ?         | ∅        | ?            |







Jaccard distance:

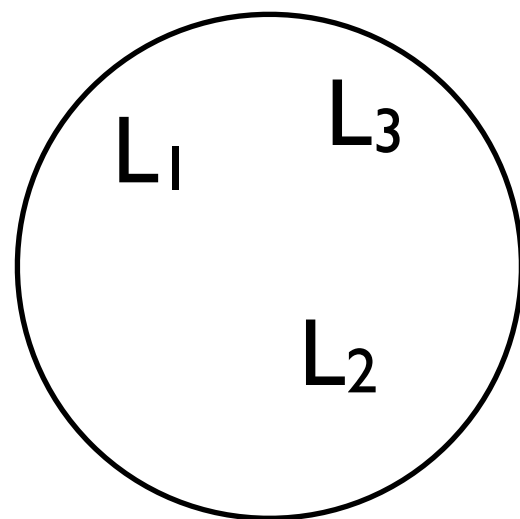
$$d/a+d$$



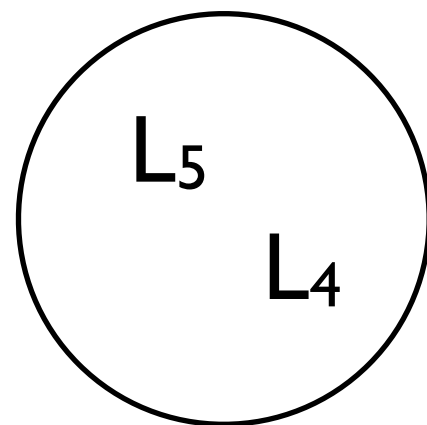
# Typology without Types

|          | Nias | Wappo | Diegueño | Mojave | Maidu | Aymara | Maasai | Turkana | Dinka | K'abeena |
|----------|------|-------|----------|--------|-------|--------|--------|---------|-------|----------|
| Nias     | 0    | 74    | 71       | 76     | 79    | 82     | 63     | 76      | 80    | 73       |
| Wappo    | 74   | 0     | 47       | 62     | 79    | 75     | 73     | 72      | 75    | 66       |
| Diegueño | 71   | 47    | 0        | 38     | 89    | 83     | 50     | 83      | 67    | 82       |
| Mojave   | 76   | 62    | 38       | 0      | 75    | 70     | 69     | 85      | 0     | 78       |
| Maidu    | 79   | 79    | 89       | 75     | 0     | 0      | 67     | 83      | 75    | 54       |
| Aymara   | 82   | 75    | 83       | 70     | 0     | 0      | 57     | 75      | 67    | 57       |
| Maasai   | 63   | 73    | 50       | 69     | 67    | 57     | 0      | 75      | 0     | 65       |
| Turkana  | 76   | 72    | 83       | 85     | 83    | 75     | 75     | 0       | 33    | 70       |
| Dinka    | 80   | 75    | 67       | 0      | 75    | 67     | 0      | 33      | 0     | 75       |
| K'abeena | 73   | 66    | 82       | 78     | 54    | 57     | 65     | 70      | 75    | 0        |

