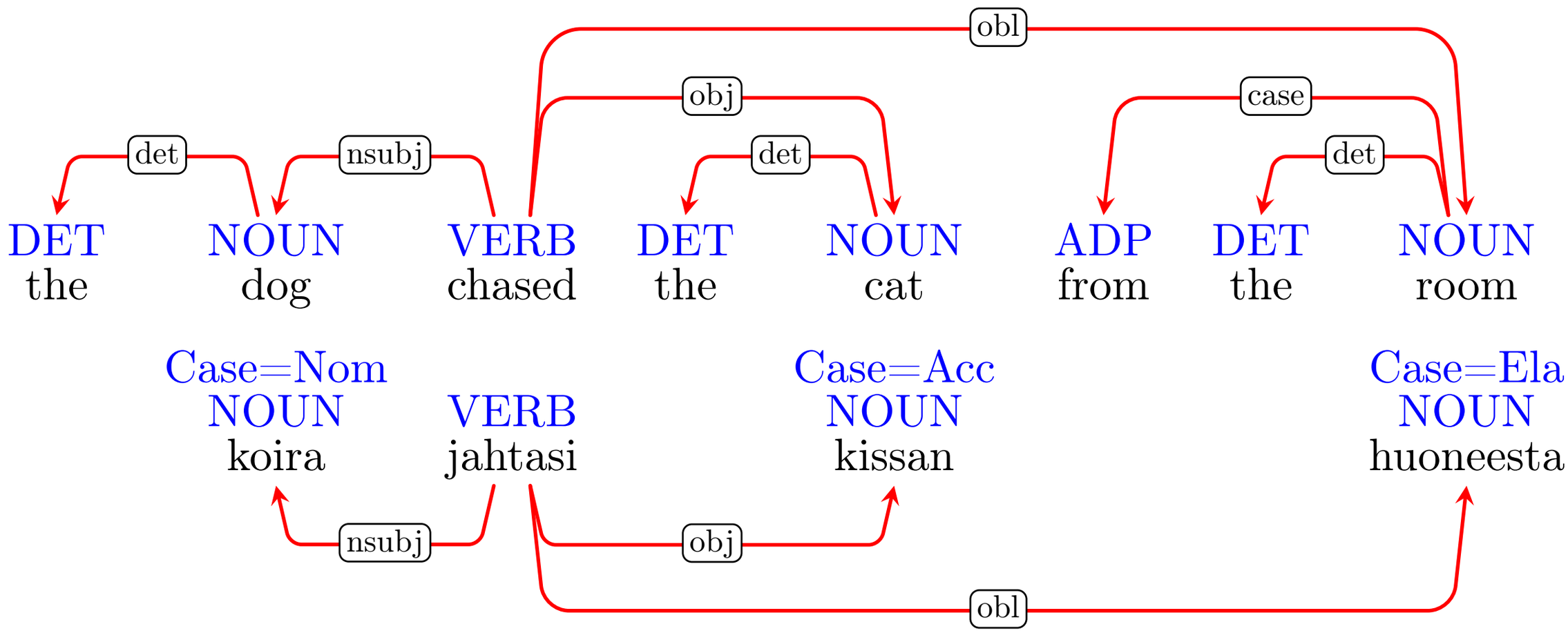
Joakim Nivre

Morphology vs. Syntax



Morphology vs. Syntax

(3.1) *Peter sagte, daß sie morgen nach Berlin* ***fahren.***
Peter said that.CONJ they tomorrow to Berlin drive.3-SG-PRES
Peter said that they will drive to Berlin tomorrow.

(3.2) *Peter will morgen nach Berlin* ***fahren.***
Peter want.MODAL tomorrow to Berlin drive.INFINITIVE
Peter wants to drive to Berlin tomorrow.

Example from Seeker (2015)

