

APPENDIX 2

*Valid and Invalid Inference Rules for Counterfactuals*

| Valid  | Invalid  |
|--|--|
| $\phi \Box \rightarrow \chi, \phi \ \&\ \chi \Box \rightarrow \psi \vDash \phi \Box \rightarrow \psi$                  | $\phi \Box \rightarrow \chi, \chi \Box \rightarrow \psi \vDash \phi \Box \rightarrow \psi$ |
| $\phi \Box \rightarrow \chi, \Box[\chi \supset \psi] \vDash \phi \Box \rightarrow \psi$                                | $\Box[\phi \supset \chi], \chi \Box \rightarrow \psi \vDash \phi \Box \rightarrow \psi$    |
| $\phi \Box \rightarrow \psi, \phi \Diamond \rightarrow \chi \vDash \phi \ \&\ \chi \Box \rightarrow \psi$              | $\phi \Box \rightarrow \psi \vDash \phi \ \&\ \chi \Box \rightarrow \psi$                  |
| $\Box[\phi \equiv \chi], \chi \Box \rightarrow \psi \vDash \phi \Box \rightarrow \psi$                                 |  |
| $\phi \Box \rightarrow \chi, \chi \Box \rightarrow \phi, \chi \Box \rightarrow \psi \vDash \phi \Box \rightarrow \psi$ |  |
| $\chi \Diamond \rightarrow \phi, \chi \ \&\ \phi \Box \rightarrow \psi \vDash \chi \Diamond \rightarrow \psi$          |  |
| $\chi \Box \rightarrow \phi, \chi \ \&\ \phi \Diamond \rightarrow \psi \vDash \chi \Diamond \rightarrow \psi$          |  |
| $\Box[\phi \supset \psi] \vDash \phi \Box \rightarrow \psi$  |  |

(Further valid and invalid inference rules involving counterfactuals can be found in Lewis 1973b: 31–36 and 1973c.)