

Appendix. Illustration of analysis, Norwegian

Dorothee Beermann and Lars Hellan: Switched control

The following slides show screenshots from the online HPSG grammar *NorSource* (<http://regdili.hf.ntnu.no:8081/linguisticAce/parse>) illustrating syntactic and MRS-semantic analyses of

Jeg får komme ‘I get-to come’, showing abstract ‘permitter’

Hun lovet meg å komme ‘she promised me to come’, *normal subject control*

Hun lovet meg å få komme ‘she promised me to get-to come’, *switched control*

Hun ber meg om å komme ‘she asks me to come’, *normal object control*

Hun ber meg om å få komme ‘she asks me to get-to come’, *switched control*

In the display of lexical items and syntactic rules deployed, notice that the same *få* occurs in all analyses, whereas special ‘switch’ lexical items are used for both matrix verbs.

In all cases, the topmost parse is representative of the analysis.

Norwegian Computational HPSG-Grammar NorSource

Demo with ACE as webservice, version 2.2 (for further guidelines, see [Info](#))

Grammar MalGram NorSource
 Feedback Language

| # | Syntax | Score | Mrs |
|---|---|--|---|
| <input type="button" value="generate"/> | head-subject-rule jeg_perspron jeg head-auxverb-bareinfin-comp-rule pres-infl_rule få_aux får inf-const_infl_rule komme_intr_dir komme | ltop=h0, index=e1 +0.102 h3: _1sg-pron_rel ([arg0:x2]) +0.000 h4: _pronoun_q_rel ([arg0:x2, rstr:h5, body:h6]) +0.102 h7: _PERMIT-få_rel ([arg0:e1, arg1:u8, arg2:h9]) +0.000 h9: _komme_v-intr_rel ([arg0:e10, arg1:x2]) +0.000 < qeq(h5,h3) > +0.102 e1, sort=verb-act-specification, sf=prop, e.tense=pres, e.mood=indicative, e.aspect=semsort +0.102 e.aspect=semsort -0.009 x2, wh=-, png.ng.num=sing, png.pers=firstpers e10, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, e.aspect=semsort | solvable A well formed Norwegian sentence. |
| <input type="button" value="generate"/> | head-subject-rule jeg_perspron jeg head-auxverb-bareinfin-comp-rule pres-infl_rule få_aux får inf-const_infl_rule komme_intrdir komme | ltop=h0, index=e1 +0.102 h3: _1sg-pron_rel ([arg0:x2]) +0.000 h4: _pronoun_q_rel ([arg0:x2, rstr:h5, body:h6]) +0.102 h7: _PERMIT-få_rel ([arg0:e1, arg1:u8, arg2:h9]) +0.000 h9: _komme_v-intr_rel ([arg0:e10, arg1:x2]) +0.000 < qeq(h5,h3) > +0.102 e1, sort=verb-act-specification, sf=prop, e.tense=pres, e.mood=indicative, e.aspect=semsort +0.102 e.aspect=semsort -0.009 x2, wh=-, png.ng.num=sing, png.pers=firstpers e10, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, e.aspect=semsort | solvable A well formed Norwegian sentence. |

Norwegian Computational HPSG-Grammar NorSource

Demo with ACE as webservice, version 2.2 (for further guidelines, see [Info](#))