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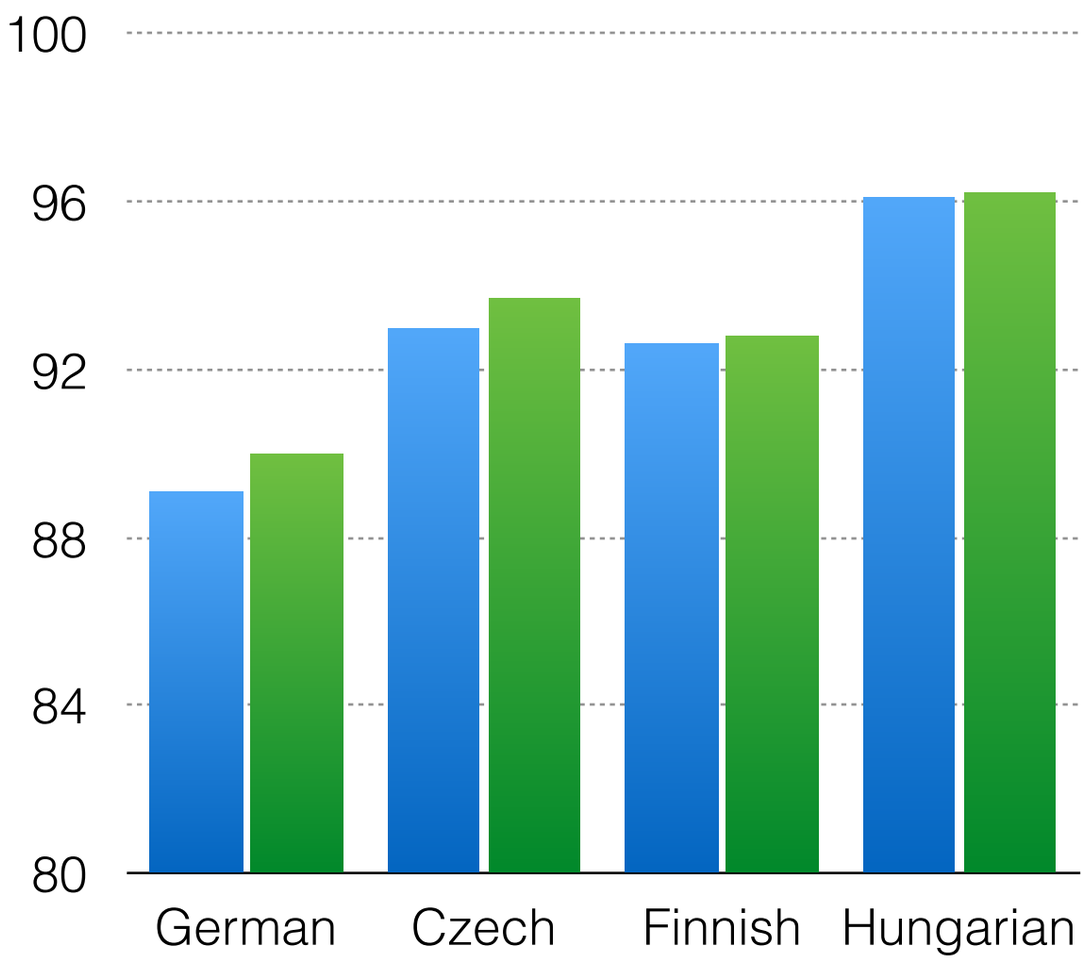
