Submission 2.1

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1. Translate into smooth English:

$$\forall x \forall y((Px \wedge Ty \wedge Dxy \wedge Oxy) \Rightarrow \neg \exists z(Pz \wedge Kzxy)).$$

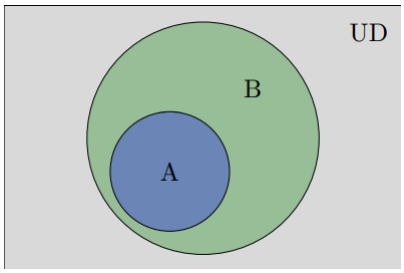
   Let "Px" mean "x is a person", and "Tx" mean "x is a time", and "Dxy" mean "x is down at time y", and "Oxy" mean "x is out at time y", and "Kxyz" mean "x knows y at time z".

   For all x and all y, if x is a person, and y is a time, x is down at time y, and x is out at time y then there doesn't exist a person z that knows x at time y.

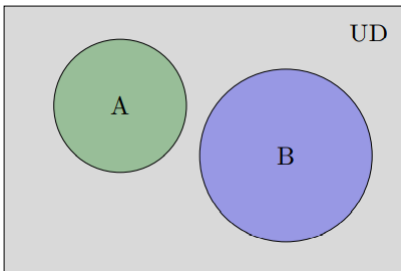
2. 2. All's well that ends well. (Shakespeare)
   W: It is well
   E: Ends well
   $\forall x(Ex \Rightarrow Wx)$

3. ...the things which are seen are temporal; but the things which are not seen are eternal. (II Corinthians 4:18)
   S: Things are seen
   T: Things are temporal
   E: Things are eternal

   $\forall x(Sx \Rightarrow Tx) \wedge (\neg Sx \Rightarrow Ex)$

4. 

   $\forall x(Ax \Rightarrow Bx)$

5. 

$\forall x(Ax \Rightarrow \neg Bx)$

6. If you don't love yourself, you can't love anybody else
y: yourself
Lxy: x loves y
x: All people

$\forall x \forall y(\neg Lyy \Rightarrow \neg Lyx)$

7. N Sync is the best band ever.
n: N Sync
x: All bands
Bnx: n is the best band of x
$\forall x(Bnx)$

8. Somebody loves everybody.
s: Somebody
x: everybody
Lxy: x loves y
$\exists s \forall x(Lsx)$

9. There is someone for everybody.
s: Someone
e: Everybody
Txy: x is there for y
$\exists s \forall e(Tse)$

10. Scrooge doesn't love anybody.
s: Scrooge
e: Everybody
Lxy: x loves y
$\forall e(\neg Lse)$

11. Only the shallow know themselves. (Oscar Wilde)
s: shallow people
t: themselves
Kxy: Only x know y
$\exists s(Kst)$

12. Everybody has a mother.
    m: mother
    Hxy: x has a y
    $\forall x \exists m(Hxm)$

13. There are at least two pigs.
    Px: x is a pig
    $\exists x \exists y(\neg x = y \wedge P(x) \wedge P(y))$

14. There are exactly two pigs.
    Px: x is a pig
    $\exists x \exists y((\neg x = y) \wedge (Px \wedge Py)) \wedge \forall z(Pz \Rightarrow (x = z \vee y = z))$

15. There are at most two pigs.
    Px: x is a pig
    $\forall x \forall y \forall z(Px \wedge Py \wedge Pz) \Rightarrow (x = y \vee x = z \vee y = z)$