

Introduction

- A linguistic object is a collection of **semantic**, **morphosyntactic** and **phonological** features (Chomsky 1965).
- When an item is merged, its semantic and phonological features become available immediately.
- Why assume that the integration of these features is delayed?
- The alternative: a **parallel derivational** grammar model.

Parallel derivation

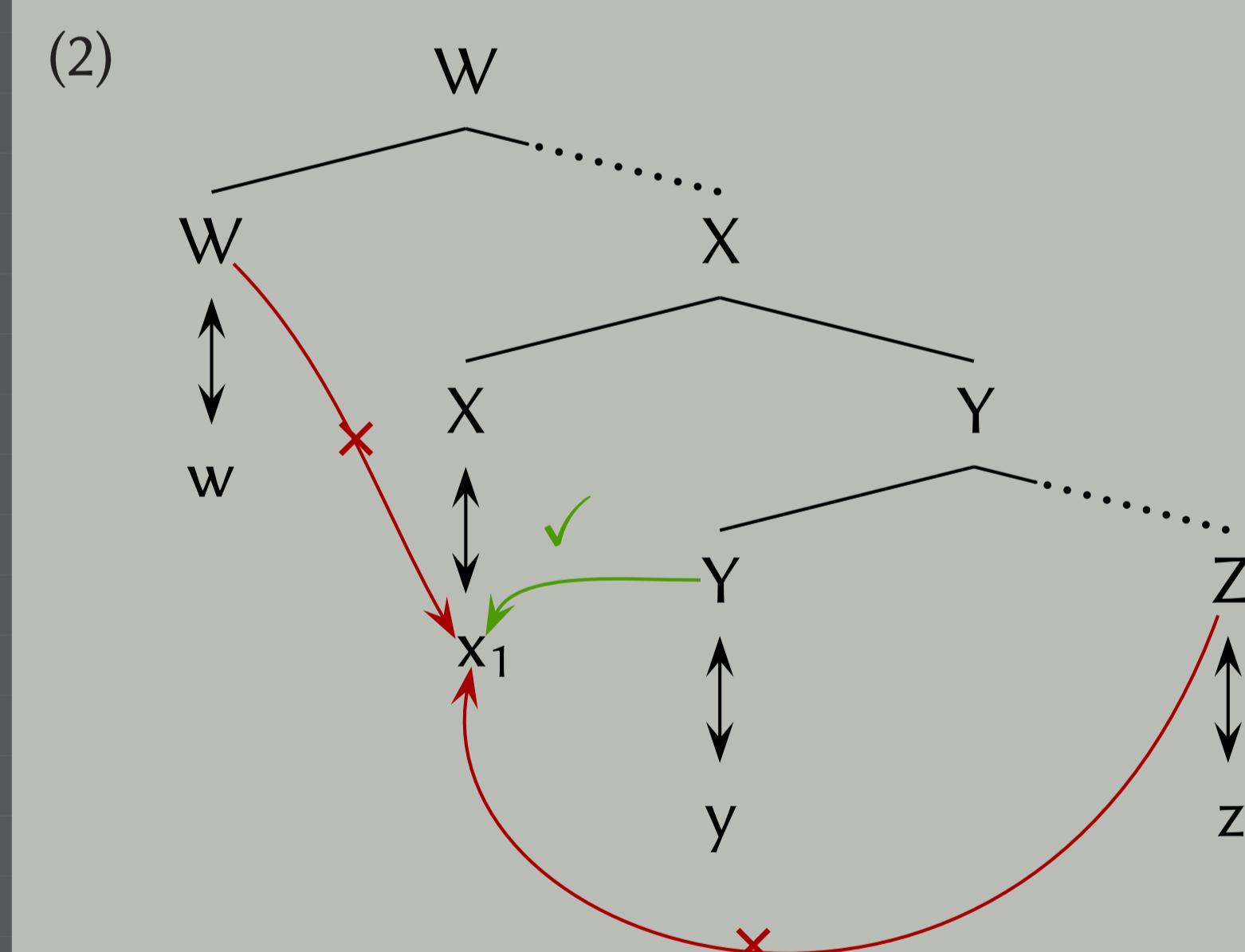
- A lexicon consisting of complex objects (*contra* DM; cf. Jackendoff 2002):

$$(1) \lambda x(\text{man}(x)) \leftrightarrow \begin{bmatrix} \text{N,sg} \\ \text{count} \end{bmatrix} \leftrightarrow /mæn/$$

- Merger of two elements combines not only the morphosyntactic features, but also the semantic and phonological features.
- Advantages:** a phonologically ill-formed structure can trigger a syntactic repair operation (Richards 2010, Kremers in preparation).