hun lovet meg å komme

Grammar MalGram NorSource Feedback Language

- MalGram
- NorSource

| # | Syntax | Score | Mrs |
|---|---------------------------------------|--------|--|
| | head-subject-rule | +0.443 | ltop=h0, index=e1 |
| | hun_perspron | +0.000 | h3:hun_pron_rel([arg0:x2]) |
| | hun | | h4:_pronoun_q_rel([arg0:x2, rstr:h5, body:h6]) |
| | head-verb-inf-or-s-comp-rule | +0.426 | h7:_love_v-ditr_rel([arg0:e1, arg1:x2, arg2:h8, arg3:x9]) |
| | head-verb-comp-rule | +0.279 | h10:_1sg-pron_rel([arg0:x9]) |
| | pret-nonfstr-et_infl_rule | +0.063 | h11:_pronoun_q_rel([arg0:x9, rstr:h12, body:h13]) |
| | love_obj-equi | +0.031 | h8:_inf-mark_rel([arg0:u14, arg1:h15]) |
| <input type="button" value="generate"/> | lovet | | h15:_komme_v-intr_rel([arg0:e16, arg1:x2]) |
| | meg_perspron | +0.216 | < qeq(h5,h3), qeq(h12,h10) > |
| | meg | +0.115 | e1, sort=verb-act-specification, sf=prop, e.tense=pret, e.mood=indicative, |
| | head-complementizer-comp-equinfl-rule | +0.042 | e.aspect=semsort |
| | å_inf-comp | | x2, wh=-, png.ng.num=sing, png.ng.gen=f, png.pers=thirdpers |
| | å | +0.102 | x9, wh=-, png.ng.num=sing, png.pers=firstpers |
| | inf-const_infl_rule | -0.009 | e16, wh=-, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, |
| | komme_intr-dir | | e.aspect=semsort |
| | komme | | |
| solvable | | | |
| A well formed Norwegian sentence. | | | |
| | head-subject-rule | +0.443 | ltop=h0, index=e1 |
| | hun_perspron | +0.000 | h3:hun_pron_rel([arg0:x2]) |
| | hun | | h4:_pronoun_q_rel([arg0:x2, rstr:h5, body:h6]) |
| | head-verb-inf-or-s-comp-rule | +0.426 | h7:_love_v-ditr_rel([arg0:e1, arg1:x2, arg2:h8, arg3:x9]) |
| | head-verb-comp-rule | +0.279 | h10:_1sg-pron_rel([arg0:x9]) |
| | pret-nonfstr-et_infl_rule | +0.063 | h11:_pronoun_q_rel([arg0:x9, rstr:h12, body:h13]) |
| | love_obj-equi | +0.031 | h8:_inf-mark_rel([arg0:u14, arg1:h15]) |
| <input type="button" value="generate"/> | lovet | | h15:_komme_v-intr_rel([arg0:e16, arg1:x2]) |
| | meg_perspron | +0.216 | < qeq(h5,h3), qeq(h12,h10) > |
| | meg | +0.115 | e1, sort=verb-act-specification, sf=prop, e.tense=pret, e.mood=indicative, |
| | head-complementizer-comp-equinfl-rule | +0.042 | e.aspect=semsort |
| | å_inf-comp | | x2, wh=-, png.ng.num=sing, png.ng.gen=f, png.pers=thirdpers |
| | å | +0.102 | x9, wh=-, png.ng.num=sing, png.pers=firstpers |
| | inf-const_infl_rule | -0.009 | e16, wh=-, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, |
| | komme_intrdir | | e.aspect=semsort |
| | komme | | |

Norwegian Computational HPSG-Grammar NorSource

Demo with ACE as webservice, version 2.2 (for further guidelines, see [Info](#))

hun lovet meg å få komme

Grammar MalGram NorSource Feedback Language

NorSource

| # | Syntax | Score | Mrs |
|---|---|--------|---|
| | head-subject-rule | +0.409 | ltop=h0, index=e1 |
| | hun_perspron | +0.000 | h3: hun_pron_rel ([arg0:x2]) |
| | hun | | h4: pronoun_q_rel ([arg0:x2, rstr:h5, body:h6]) |
| | head-verb-inf-or-s-comp-rule | +0.392 | h7: love_v-ditr_rel ([arg0:e1, arg1:x2, arg2:h8, arg3:x9]) |
| | head-verb-comp-rule | +0.216 | h10: _1sg-pron_rel ([arg0:x9]) |
| | pret-nonfstr-et_infl_rule | +0.000 | h11: pronoun_q_rel ([arg0:x9, rstr:h12, body:h13]) |
| | love_switch-equi | +0.000 | h8: _inf-mark_rel ([arg0:u14, arg1:h15]) |
| | lovet | | h15: _PERMIT-få_rel ([arg0:e16, arg1:x2, arg2:h17]) |
| | meg_perspron | +0.216 | h17: _komme_v-intr_rel ([arg0:e18, arg1:x9]) |
| <input type="button" value="generate"/> | meg | | h17: _komme_v-intr_rel ([arg0:e18, arg1:x9]) |
| | head-complementizer-comp-equinfl-rule | +0.144 | < qeq(h5,h3), qeq(h12,h10) > |
| | å_inf-comp | +0.042 | e1, sort=verb-act-specification, sf=prop, e.tense=pret, e.mood=indicative, e.aspect=semsort |
| | å | | e1, sort=verb-act-specification, sf=prop, e.tense=pret, e.mood=indicative, e.aspect=semsort |
| | head-auxverb-bareinfin-comp-rule | +0.102 | x2, wh=-, png.ng.num=sing, png.ng.gen=f, png.pers=thirdpers |
| | inf-const_infl_rule | +0.000 | x9, wh=-, png.ng.num=sing, png.pers=firstpers |
| | få_aux | +0.000 | e16, wh=-, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, e.aspect=semsort |
| | få | | e16, wh=-, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, e.aspect=semsort |
| | inf-const_infl_rule | +0.102 | e18, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, e.aspect=semsort |
| | komme_intr-dir | -0.009 | e18, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, e.aspect=semsort |
| | komme | | e18, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, e.aspect=semsort |
| solvable | | | |
| A well formed Norwegian sentence. | | | |
| | head-subject-rule | +0.409 | ltop=h0, index=e1 |
| | hun_perspron | +0.000 | h3: hun_pron_rel ([arg0:x2]) |
| | hun | | h4: pronoun_q_rel ([arg0:x2, rstr:h5, body:h6]) |
| | head-verb-inf-or-s-comp-rule | +0.392 | h7: love_v-ditr_rel ([arg0:e1, arg1:x2, arg2:h8, arg3:x9]) |
| | head-verb-comp-rule | +0.216 | h10: _1sg-pron_rel ([arg0:x9]) |
| | pret-nonfstr-et_infl_rule | +0.000 | h11: pronoun_q_rel ([arg0:x9, rstr:h12, body:h13]) |
| | love_switch-equi | +0.000 | h8: _inf-mark_rel ([arg0:u14, arg1:h15]) |
| | lovet | | h15: _PERMIT-få_rel ([arg0:e16, arg1:x2, arg2:h17]) |
| | meg_perspron | +0.216 | h17: _komme_v-intr_rel ([arg0:e18, arg1:x9]) |
| <input type="button" value="generate"/> | meg | | h17: _komme_v-intr_rel ([arg0:e18, arg1:x9]) |
| | head-complementizer-comp-equinfl-rule | +0.144 | < qeq(h5,h3), qeq(h12,h10) > |
| | å_inf-comp | +0.042 | e1, sort=verb-act-specification, sf=prop, e.tense=pret, e.mood=indicative, e.aspect=semsort |
| | å | | e1, sort=verb-act-specification, sf=prop, e.tense=pret, e.mood=indicative, e.aspect=semsort |
| | head-auxverb-invert-bareinfin-comp-rule | | |