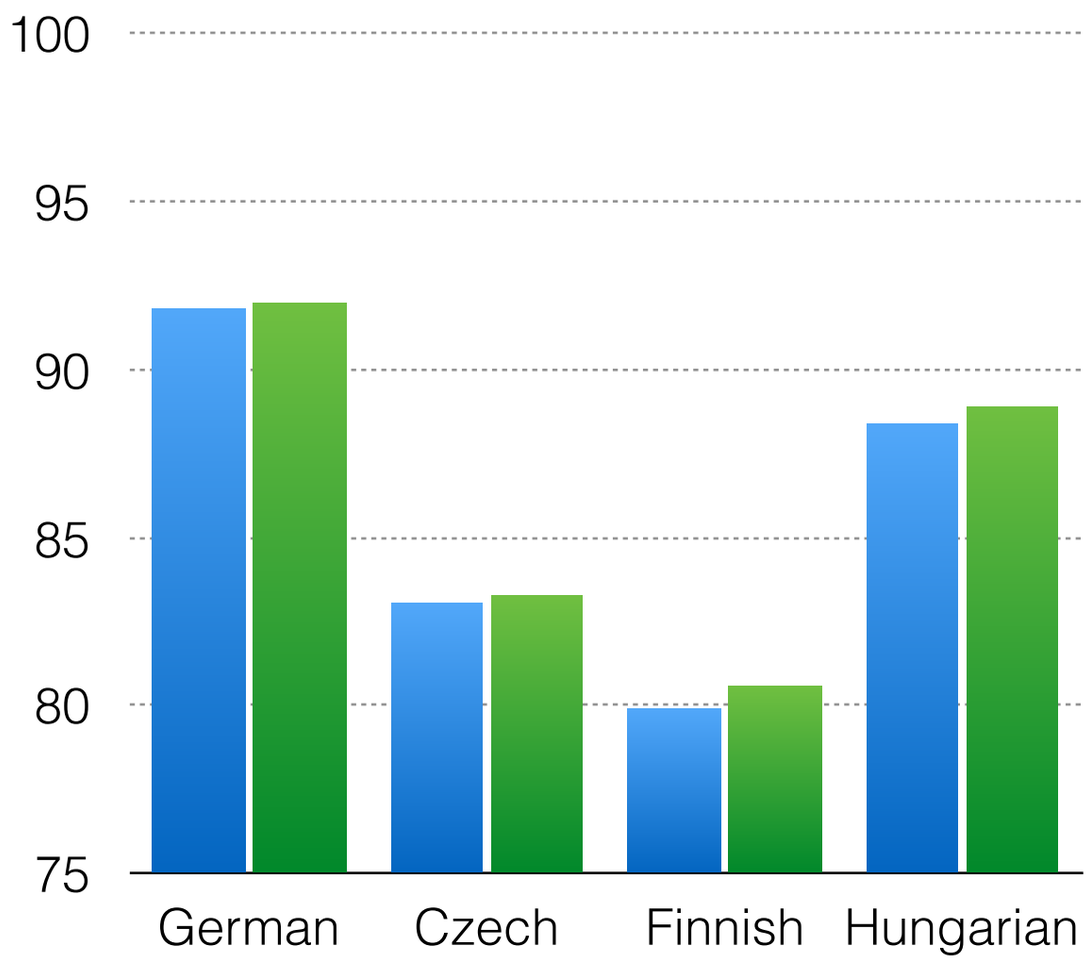
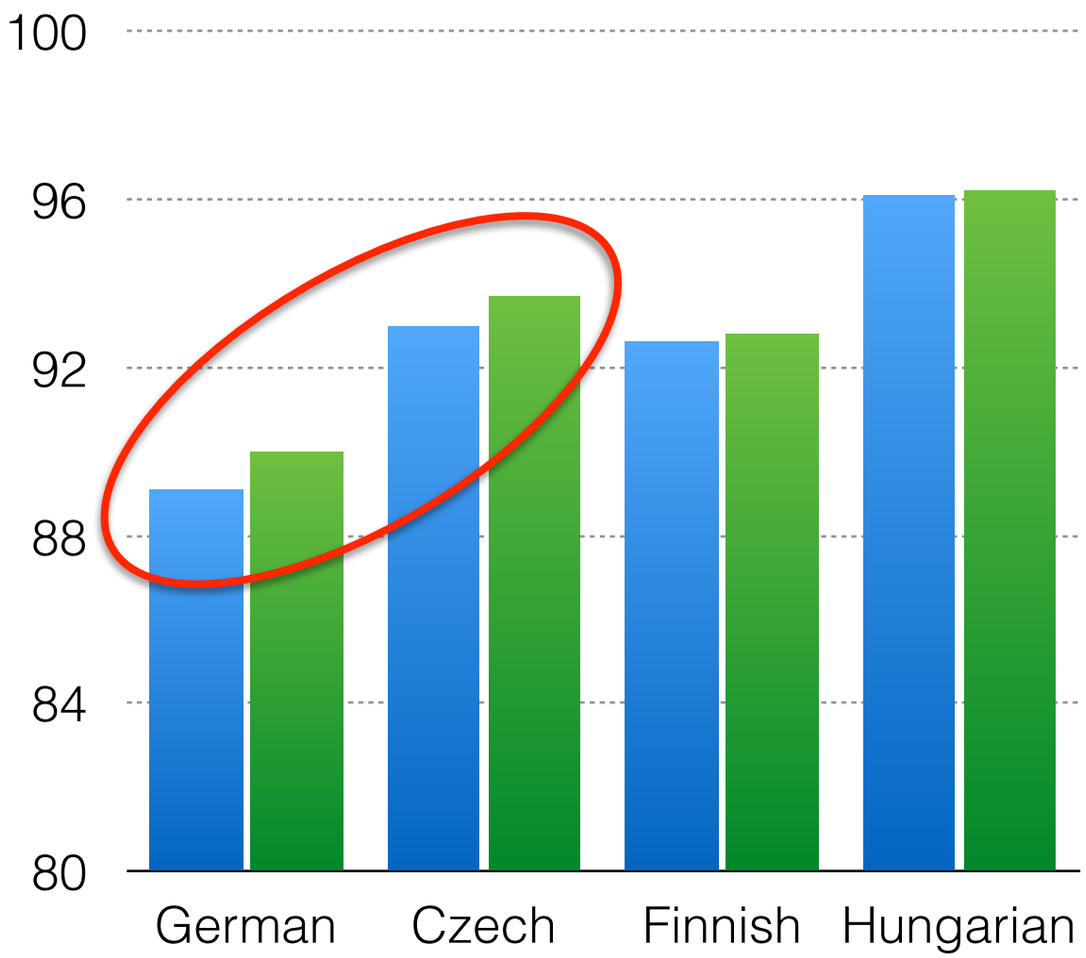
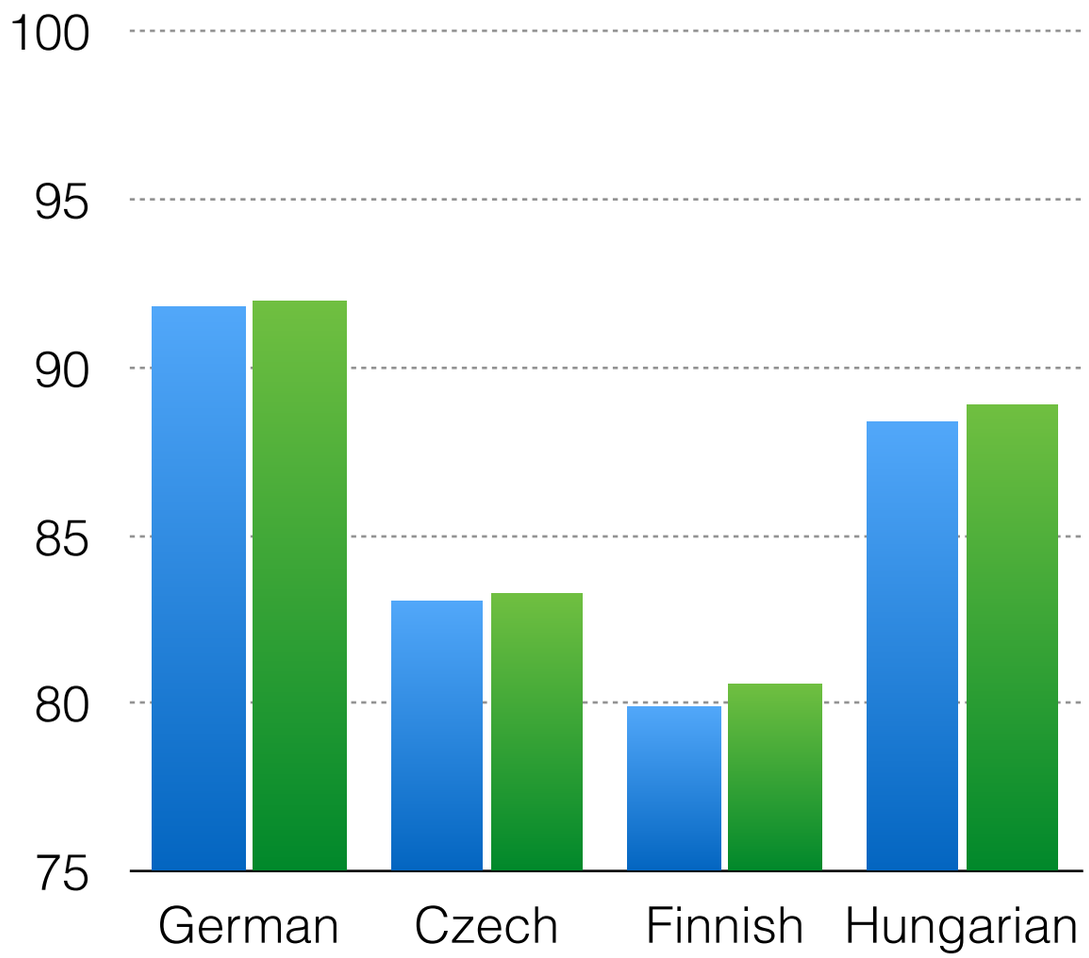




