

# Ethics Chapter 1

**Def. 1**  $C(x, x) \Leftrightarrow IE(E, x)$   
**Def. 2**  $Fi(x) \Leftrightarrow \exists y \text{ s.t. } L(x, y) \ \& \ Es(x) = Es(y)$   
**Def. 3**  $S(x) \Leftrightarrow \ln(x, x) \ \& \ Ct(x, x)$   
**Def. 4**  $At(x, y) \Leftrightarrow S(y) \ \& \ Ip(x, y) \ \& \ \ln(x, Es(y))$   
**Def. 5**  $M(x) \Leftrightarrow S(y) \ \& \ Af(x, y) \Leftrightarrow z = x \ \& \ \ln(x, z) \ \& \ z = x \ \& \ \ln(x, z) \ \& \ Ct(x, z)$   
**Def. 6**  $At(x, y) \Rightarrow \ln(x, Es(G))$   
**Def. 7**  $F(x) \Leftrightarrow x \gg x$   
**Def. 8**  $S(y) \ \& \ Ip(x, y) \ \& \ \ln(x, Es(y)) \Rightarrow y = x \ \& \ y \gg x$   
**Ax. 1**  $\ln(x, x) \parallel y = x \ \& \ \ln(x, y)$   
**Ax. 2**  $(\exists x, x \neq y \text{ s.t. } Ct(x, y) \Rightarrow Ct(y, y))$   
**Ax. 3**  $\sim C(\_ , x)$   
**Ax. 4**  $C(x, y) \ \& \ K(y) \Rightarrow K(x) \ \& \ \ln(K(x), K(y))$   
**Ax. 5**  $\sim Sc(x, y) \Rightarrow \sim \ln(K(x), K(y)) \ \& \ \sim \ln(K(y), K(x))$   
**Ax. 6**  $T(K(x)) \Leftrightarrow Ag(K(x), x)$   
**Ax. 7**  $\text{Con}[\sim E(x)] \Rightarrow \sim IE(E, x)$

Note: "Formalization" of these propositions is only a short-hand, and not meant to be used to examine the correctness of Spinoza's deductions, unless you want to look like a fool.  
 At the very least you would need to add some universal quantifiers.

**Legend:**  
 Ax. = Axiom  
 Def. = Definition  
 P. = Proposition  
 C. = Corollary  
 S. = Scholium  
 T.I. = Terminological introduction:  
 Spinoza abbreviates some proposition with a new phrase  
 Red = Used in alternate proof  
 Blue = Proposition or corollary not used to prove any further propositions in this chapter  
 Green = Supposition: used in proof but not mentioned explicitly by Spinoza as being used  
**From Logic:**  
 $\Rightarrow$  = logical implication  
 $\Leftrightarrow$  = if and only if  
 $\ \& \$  = and (conjunction)  
 $\ \vee \$  = or (disjunction)  
 $\ \sim \$  = not  
 $\ \text{s.t.}$  = such that  
 $\ \exists$  = there is no x  
 $\ \forall$  = there is some x  
 $\ = \$  = identical to  
 $\ \neq \$  = is not identical to  
 $\ \#$  = the number of ...  
 $\ + \$  = composition of parts to whole  
**From Spinoza:**  
 $C(x, y)$  = x is the cause of y, y is produced by x  
 $IE(P, x)$  = P is in the essence of x =  $\ln(P, Es(x))$   
 $E$  = existence  
 $Fi(x)$  = x is finite in its own kind  
 $Es(x)$  = the essence or nature of x  
 $L(x, y)$  = x is limited by y  
 $S(x)$  = x is a substance  
 $\ln(x, y)$  = x is in y  
 $Ct(x, y)$  = x is conceived through y  
 $At(x, y)$  = x is an attribute of y  
 $[x]$  = some proposition, x  
 $Ip(x, y)$  = the intellect perceives x of y  
 $[x] \gg [y]$  = x determines y  
 $M(x)$  = x is a mode  
 $Af(x, y)$  = x is an affection of y  
 $G$  = God  
 $E(x)$  = x exists  
 $F(x)$  = x is free  
 $\text{Cm}(x)$  = x is compelled =  $\sim F(x)$   
 $Et$  = eternity  
 $\_$  = nothing  
 $K(x)$  = knowledge of x  
 $Sc(x, y)$  = x and y have something in common  
 $T(x)$  = x is true  
 $Ag(x, y)$  = agrees with  
 $\text{Con}[x]$  = proposition x can be conceived of