Direct, downward dependencies

- If each merge introduces a phonological form, **selecting a morphological exponent happens at merge**.
- The exponent can then only depend on the element it merges with:



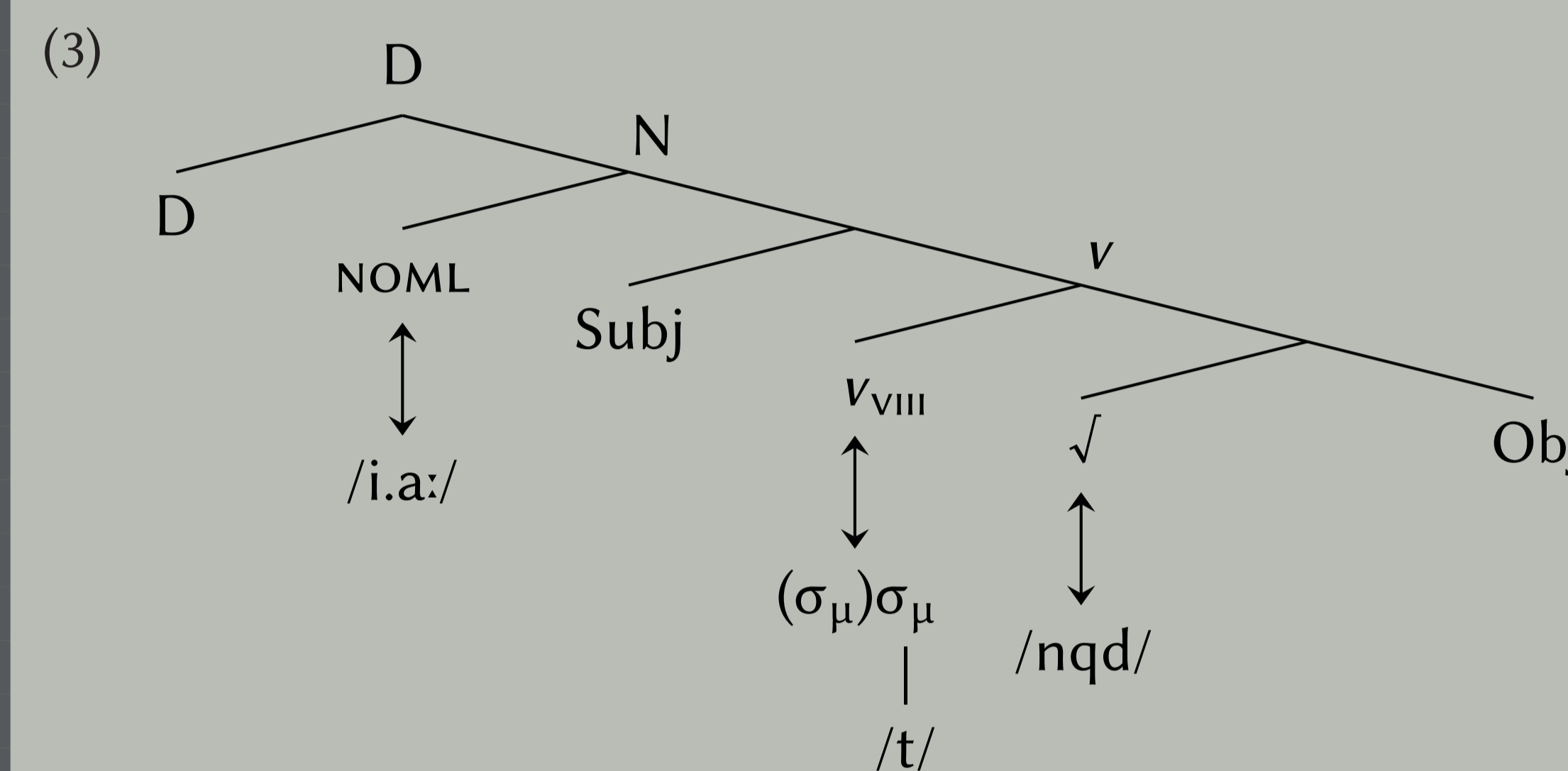
- X selects Y, so that the exponent of X (i.e., x) can depend on some (arbitrary) features of Y.
- X does not select Z or W, so that these cannot influence the selection of the exponent of X.