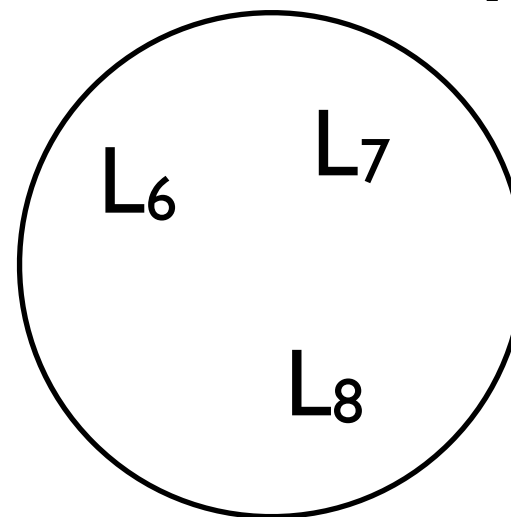
Type A



Type B



Type C



Type A

Type B

Type C

|                | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>7</sub> | L <sub>8</sub> | ... |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
| L <sub>1</sub> | 0              | 0              | 0              | 1              | 1              | 1              | 1              | 1              |     |
| L <sub>2</sub> | 0              | 0              | 0              | 1              | 1              | 1              | 1              | 1              |     |
| L <sub>3</sub> | 0              | 0              | 0              | 1              | 1              | 1              | 1              | 1              |     |
| L <sub>4</sub> | 1              | 1              | 1              | 0              | 0              | 1              | 1              | 1              |     |
| L <sub>5</sub> | 1              | 1              | 1              | 0              | 0              | 1              | 1              | 1              |     |
| L <sub>6</sub> | 1              | 1              | 1              | 1              | 1              | 0              | 0              | 0              |     |
| L <sub>7</sub> | 1              | 1              | 1              | 1              | 1              | 0              | 0              | 0              |     |
| L <sub>8</sub> | 1              | 1              | 1              | 1              | 1              | 0              | 0              | 0              |     |
| ...            |                |                |                |                |                |                |                |                |     |

Undifferentiated Typology

Type A

Type B

Type C

|                | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>7</sub> | L <sub>8</sub> | ... |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
| L <sub>1</sub> | 0              | 0              | 0              | 0.37           | 0.37           | 0.28           | 0.28           | 0.28           |     |
| L <sub>2</sub> | 0              | 0              | 0              | 0.37           | 0.37           | 0.28           | 0.28           | 0.28           |     |
| L <sub>3</sub> | 0              | 0              | 0              | 0.37           | 0.37           | 0.28           | 0.28           | 0.28           |     |
| L <sub>4</sub> | 0.37           | 0.37           | 0.37           | 0              | 0              | 0.58           | 0.58           | 0.58           |     |
| L <sub>5</sub> | 0.37           | 0.37           | 0.37           | 0              | 0              | 0.58           | 0.58           | 0.58           |     |
| L <sub>6</sub> | 0.28           | 0.28           | 0.28           | 0.58           | 0.58           | 0              | 0              | 0              |     |
| L <sub>7</sub> | 0.28           | 0.28           | 0.28           | 0.58           | 0.58           | 0              | 0              | 0              |     |
| L <sub>8</sub> | 0.28           | 0.28           | 0.28           | 0.58           | 0.58           | 0              | 0              | 0              |     |
| ...            |                |                |                |                |                |                |                |                |     |

