**LIN6049 Advanced Semantics: Puzzles in Meaning**
**2022/2023**

# Handout 2: Grammatical number II

Obligatory reading: Corbett (2000), pp. 166-169
Optional readings: any of the references at the end

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## 1 From last time

Two number features:

**[±atomic] (sensitive to simple/atomic vs. complex/non-atomic individuals)**

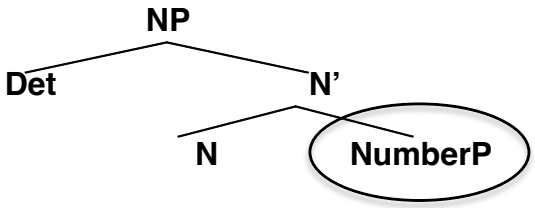
(1) $[\![\textbf{+atomic}]\!]^s$ = {x: x is a simple individual in s} = {x: x is an atomic individual in s}
$[\![\textbf{–atomic}]\!]^s$ = {x: x is a complex individual in s} = {x: x is a non-atomic individual in s}

**[±minimal] (sensitive to simplest vs. not simplest relative to the set it applies to)**

(2) If X = [ Y [+minimal] ] then for any s: $[\![\textbf{Y [+minimal]}]\!]^s$ = {x: x ∈ $[\![\textbf{Y}]\!]^s$ and x is simplest in $[\![\textbf{Y}]\!]^s$} = {x: x ∈ $[\![\textbf{Y}]\!]^s$ and x has no parts in $[\![\textbf{Y}]\!]^s$}

(3) If X = [ Y [–minimal] ] then for any s: $[\![\textbf{Y [–minimal]}]\!]^s$ = {x: x ∈ $[\![\textbf{Y}]\!]^s$ and x is not simplest in $[\![\textbf{Y}]\!]^s$} = {x: x ∈ $[\![\textbf{Y}]\!]^s$ and x has parts in $[\![\textbf{Y}]\!]^s$}

(4)




English is a [±atomic] system

(5) [–atomic] ⇒ *-s* (plural), [+atomic] ⇒ -∅ (singular)

(6) $[\![\sqrt{\textbf{student}}]\!]^s$ = {x: x is a student in s} = {a, b, c, d, ab, ac, ad, bc, bd, cd, abc, abd, acd, bcd, abcd}

(7) $[\![\sqrt{\textbf{student [+atomic]}}]\!]^s$ = $[\![\sqrt{\textbf{student}}]\!]^s$ ∩ $[\![\textbf{+atomic}]\!]^s$ = {x : x is an atomic individual in s and x is a student in s} = {a, b, c, d}

(8) $[\![\sqrt{\textbf{student [–atomic]}}]\!]^s$ = $[\![\sqrt{\textbf{student}}]\!]^s$ ∩ $[\![\textbf{–atomic}]\!]^s$ = {x : x is a non-atomic individual in s and x is a student in s} = {ab, ac, ad, bc, bd, cd, abc, abd, acd, bcd, abcd}

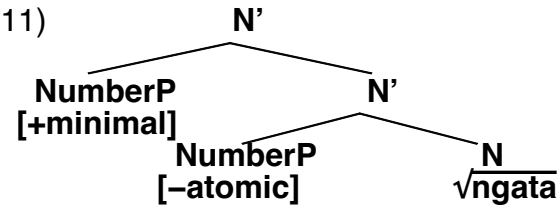
Imere is a [±minimal, ±atomic] system

(9) Imere number on nouns

| **singular** | **dual** | **plural** | |
|---|---|---|---|
| te-ngata | ruu-ngata | a-ngata | 'snake' |
| te-fare | ruu-fare | a-fare | 'house' |
| te-soa | ruu-soa | a-soa | 'friend' |

(10) [+minimal, –atomic] (2, dual) (simplest out of a set of complex things)
[–minimal, –atomic] (more than 2, plural) (not simplest out of a set of complex things)
[+minimal, +atomic] (1, singular) (simplest out of a set of simple things)
#[–minimal, +atomic] (~~not simplest out of a set of simple things~~)

