Utilizing P&P Categories in a Typed Feature Structure Grammar

Petter Haugereid

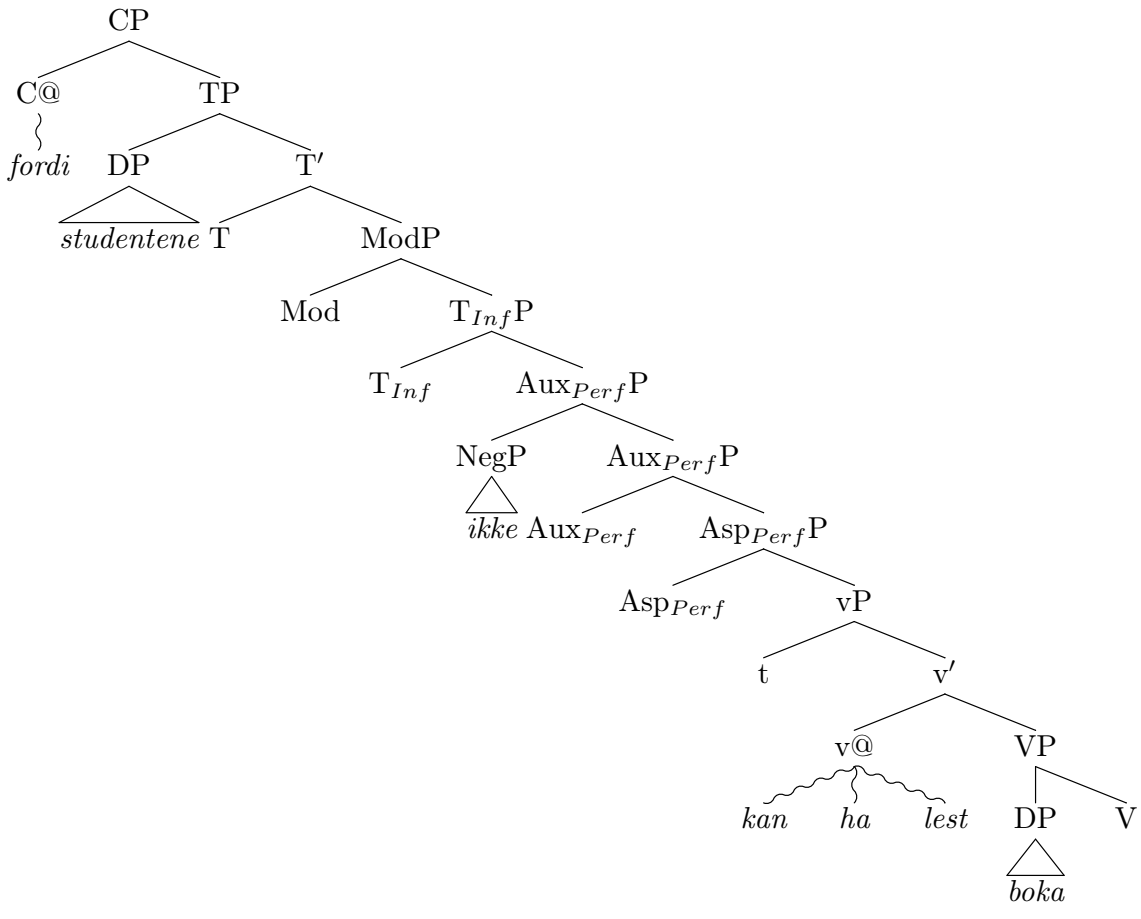
Department of Language, Literature, Mathematics and Interpreting
Western Norway University of Applied Sciences

Olomouc, July 3, 2024

Verb clusters in Norwegian (Svenonius, 2022)

(1) fordi studentene ikke **kan ha lest** boka
because students-DEF not can have read book-DEF
because the students could not have read the book

Principles and Parameters analysis (Svenonius, 2022)



