

Errata 1
Proof of Proposition 3.40

- $\vdash \varphi \vee \psi \rightarrow (\neg\psi \rightarrow \varphi)$ (tautology)
- (1) $\vdash \forall v_i(\varphi \vee \psi) \rightarrow \forall v_i(\neg\psi \rightarrow \varphi)$ gen., (L2)
- (2) $\vdash \forall v_i(\neg\psi \rightarrow \varphi) \rightarrow (\neg\psi \rightarrow \forall v_i\varphi)$ Proposition 3.38
- (3) $\vdash (\neg\psi \rightarrow \forall v_i\varphi) \rightarrow \forall v_i\varphi \vee \psi$ taut.
- (4) $\vdash \forall v_i(\varphi \vee \psi) \rightarrow \forall v_i\varphi \vee \psi$ (1)–(3), taut.
- (5) $\vdash \forall v_i\varphi \rightarrow \varphi$ Cor. 3.28
- (6) $\vdash \forall v_i\varphi \vee \psi \rightarrow \varphi \vee \psi$ (5), taut.
- (7) $\vdash \forall v_i(\forall v_i\varphi \vee \psi) \rightarrow \forall v_i(\varphi \vee \psi)$ (6), gen., (L2)
- (8) $\vdash \forall v_i\varphi \vee \psi \rightarrow \forall v_i(\forall v_i\varphi \vee \psi)$ Prop. 3.29
- (9) $\vdash \forall v_i\varphi \vee \psi \rightarrow \forall v_i(\varphi \vee \psi)$ (7), (8), taut.

Now the proposition follows from (4), (9).