Results from Bohnet et al. (2013)

Morphology vs. Syntax





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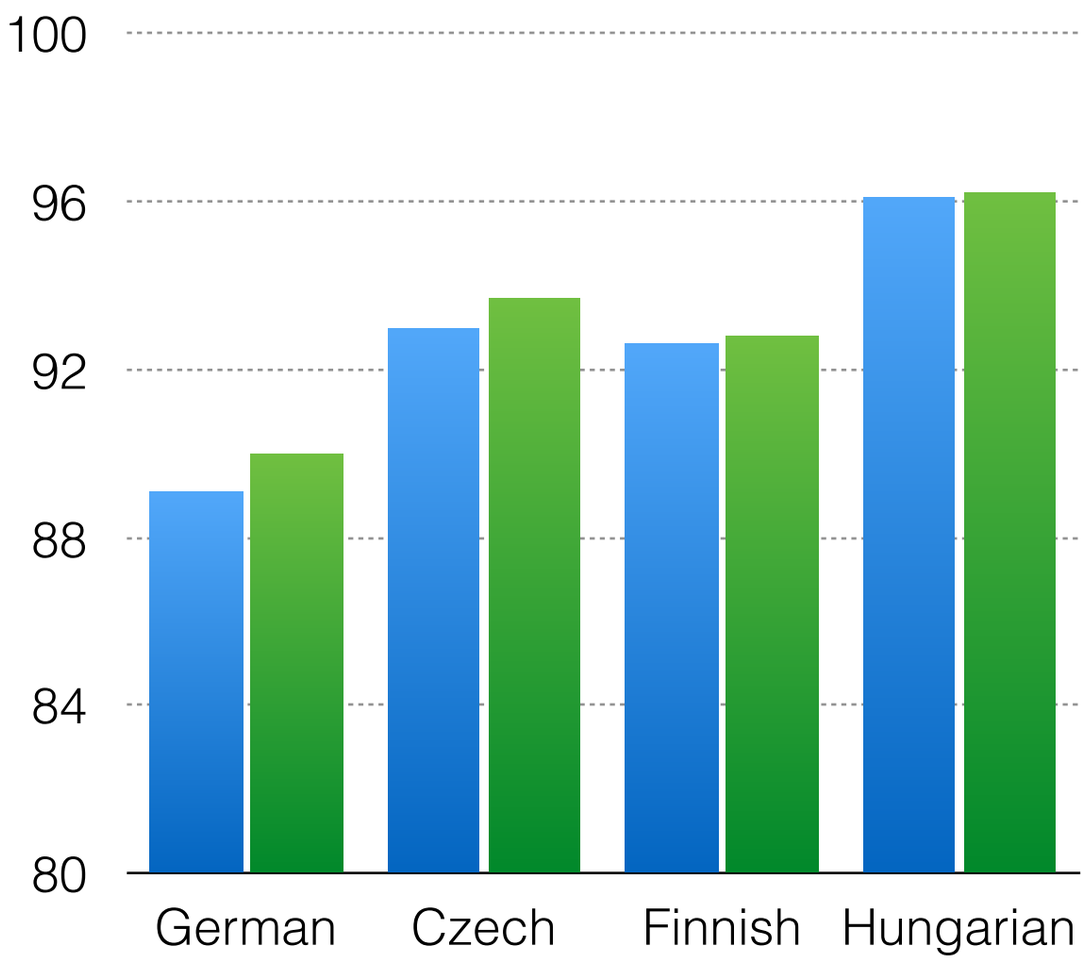
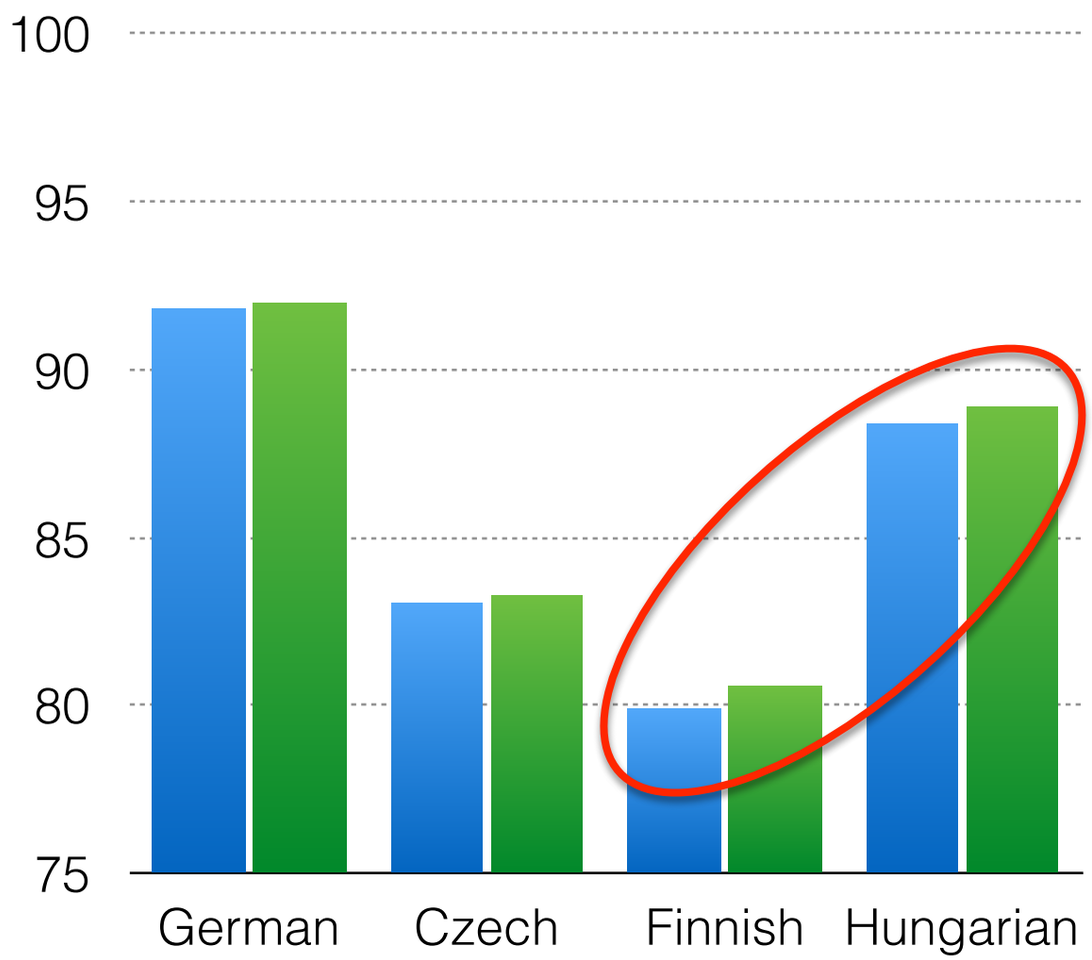
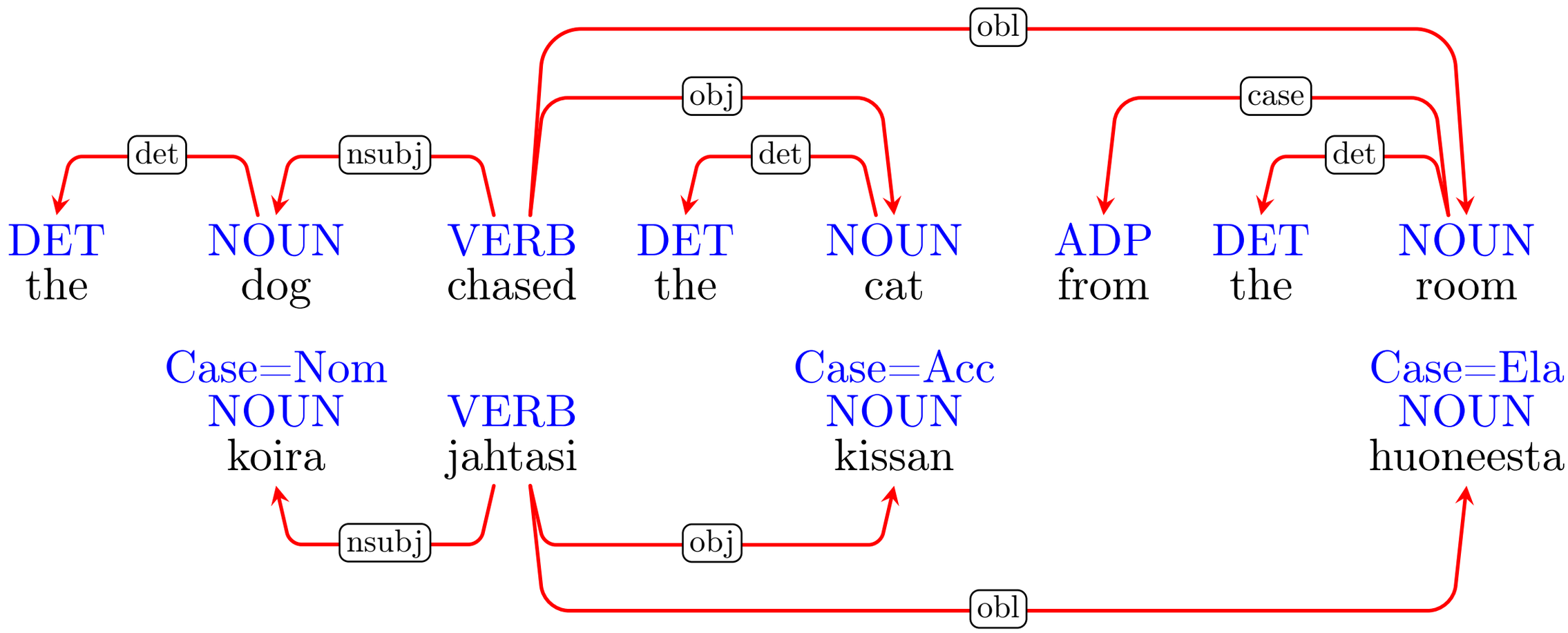
Morphology vs. Syntax