“Flattened” field analysis

Norwegian

Spec C	C	Spec T	T	Mod	Adv	T_{Inf}	Neg	Aux_{Perf}	Asp_{Perf}	Adv	v			Spec V	V
	fordi *because*	studentene *the students*					ikke *not*				kan *can*	ha *have*	lest *read*	boka *the book*	
Boka *the book*	kan *can*	studentene *the students*					ikke *not*					ha *have*	lest *read*		

English

Spec C	C	Spec T	T	Mod	Adv	T_{Inf}	Neg	Aux_{Perf}	Asp_{Perf}	Adv	v	Spec V	V
		They		must	fortunately			have		quickly	read	the book	

Eight categories for verbs

Norwegian

Spec C	C	Spec T	T	Mod	Adv	T_{Inf}	Neg	Aux_{Perf}	Asp_{Perf}	Adv	v			Spec V	V
	fordi *because*	studentene *the students*					ikke *not*				kan *can*	ha *have*	lest *read*	boka *the book*	
Boka *the book*	kan *can*	studentene *the students*					ikke *not*					ha *have*	lest *read*		

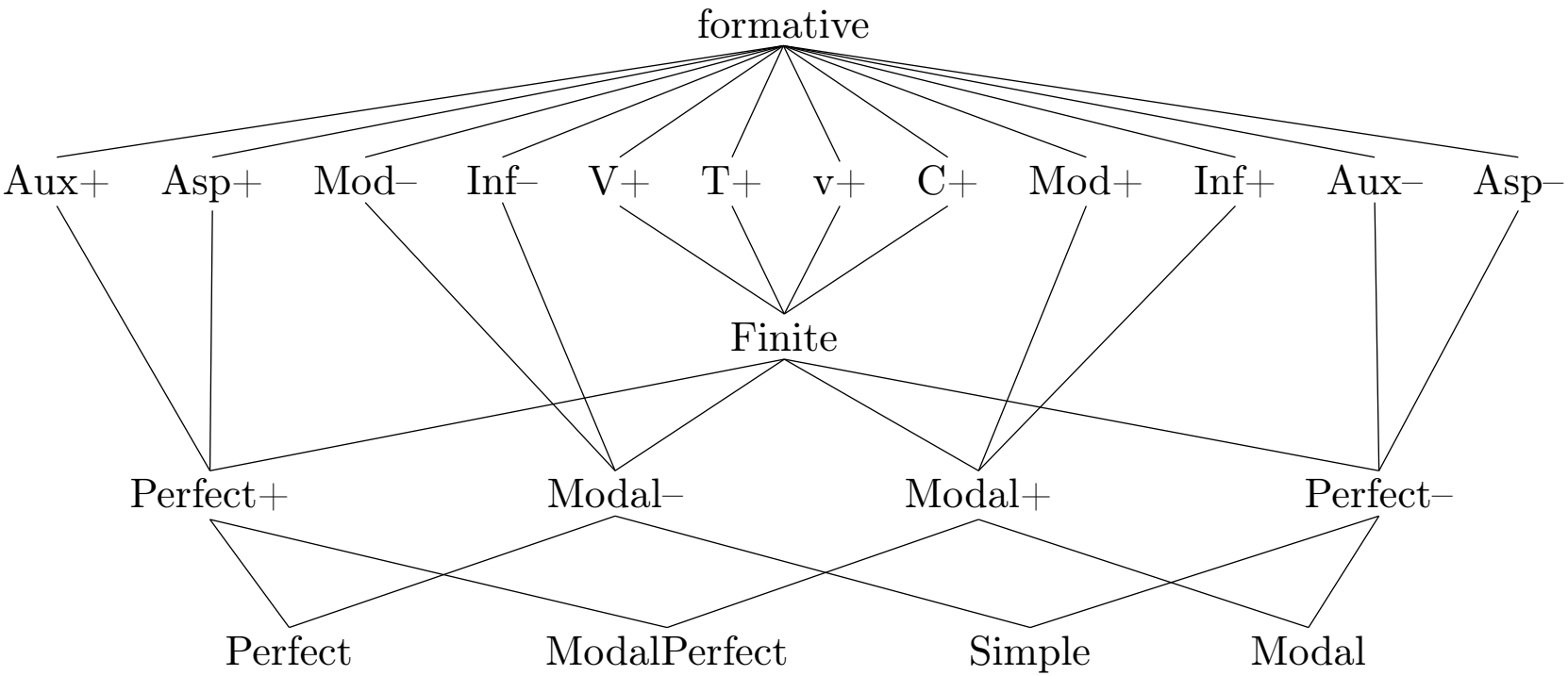
English