References

Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, MA: The MIT Press.
 Jackendoff, Ray. 2002. *Foundations of language: Brain, meaning, grammar, evolution*. Oxford: Oxford University Press.
 Kremers, Joost. 2012. Arabic verbal nouns as phonological head movement. In Gianina Iordăchioaia (ed.), *Working papers of the SFB 732 Incremental Specification in Context*. Stuttgart University.
 Kremers, Joost. in preparation. Parallel structures. Ms. University of Göttingen.
 Maiden, Martin. 2004. When lexemes become allomorphs – on the genesis of suppletion. *Folia Linguistica* 28(3–4), 227–256. doi:10.1515/flin.2004.38.3-4.227.
 McCarthy, John & Alan Prince. 1990. Prosodic morphology and templatic morphology. In Mushira Eid & John McCarthy (eds.), *Perspectives on Arabic linguistics II*, vol. 72, Current Issues in Linguistic Theory, 1–54. Amsterdam/Philadelphia: John Benjamins.
 Richards, Norvin. 2010. *Uttering trees*. Cambridge, MA: The MIT Press.

Arabic verbal nouns

- Arabic verbal nouns have three morphemes (Kremers 2012; cf. McCarthy & Prince 1990).
- Consider the form *(i)ntiqād* ‘criticising’:
 - Root:** /nqd/
 - Stem VIII marker:** $(\sigma_\mu)\sigma_\mu$
|
/t/
 - Nominaliser:** /i.a:/
- Arabic has 15 different verb stems: I–XV.
- The verb stem marker is analysed as a **verbaliser**, i.e., little v:



- The nominaliser /i.a:/ is the default form, but **marked forms** exist:
 - /ta.i/ for stem II
 - /a.u/ for stems v and vi
- However, NOML selects the stem marker (v). Therefore, in accordance with (2), the exponent of NOML may depend on features of v.
- There are no “upward” dependencies in Arabic verbal nouns.

Upward dependencies

- However, upward dependencies *do* exist.
- Stem alternations** occur in many languages: N-pattern (and similar) in Romance (Maiden 2004), German ablaut, etc.
- Consider German *nehmen* ‘to take’:

(4)

	sg	pl
1	<i>nehm-e</i>	<i>nehm-en</i>
2	<i>nimm-st</i>	<i>nehm-t</i>
3	<i>nimm-t</i>	<i>nehm-en</i>

- Two stem alternations in present tense:

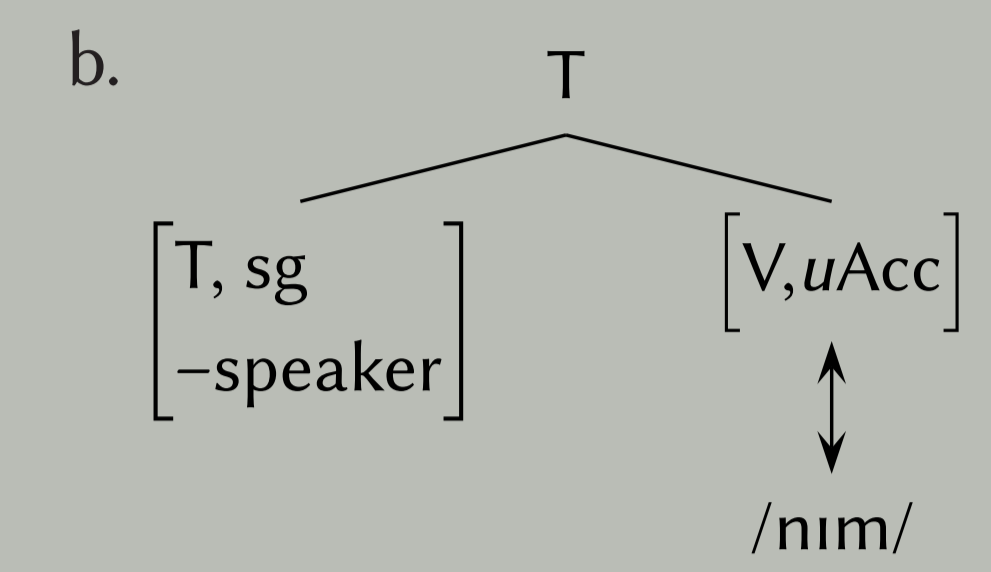
- (5) a. *nehm*: default form (1sg and pl, but also subj, inf)
 b. *nimm*: 2sg, 3sg

- Upward dependencies are often **irregular**, in contrast with downward dependencies.

