2) (1)1∀x(Fx->Gx∧Hx) S
(2)2.∃xFx S
(3)3.Fa S
(1)4.Fa->Ga∧Ha E∀1
(1)(3)5.Ga∧Ha Mpp3,4
(1)(3)6.Ha E∧5
(1)(3)7.∃xHX I∃6
(1)(2)8.∃xHx E∃2,3,7

3) (1)1∀x(Fx v Gx->Hx) S
(2)2.∃x~Hx S
(3)3.~Ha S
(1)4.Fa v Ga->Ha E∀1
(1)(3)5.~(Fa v Ga) Mtt3,4
(1)(3)6.~Fa ∧~Ga L.Morgan5
(1)(3)7.~Fa E ∧6
(1)(3)8.∃x~Fx I∃7
(1)(2)9. .∃x~Fx E∃2,3,8

4) (1)1∀x(Fx ->~Gx) S
(2)2.∃x(Hx ∧ Gx) S
(3)3.Ha ∧ Ga S
(1)4.Fa ->~Ga E∀1
(3)5.Ga E∧3
(3)6.Ha E∧3
(1)(3)7.~Fa Mtt4,5
(1)(3)8.Ha∧~Fa I∧6,7
(1)(3)9.∃x(Hx∧~Fx) I∃8
(1)(2)10.∃x(Hx∧~Fx) E∃2,3,9

5) (1)1∃x(Fx ∧ Gx) S
(2)2.∀x(Fx ->Hx) S
(3)3.Fa ∧ Ga S
(2)4.Fa ->Ha E∀2
(3)5.Fa E∧3
(3)6.Ga E∧3
(2)(3)7.Ha Mpp4,5
(2)(3)8.Ha∧Ga I∧6,7
(2)(3)9.∃x(Hx∧ Gx) I∃8
(1)(2)10.∃x(Hx∧ Gx) E∃1,3,9