Spec C	C	Spec T	T	Mod	Adv	T_{Inf}	Neg	Aux_{Perf}	Asp_{Perf}	Adv	v	Spec V	V
		They		must	fortunately			have		quickly	read	the book	

Eight categories

$$\begin{bmatrix} \text{FM} & \begin{bmatrix} \text{V} & \textit{category} \\ \text{Aux} & \textit{category} \\ \text{Mod} & \textit{category} \\ \text{T} & \textit{category} \\ \text{Inf} & \textit{category} \\ \text{Asp} & \textit{category} \\ \text{v} & \textit{category} \\ \text{C} & \textit{category} \end{bmatrix} \end{bmatrix}$$

Types of P&P categories



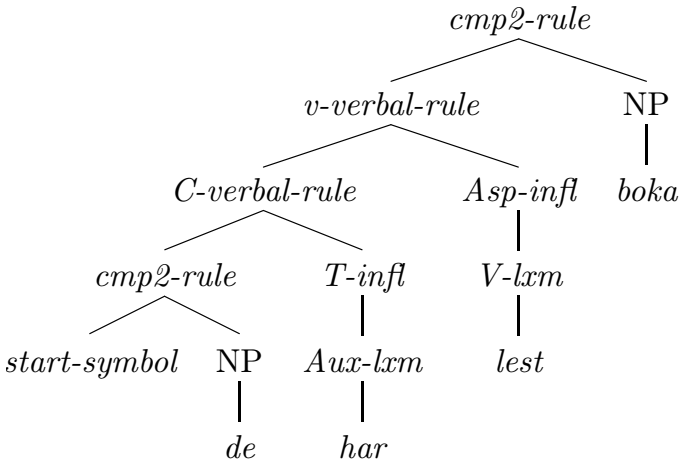
Start symbol

$$\begin{bmatrix} \textit{start} & \\ \text{FM} & \begin{bmatrix} \text{BIG-V} & \textit{V–} \\ \text{AUX} & \textit{Aux–} \\ \text{MOD} & \textit{Mod–} \\ \text{T} & \textit{T–} \\ \text{INF} & \textit{Inf–} \\ \text{ASP} & \textit{Asp–} \\ \text{v} & \textit{v–} \\ \text{C} & \textit{C–} \end{bmatrix} \end{bmatrix}$$