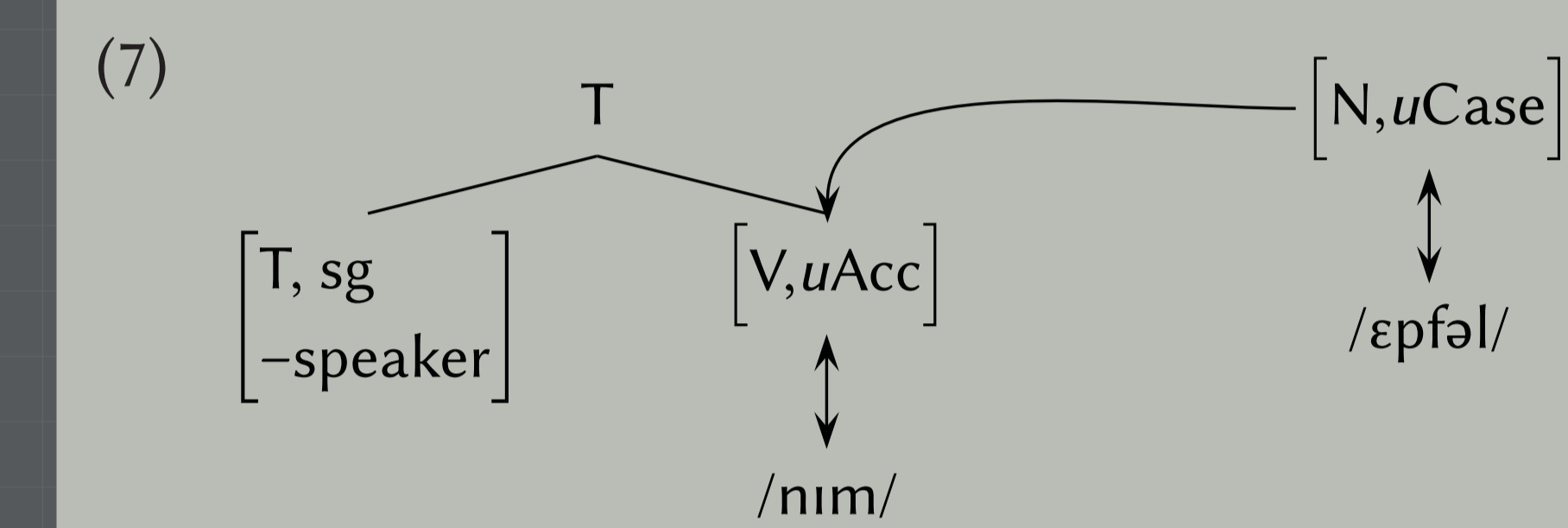
Borrowing from TAG

- Lexical entries** for *nehm* and *nimm* (excluding semantics):

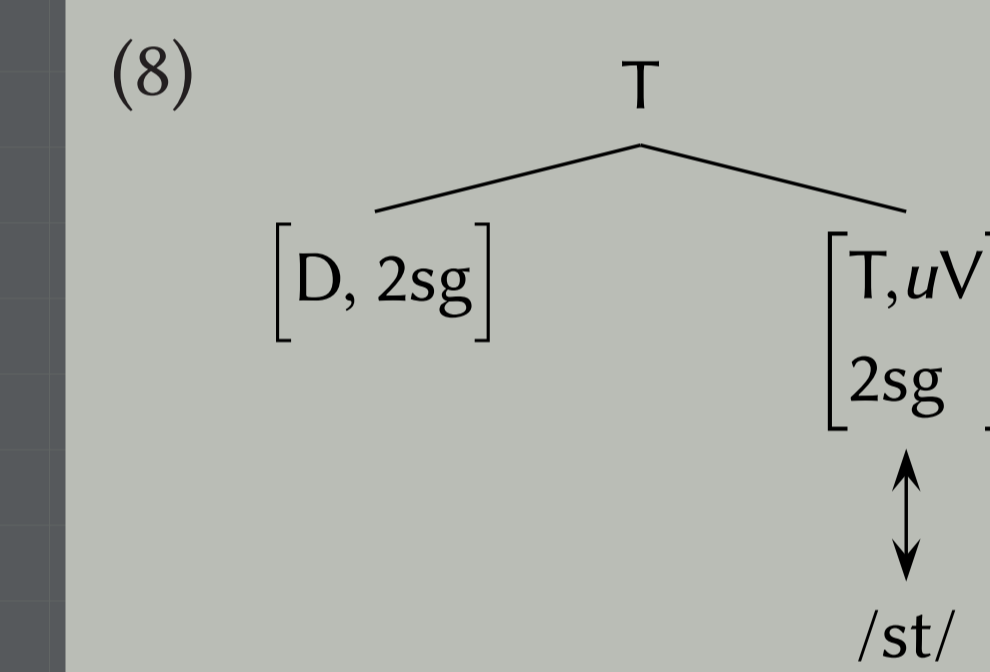
(6) a. $[V, uAcc] \leftrightarrow /ne:m/$