Differentiated Typology

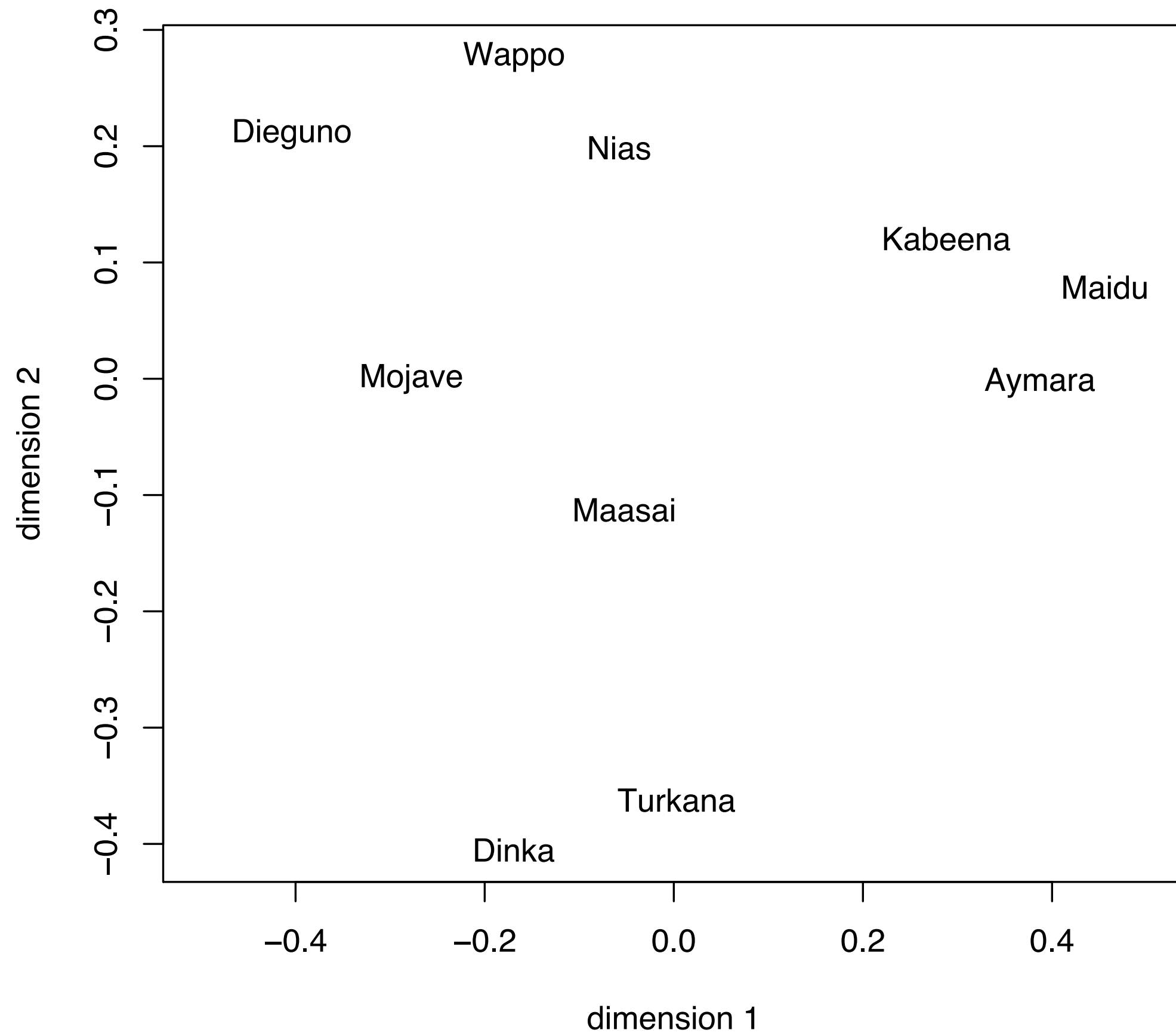
|                | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>7</sub> | L <sub>8</sub> | ... |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
| L <sub>1</sub> | 0              | 0.55           | 0.72           | 0.31           | 0.70           | 0.61           | 0.50           | 0.58           |     |
| L <sub>2</sub> | 0.55           | 0              | 0.55           | 0.31           | 0.40           | 0.44           | 0.31           | 0.48           |     |
| L <sub>3</sub> | 0.72           | 0.55           | 0              | 0.29           | 0.53           | 0.51           | 0.48           | 0.60           |     |
| L <sub>4</sub> | 0.31           | 0.31           | 0.29           | 0              | 0.38           | 0.36           | 0.26           | 0.27           |     |
| L <sub>5</sub> | 0.70           | 0.40           | 0.53           | 0.38           | 0              | 0.64           | 0.51           | 0.46           |     |
| L <sub>6</sub> | 0.61           | 0.44           | 0.51           | 0.36           | 0.64           | 0              | 0.57           | 0.43           |     |
| L <sub>7</sub> | 0.50           | 0.31           | 0.48           | 0.26           | 0.51           | 0.57           | 0              | 0.47           |     |
| L <sub>8</sub> | 0.58           | 0.48           | 0.60           | 0.27           | 0.46           | 0.43           | 0.47           | 0              |     |
| ...            |                |                |                |                |                |                |                |                |     |