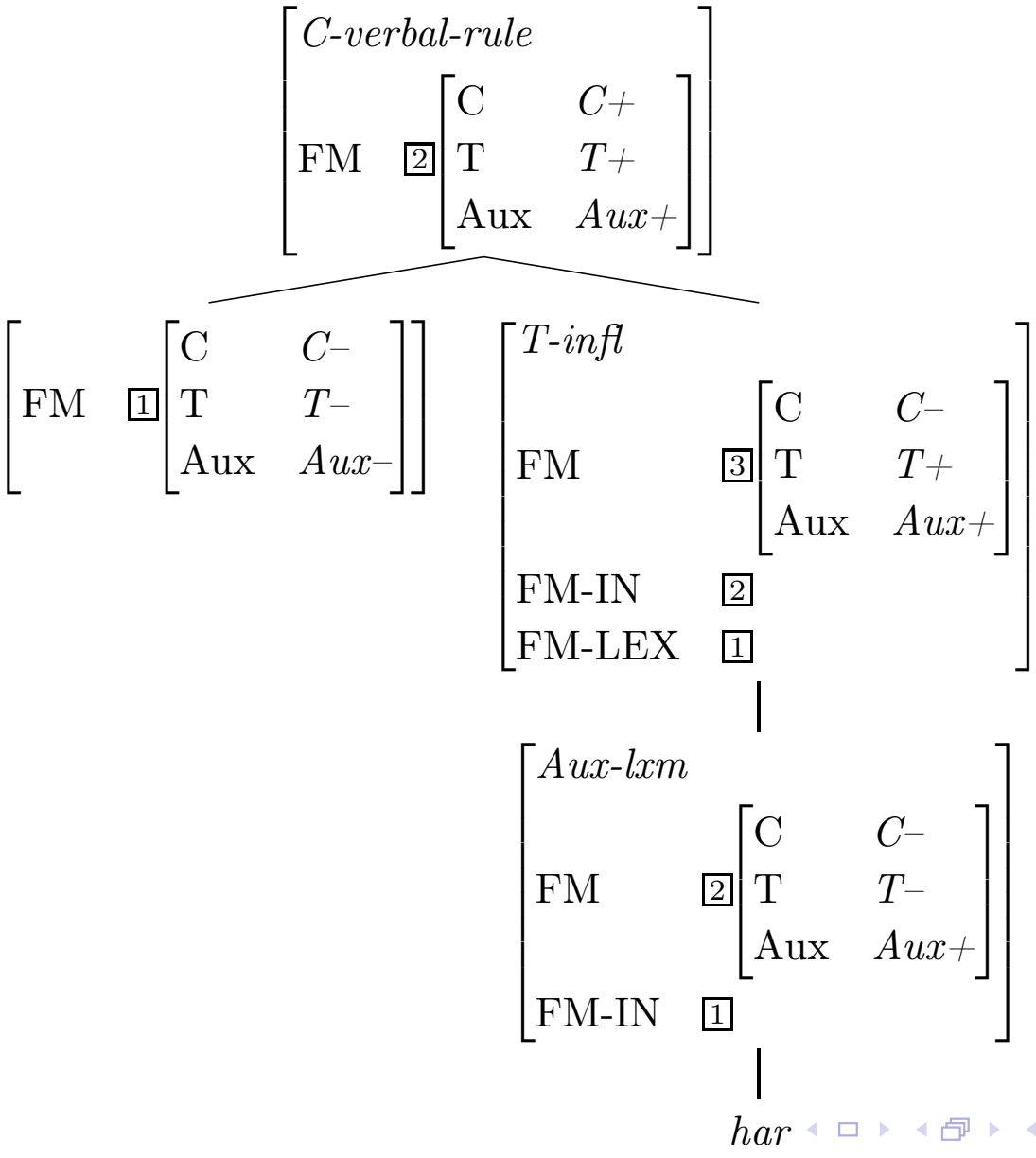
Force rule

$$\begin{bmatrix} & \begin{bmatrix} \text{BIG-V} & \boxed{1} \\ \text{AUX} & \boxed{1} \\ \text{MOD} & \boxed{1} \\ \text{T} & \boxed{1} \\ \text{INF} & \boxed{1} \\ \text{ASP} & \boxed{1} \\ \text{v} & \boxed{1} \\ \text{C} & \boxed{1} \end{bmatrix} \\ \text{FM} & \end{bmatrix}$$

Incremental parse tree



Attaching the auxiliary *har* ‘has’ in C



Three types of realizations of categories

Verbal inflectional rule

$$\begin{bmatrix} \textit{verbal-irule} & \\ \text{FM-IN} & \boxed{1} \\ \text{FM-LEX} & \boxed{2} \\ \text{ARGS} & \left\langle \begin{bmatrix} \text{FM} & \boxed{1} \\ \text{FM-LEX} & \boxed{2} \end{bmatrix} \right\rangle \end{bmatrix}$$

Verbal lexeme

$$\begin{bmatrix} \textit{verbal-lxm} & \\ \text{FM-IN} & \boxed{1} \\ \text{FM-LEX} & \boxed{1} \end{bmatrix}$$