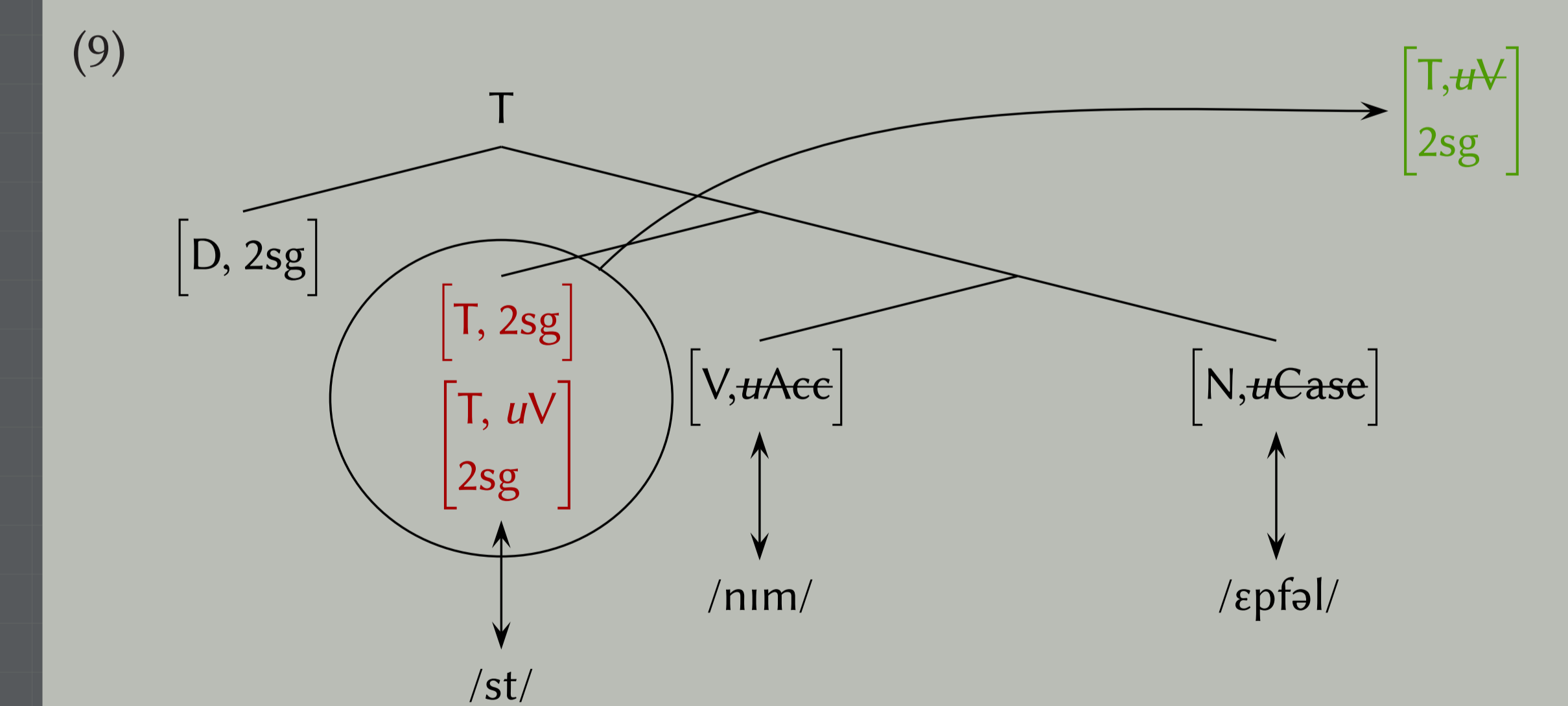
- (6b) is a **treelet** inspired by (but not entirely equivalent to) treelets in TAG.
- Merger** of (6b) with an object targets the node that **selects** N, i.e., V:



- The lexical entry for the **2sg ending -st** contains an upward dependency:



- Merger of (8) with (7) **unifies** the T heads:



Conclusions

- In a parallel grammar, only direct, downward morphological dependencies can be modelled as singleton heads.
- They can only select morphosyntactic features and are usually productive.
- Upward dependencies must be stored as tree fragments.
- Since they store more structure, they may show irregularities.