Norwegian Computational HPSG-Grammar NorSource

Demo with ACE as webservice, version 2.2 (for further guidelines, see [Info](#))

hun ber meg om å komme

Grammar MalGram NorSource Feedback Language

- MalGram
- NorSource

| # | Syntax | Score | Mrs |
|---|--------------------------------------|--------|--|
| | head-subject-rule | +0.708 | ltop=h0, index=e1 |
| | hun_perspron | +0.000 | h3:hun_pron_rel([arg0:x2]) |
| | hun | | h4:_pronoun_q_rel([arg0:x2, rstr:h5, body:h6]) |
| | head-verb-preprais-comp-rule | +0.708 | h7:_be_v-trObl_rel([arg0:e1, arg1:x2, arg2:x8, argobl:h9]) |
| | head-verb-comp-rule | +0.406 | h10:_1sg-pron_rel([arg0:x8]) |
| | pres-infl_rule | +0.000 | h11:_pronoun_q_rel([arg0:x8, rstr:h12, body:h13]) |
| | be_obj-eq-pp | +0.000 | h9:_om_p-rais_rel([arg0:u14, arg1:u15, arg2:h16]) |
| | ber | | h16:_inf-mark_rel([arg0:u17, arg1:h18]) |
| | meg_perspron | +0.216 | h18:_komme_v-intr_rel([arg0:e19, arg1:x8]) |
| <input type="button" value="generate"/> | meg | | < qeq(h5,h3), qeq(h12,h10) > |
| | head-prep-rais-comp-rule | +0.301 | e1, sort=verb-act-specification, sf=prop, e.tense=pres, e.mood=indicative, |
| | om_rais | +0.000 | e.aspect=semsort |
| | om | | x2, wh=-, png.ng.num=sing, png.ng.gen=f, png.pers=thirdpers |
| | head-complementizer-comp-equinf-rule | +0.115 | x8, wh=-, png.ng.num=sing, png.pers=firstpers |
| | å_inf-comp | +0.042 | e19, wh=-, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, |
| | å | | e.aspect=semsort |
| | inf-const_infl_rule | +0.102 | |
| | komme_intr-dir | -0.009 | |
| | komme | | |
| solvable | | | |
| A well formed Norwegian sentence. | | | |
| | head-subject-rule | +0.708 | ltop=h0, index=e1 |
| | hun_perspron | +0.000 | h3:hun_pron_rel([arg0:x2]) |
| | hun | | h4:_pronoun_q_rel([arg0:x2, rstr:h5, body:h6]) |
| | head-verb-preprais-comp-rule | +0.708 | h7:_be_v-trObl_rel([arg0:e1, arg1:x2, arg2:x8, argobl:h9]) |
| | head-verb-comp-rule | +0.406 | h10:_1sg-pron_rel([arg0:x8]) |
| | pres-infl_rule | +0.000 | h11:_pronoun_q_rel([arg0:x8, rstr:h12, body:h13]) |
| | be_obj-eq-pp | +0.000 | h9:_om_p-rais_rel([arg0:u14, arg1:u15, arg2:h16]) |
| | ber | | h16:_inf-mark_rel([arg0:u17, arg1:h18]) |
| | meg_perspron | +0.216 | h18:_komme_v-intr_rel([arg0:e19, arg1:x8]) |
| <input type="button" value="generate"/> | meg | | < qeq(h5,h3), qeq(h12,h10) > |
| | head-prep-rais-comp-rule | +0.301 | e1, sort=verb-act-specification, sf=prop, e.tense=pres, e.mood=indicative, |
| | om_rais | +0.000 | e.aspect=semsort |
| | om | | x2, wh=-, png.ng.num=sing, png.ng.gen=f, png.pers=thirdpers |
| | head-complementizer-comp-equinf-rule | +0.115 | |
| | å_inf-comp | +0.042 | |