Verbal rule

$$\begin{bmatrix} \textit{verbal-rule} & \\ \text{FM-IN} & \boxed{1} \\ \text{ARGS} & \left\langle \begin{bmatrix} \text{FM} & \boxed{2} \end{bmatrix}, \begin{bmatrix} \text{FM} & \boxed{1} \\ \text{FM-LEX} & \boxed{2} \end{bmatrix} \right\rangle \end{bmatrix}$$

Eight types of categories

C-, T-, Mod-, and Inf-category

$$\begin{bmatrix} \textit{C-category} \\ \text{FM} \quad \begin{bmatrix} \text{C} & \textit{C+} \end{bmatrix} \\ \text{FM-IN} \quad \begin{bmatrix} \text{C} & \textit{C–} \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} \textit{T-category} \\ \text{FM} \quad \begin{bmatrix} \text{T} & \textit{T+} \end{bmatrix} \\ \text{FM-IN} \quad \begin{bmatrix} \text{T} & \textit{T–} \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} \textit{Mod-category} \\ \text{FM} \quad \begin{bmatrix} \text{Mod} & \textit{Mod+} \end{bmatrix} \\ \text{FM-IN} \quad \begin{bmatrix} \text{Mod} & \textit{Mod–} \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} \textit{Inf-category} \\ \text{FM} \quad \begin{bmatrix} \text{Inf} & \textit{Inf+} \end{bmatrix} \\ \text{FM-IN} \quad \begin{bmatrix} \text{Inf} & \textit{Inf–} \end{bmatrix} \end{bmatrix}$$

Aux-, Asp-, v-, and V-category

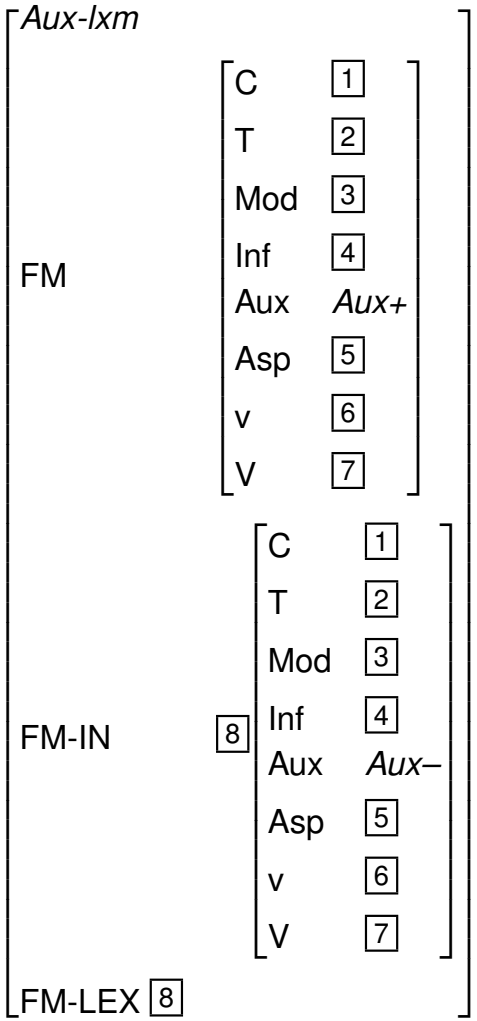
$$\begin{bmatrix} \textit{Aux-category} \\ \text{FM} \quad \begin{bmatrix} \text{Aux} & \textit{Aux+} \end{bmatrix} \\ \text{FM-IN} \quad \begin{bmatrix} \text{Aux} & \textit{Aux–} \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} \textit{Asp-category} \\ \text{FM} \quad \begin{bmatrix} \text{Asp} & \textit{Asp+} \end{bmatrix} \\ \text{FM-IN} \quad \begin{bmatrix} \text{Asp} & \textit{Asp–} \end{bmatrix} \end{bmatrix}$$