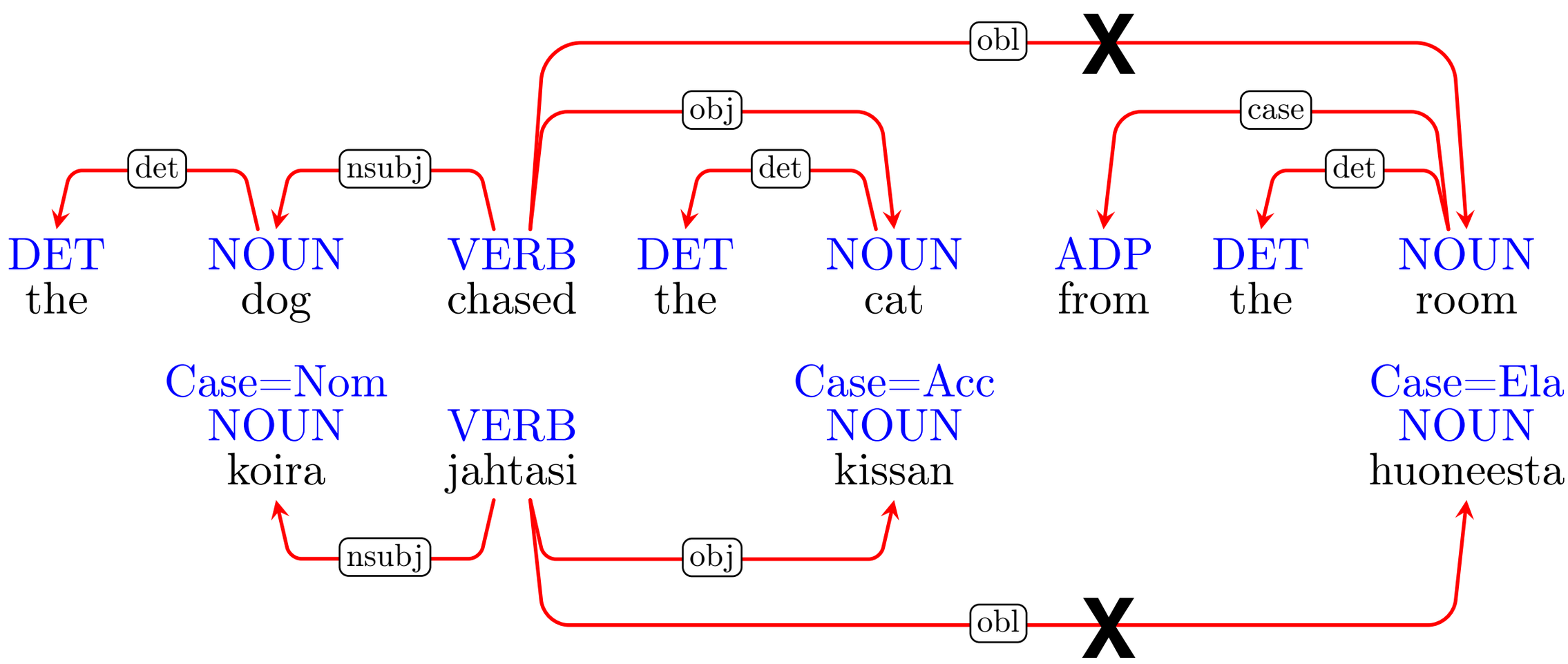


Results from Bohnet et al. (2013)