(11)




[+minimal, –atomic] ⇒ *ruu-*
[–minimal, –atomic] ⇒ *a-*
[+minimal, +atomic] ⇒ *te-*

(12) $[\![\sqrt{\textbf{ngata}}]\!]^s$ = {x: x is a snake in s} = {a, b, c, d, ab, ac, ad, …, cd, abc, abd, acd, bcd, abcd}

(13) $[\![\textbf{[+minimal] [ [–atomic] } \sqrt{\textbf{ngata}}\textbf{]}]\!]^s$ = {ab, ac, ad, bc, bd, cd}

(14) $[\![\textbf{[–minimal] [ [–atomic] } \sqrt{\textbf{ngata}}\textbf{]}]\!]^s$ = {abc, abd, acd, bcd, abcd}

(15) $[\![\textbf{[+minimal] [ [+atomic] } \sqrt{\textbf{ngata}}\textbf{]}]\!]^s$ = {a, b, c, d}

Today: (a) argument for this decompositional analysis of the dual
(b) how to do trial, minimal and augmented
(c) argument for the need for [±atomic]

## 2 Why not just a dual feature?

Hypothesis A: languages with a dual have a [dual] feature (no combination of two features)

Hypothesis B: there is no such thing as a dual feature; the dual is always decomposed into [±minimal, ±atomic] (this is our analysis above)

Prediction made by hypothesis A: the dual does not depend on the existence of singular/plural. This prediction is made by this hypothesis because the hypothesized feature [+dual] is completely independent of [±minimal] or [±atomic]; we can have [+dual] without [±minimal] or [±atomic]. Thus, there should be languages that have a dual but no singular/plural

→**This prediction is incorrect**: there is no dual without singular/plural cross-linguistically (Greenberg 1966). That is, there is no language that we know of, dead or alive, that has a dual without also having singular/plural

Prediction made by Hypothesis B: the dual depends on the existence of singular/plural. This prediction is made by this hypothesis because part of the means for generating the dual ([–atomic]) already generate the plural (and, with the opposite-valued feature, [+atomic], the singular), so if you have the dual form, you have to have singular/plural forms. Thus, there shouldn't be languages that have a dual but no singular/plural.

→**This prediction is correct**: there is no dual without singular/plural cross-linguistically (Greenberg 1966). That is, there is no language that we know of, dead or alive, that has a dual without also having singular/plural

**⇒ therefore, Hypothesis B is superior to Hypothesis A**

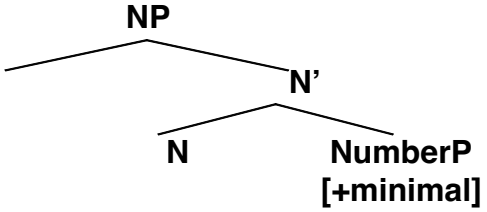
## 3 How to do more: [±minimal], and [±minimal] that can repeat

*Minimal-augmented languages ([±minimal] languages)*
Ilocano personal pronouns (suffixes on verbs) (Austronesian, Philippines) (Corbett 2000)

Two types of 1st person in some languages: 1st person exclusive ("I/we without you"), 1st person inclusive ("I/we with you")

| | **minimal** | **augmented** |
|---|---|---|
| **1ex** | -ko (**1** speaker) | -mi (**more than 1** speaker, no addressee) |
| **1in** | -ta (speaker + addressee; **2 people**) | -tayo (speaker + addressee + …; **more than 2 people**) |
| **2** | -mo (**1** addressee) | -yo (**more than 1** addressee) |
| **3** | -na (**1** other) | -da (**more than 1** of others) |

(16)




[+minimal] for 1st person inclusive ⇒ *-ta*

2 people involved because speaker+addressee is the simplest relative to the 1st person inclusive