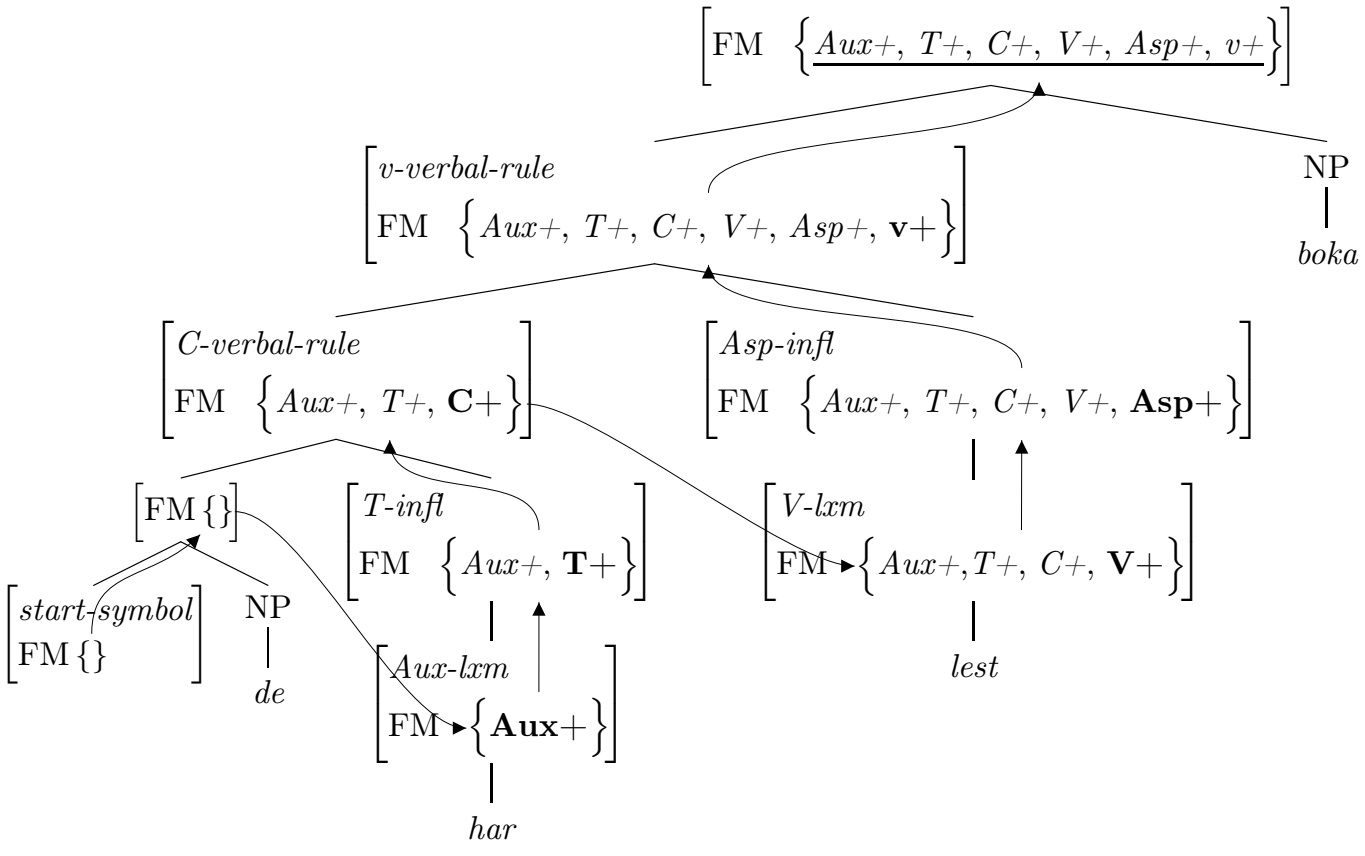
$$\begin{bmatrix} \textit{v-category} \\ \text{FM} \quad \begin{bmatrix} \text{v} & \textit{v+} \end{bmatrix} \\ \text{FM-IN} \quad \begin{bmatrix} \text{v} & \textit{v–} \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} \textit{V-category} \\ \text{FM} \quad \begin{bmatrix} \text{V} & \textit{V+} \end{bmatrix} \\ \text{FM-IN} \quad \begin{bmatrix} \text{V} & \textit{V–} \end{bmatrix} \end{bmatrix}$$