Norwegian Computational HPSG-Grammar NorSource

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hun ber meg om å få komme

Grammar MalGram NorSource Feedback Language

- MalGram
- NorSource

| # | Syntax | Score | Mrs |
|---|--------------------------------------|--------|--|
| | head-subject-rule | +0.737 | ltop=h0, index=e1 |
| | hun_perspron | +0.000 | h3:hun_pron_rel([arg0:x2]) |
| | hun | | h4:_pronoun_q_rel([arg0:x2, rstr:h5, body:h6]) |
| | head-verb-preprais-comp-rule | +0.737 | h7:_be_v-trObl_rel([arg0:e1, arg1:x2, arg2:x8, argoblq:h9]) |
| | head-verb-comp-rule | +0.406 | h10:_1sg-pron_rel([arg0:x8]) |
| | pres-infl_rule | +0.000 | h11:_pronoun_q_rel([arg0:x8, rstr:h12, body:h13]) |
| | be_switch-equi | +0.000 | h9:_om_p-rais_rel([arg0:u14, arg1:u15, arg2:h16]) |
| | ber | | h16:_inf-mark_rel([arg0:u17, arg1:h18]) |
| | meg_perspron | +0.216 | h18:_PERMIT-få_rel([arg0:e19, arg1:x8, arg2:h20]) |
| | meg | | h20:_komme_v-intr_rel([arg0:e21, arg1:x2]) |
| <input type="button" value="generate"/> | head-prep-rais-comp-rule | +0.330 | < qeq(h5,h3), qeq(h12,h10) > |
| | om_rais | +0.000 | e1, sort=verb-act-specification, sf=prop, e.tense=pres, e.mood=indicative, |
| | om | +0.144 | e.aspect=semsort |
| | head-complementizer-comp-equinf-rule | +0.042 | x2, wh=-, png.ng.num=sing, png.ng.gen=f, png.pers=thirdpers |
| | å_inf-comp | +0.102 | x8, wh=-, png.ng.num=sing, png.pers=firstpers |
| | å | +0.000 | e19, wh=-, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, |
| | head-auxverb-bareinfin-comp-rule | +0.000 | e.aspect=semsort |
| | inf-const_infl_rule | +0.000 | e21, sort=verb-act-specification, sf=prop, e.tense=tense, e.mood=indicative, |
| | få_aux | +0.102 | e.aspect=semsort |
| | få | -0.009 | |
| | inf-const_infl_rule | | |
| | komme_intr-dir | | |
| | komme | | |
| solvable | | | |
| A well formed Norwegian sentence. | | | |
| | head-subject-rule | +0.737 | ltop=h0, index=e1 |
| | hun_perspron | +0.000 | h3:hun_pron_rel([arg0:x2]) |
| | hun | | h4:_pronoun_q_rel([arg0:x2, rstr:h5, body:h6]) |
| | head-verb-preprais-comp-rule | +0.737 | h7:_be_v-trObl_rel([arg0:e1, arg1:x2, arg2:x8, argoblq:h9]) |
| | head-verb-comp-rule | +0.406 | h10:_1sg-pron_rel([arg0:x8]) |
| | pres-infl_rule | +0.000 | h11:_pronoun_q_rel([arg0:x8, rstr:h12, body:h13]) |
| | be_obj-eq-pp | +0.000 | h9:_om_p-rais_rel([arg0:u14, arg1:u15, arg2:h16]) |
| | ber | | h16:_inf-mark_rel([arg0:u17, arg1:h18]) |
| | meg_perspron | +0.216 | h18:_PERMIT-få_rel([arg0:e19, arg1:u20, arg2:h21]) |
| | meg | | h21:_komme_v-intr_rel([arg0:e22, arg1:x2]) |
| | head-prep-rais-comp-rule | +0.330 | |