(17) [+minimal] (1 in all persons but for 1st person inclusive, where it is 2)
[–minimal] (more than 1 in all persons but 1st person inclusive, where it is more than 2)

This cannot be achieved with [±atomic]: there is no sense in which *-ta* is [+atomic]

*Singular-dual-trial-plural languages ([±minimal, ±atomic] languages that repeat [±minimal])*
Larike pronouns (Austronesian, Indonesia) (Corbett 2000, Laidig and Laidig 1990):

| | **singular** | **dual** | **trial** | **plural** |
|---|---|---|---|---|
| **1ex** | aʔu | arua | aridu | ami |
| **1in** | – | itua | itidu | ite |
| **2** | ane | irua | iridu | imi |
| **3** | mane | matua | matidu | mati |

(18) [+minimal, –minimal, –atomic] (3, trial) (simplest out of a set of complex things without twosomes)

(19) [+minimal, –atomic] (2, dual) (simplest out of a set of complex things)
[–minimal, –atomic] (more than 2, plural) (not simplest out of a set of complex things)
[+minimal, +atomic] (1, singular) (simplest out of a set of simple things)

Corbett (2000: 26-30): number values such as quadral (for 4), or for greater exact quantities (5, 6, 7, 8, 9, etc.) do not exist. This is accounted for in this system **by prohibiting the feature [±minimal] from repeating with the same ± sign**:

(20) #[+minimal, –minimal, –minimal, –atomic] (4, quadral)
#[+minimal, –minimal, –minimal, –minimal, –atomic] (5, pental)
#[+minimal, –minimal, –minimal, –minimal, –minimal, –atomic] (6, sextal)

Constraint on the repetition of [±minimal]: #[–minimal, –minimal] and #[+minimal, +minimal]

## 4 Do we really need [±atomic]?

Hypothesis: [±atomic] is unnecessary, we can do everything we need to do with [±minimal] (which may or may not repeat; we wouldn't have the repetition constraint). For example:

Singular-plural: [±minimal]

(21) [+minimal] (1, singular)
[–minimal] (more than 1, plural)

Singular-dual-plural: [±minimal] that can repeat

(22) [+minimal, –minimal] (2, dual) (simplest out of a set of complex things)
[–minimal, –minimal] (more than 2, plural) (not simplest out of a set of complex things)
[+minimal, +minimal] (1, singular) (simplest out of a set of simplest things)

Singular-dual-trial-plural: [±minimal] that can repeat

(23) [+minimal, –minimal] (2, dual) (simplest out of a set of complex things)
[–minimal, –minimal] (more than 2, plural) (not simplest out of a set of complex things)
[+minimal, +minimal] (1, singular) (simplest out of a set of simplest things)
[+minimal, –minimal, –minimal] (3, trial) (simplest out of a set of complex things without twosomes)

**But now nothing stops us from generating quadrals, …etc., incorrectly:**

(24) [+minimal, –minimal, –minimal, –minimal] (4, quadral)
[+minimal, –minimal, –minimal, –minimal, –minimal] (5, pental)
[+minimal, –minimal, –minimal, –minimal, –minimal, –minimal] (6, sextal)

Corbett argues that not only are there no exact number values beyond 3, what people in the past thought was a quadral turns out to be a paucal—an approximative number value (which expresses a meaning similar to English *a few*). Our number theory so far does not allow us to generate approximative numbers, but Harbour (2014) adds one more feature that allows that to happen

References

Corbett, Greville. 2000. Number. Cambridge University Press
Greenberg, Joseph. 1966. Language universals, with special reference to feature hierarchies. The Hague. Mouton
Harbour, Daniel. 2014. Paucity, abundance, and the theory of number. Language 90, 185-229
Laidig, Wyn and Carol Laidig. 1990. Larike pronouns: duals and trials in a Central Moluccan language. Oceanic Linguistics 29, 87-109

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**Optional reading (on QM+):** any of the references above