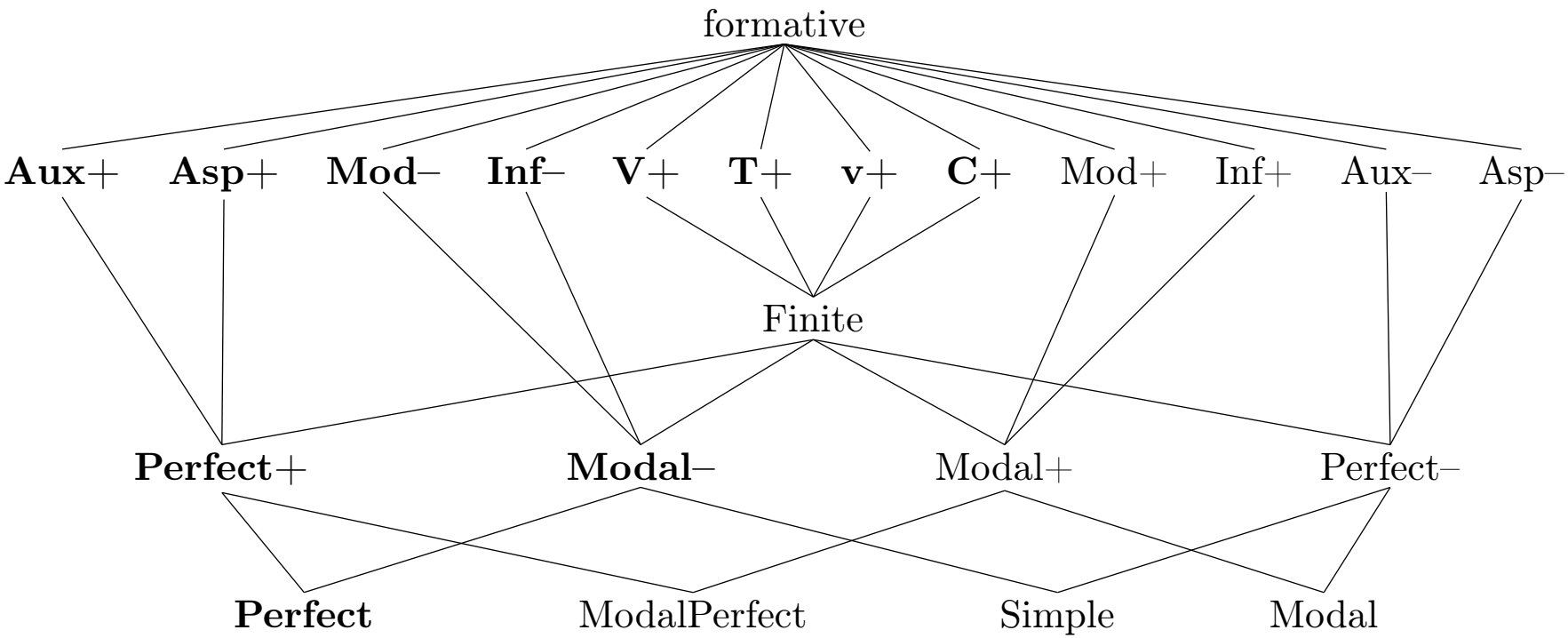
Auxiliary lexeme – subtype of *verbal-lexeme* and *aux-category*



Accumulation of category types in a clause with perfect tense



Type hierarchy of P&P categories and possible main clause constellations



References

Svenonius, P. (2022). Verbklynger i norsk. Handout presented at MONS 19, University of Tromsø.