Parser Evaluation

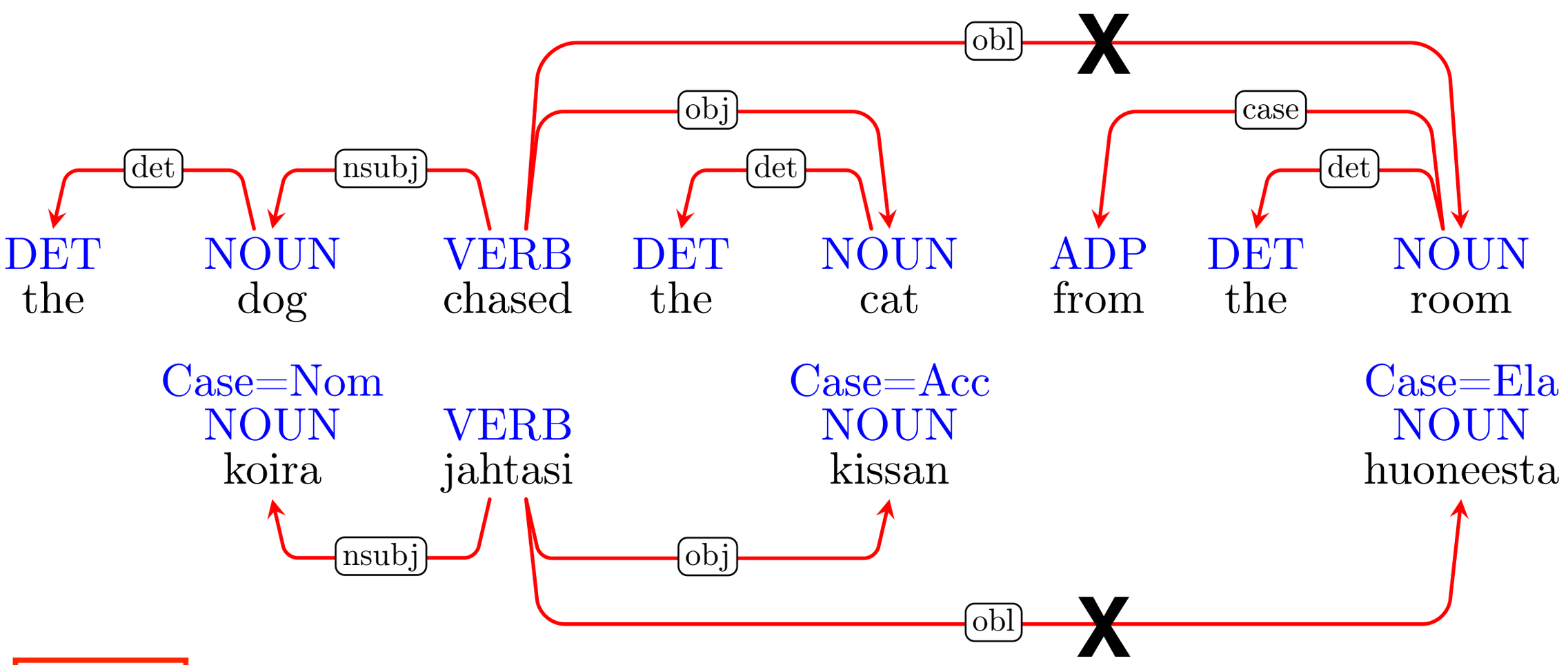


Parser Evaluation



Parser Evaluation

87.5%



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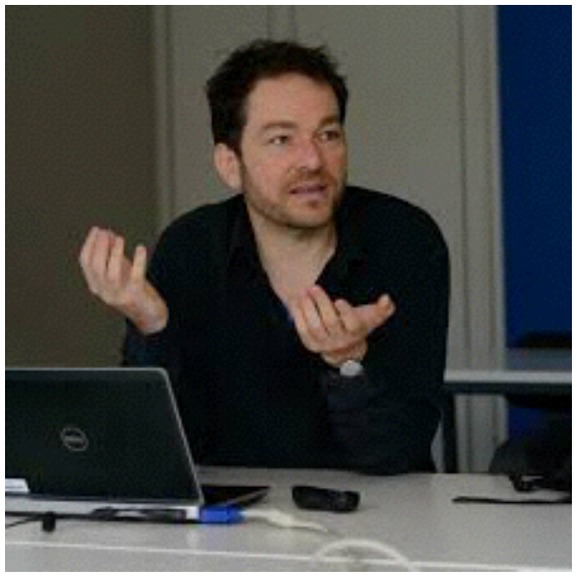
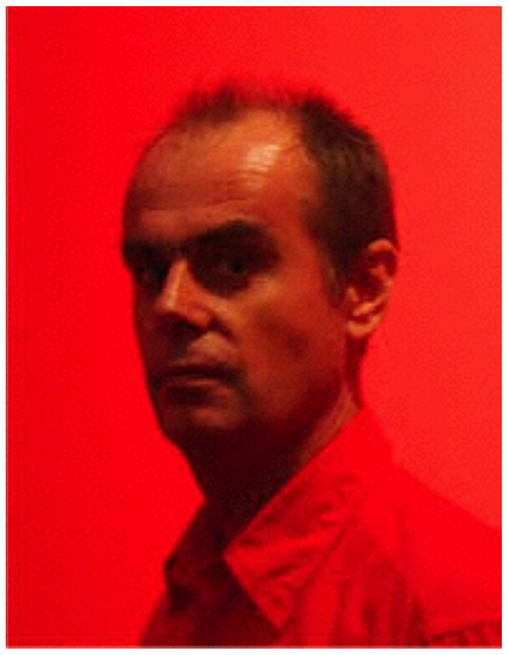
Parser Evaluation

Language	Main Metrics			Func		Core	
	LAS	CNC	Diff	Freq	F	Freq	F
Estonian	85.90	86.08	0.18	11.85	85.03	27.36	84.71
Finnish	78.45	77.22	−1.23	17.26	84.48	23.51	77.19
Finnish-FTB	76.17	74.61	−1.56	19.87	82.50	25.58	73.59
Polish	86.21	84.47	−1.75	21.64	92.51	30.49	84.67
Czech	83.23	81.04	−2.20	24.08	90.22	22.53	81.51
Hungarian	82.87	80.62	−2.25	25.78	89.36	23.48	81.40
Ancient Greek	57.80	55.47	−2.34	20.02	67.71	32.82	54.18
Croatian	79.89	77.52	−2.37	28.04	86.01	20.30	79.21
Latin	60.27	57.81	−2.45	18.51	71.06	31.64	60.20
Tamil	70.87	68.25	−2.62	13.58	88.29	21.30	60.68
Arabic	74.61	71.66	−2.95	28.30	82.18	22.82	68.95
Slovenian	86.06	83.08	−2.98	29.33	93.23	20.08	82.65
Latin-ITT	74.67	71.43	−3.24	33.54	81.10	29.72	72.19
Old Church Slavonic	78.37	75.08	−3.29	23.02	89.42	38.06	76.67
Bulgarian	85.74	82.01	−3.73	31.33	93.87	27.49	78.12
Persian	79.57	75.73	−3.84	29.42	88.86	16.45	63.09
Danish	80.01	76.12	−3.89	34.14	87.56	27.79	81.03
Latin-PROIEL	68.40	64.49	−3.91	23.60	81.18	35.27	65.67
Basque	74.13	70.19	−3.94	23.66	86.97	26.02	63.70
English	83.80	79.70	−4.10	32.44	92.30	27.29	84.73
Gothic	73.66	69.50	−4.16	26.36	85.32	37.32	72.84
Norwegian	86.49	82.30	−4.19	35.20	94.22	28.87	85.31
Swedish	80.00	75.81	−4.19	32.98	88.63	27.00	81.59
Greek	81.36	75.04	−6.32	40.06	90.96	24.99	77.82
Italian	87.69	80.76	−6.94	43.97	96.54	20.02	79.21
Spanish	84.76	77.70	−7.06	43.58	93.84	18.95	80.39
Portuguese	86.24	79.09	−7.15	42.27	96.03	30.79	82.47
Hindi	84.20	77.01	−7.20	37.68	96.10	20.36	64.81
Ancient Greek-PROIEL	71.00	63.71	−7.29	32.07	86.53	34.28	63.93
Hebrew	80.94	72.97	−7.97	37.70	94.01	25.09	67.82
Romanian	71.05	63.02	−8.03	33.19	86.97	26.15	53.90
Irish	72.98	64.45	−8.54	35.41	88.52	30.21	61.91
Average	78.36	74.18	−4.17	29.06	87.86	26.69	73.32

