

Problem Set Two

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Advances in Logical Grammar

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These problems are due in class, or by 17:00 by email, on Wednesday, June 27, 2012.

Problems 1 through 3

Using the version of LG with the generalized version of the Trace Axiom Schema

$$x; B; z \vdash x; B'; z \text{ (for } B \leq B')$$

give sequent-style natural-deduction derivations of the rules D1, D2, and D3. You can omit the pheno and semantic term annotations and just give the tectos in the sequents.

[*Hint:* Remember that to prove a derived rule, you can (and must) use the premisses of the rule as if they were axioms, together with logical axioms of the usual kind provided by the Generalized Trace Axiom Schema; and the end sequent of the proof should be the conclusion of the rule being proved.]

Problem 4

Give an LG proof (complete with pheno and semantic terms) for the sentence

- (1) Some donkey that Mary believed that Chiquita kicked brayed.

Be sure that at each step of the proof, you simplify the pheno and semantic terms (by doing all possible application of lambda calculus rule (η)).

[*Hint:* All the lexical entries you need are given in the slides lgsl.pdf. The definitions of the semantic terms **that** and **some** are given in agnosl.pdf.]

Problem 5

Give two complete LG proofs for the sentence *every farmer beat a donkey*, one for each of the two possible scopes of the two QPs.