**‘Deconstructed’ Typology, or: Typology without Types**

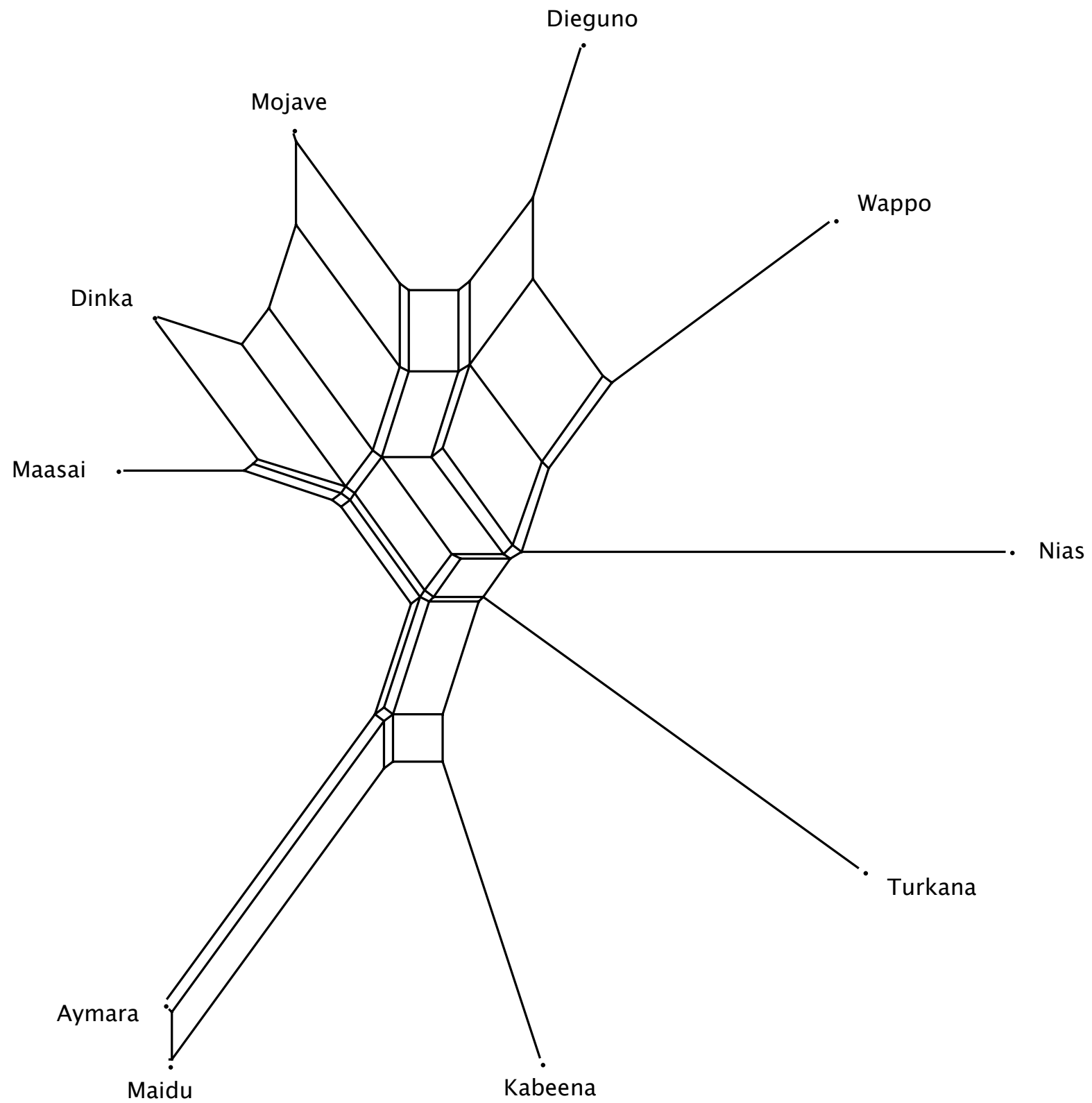
# Typology without Types

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| Mojave   | 76   | 62    | 38       | 0      | 75    | 70     | 69     | 85      | 0     | 78       |
| Maidu    | 79   | 79    | 89       | 75     | 0     | 0      | 67     | 83      | 75    | 54       |
| Aymara   | 82   | 75    | 83       | 70     | 0     | 0      | 57     | 75      | 67    | 57       |
| Maasai   | 63   | 73    | 50       | 69     | 67    | 57     | 0      | 75      | 0     | 65       |
| Turkana  | 76   | 72    | 83       | 85     | 83    | 75     | 75     | 0       | 33    | 70       |
| Dinka    | 80   | 75    | 67       | 0      | 75    | 67     | 0      | 33      | 0     | 75       |
| K'abeena | 73   | 66    | 82       | 78     | 54    | 57     | 65     | 70      | 75    | 0        |

# Investigating the structure of the typology



# Investigating the structure of the typology





# Comparing contexts