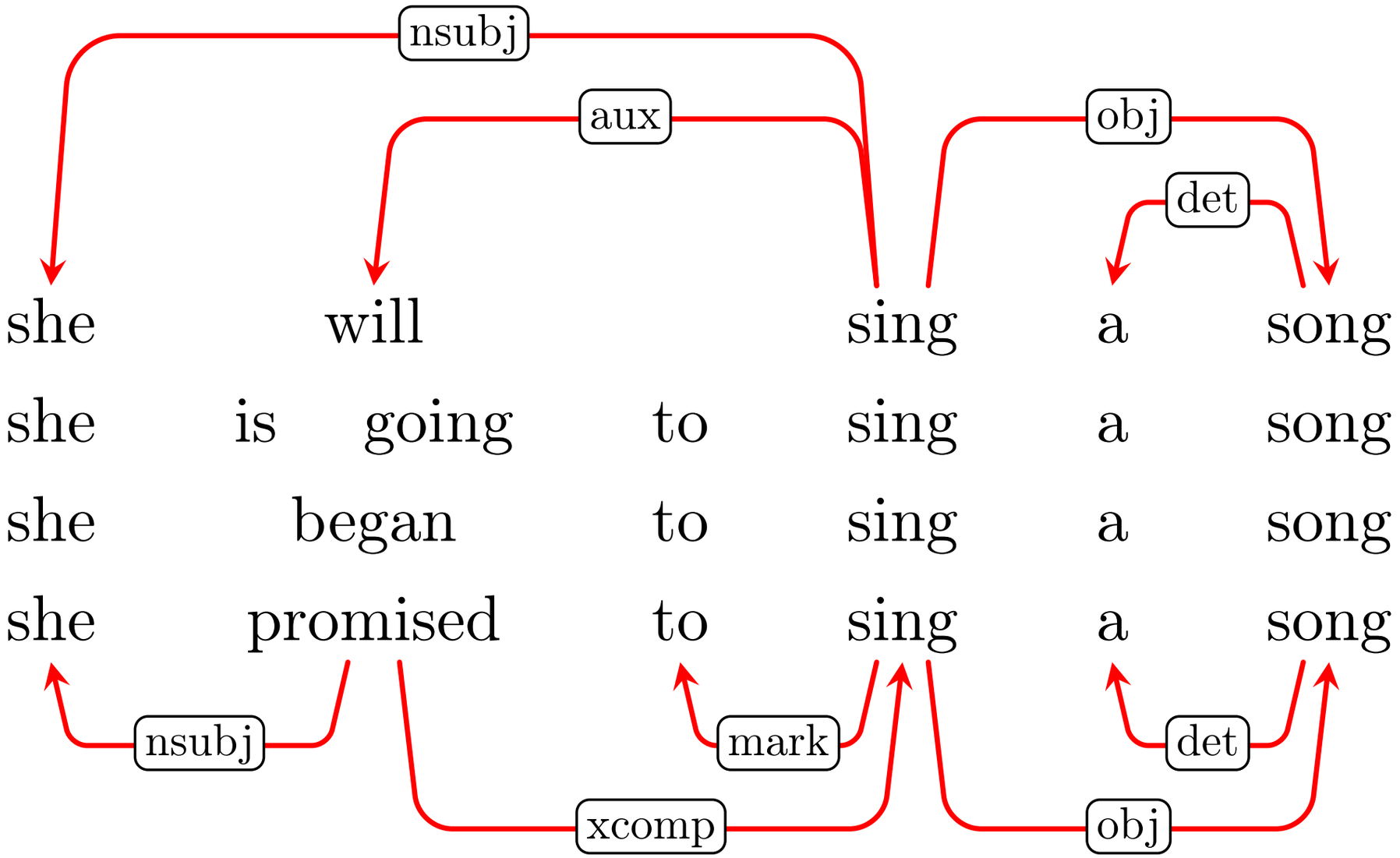
Catastrophes





"a brutal structural change in a continuum"
(Gerdes and Kahane, 2016)

Catastrophes



Catastrophes

I saw that they destroyed the house

I saw them destroy the house

I saw them destroying the house

I saw their destroying the house

I saw their destroying of the house

I saw their destruction of the house

zzzzz