

Translation with Identity II

**I. Some Translations**

1. Everything is identical with itself.
2. Nothing is distinct from itself.
3. Everything is identical with something.
4. John loves Mary.
5. John only loves Mary.
6. Only John loves Mary.
7. Everyone loves Mary.
8. Everyone except John loves Mary.
9. Everyone deems all Beatles' records except *Let It Be* to be classics.
10. Adriana is a bigger mouse than Rene.
11. Adriana is the biggest mouse.
12. Bill Gates is the geek with the most money.

**II. Exactly**

1. There are at least two applicants.
2. There are at most two applicants.
3. There are exactly two applicants.
4. There are exactly two chipmunks in the yard.
5. Two is the only even prime number.
6. There is exactly one even prime number.
7. There are exactly three aardvarks on the log.

### III. Definite Descriptions

1. The king of America is bald.  
Bk
2. The king of America is not bald.  
~Bk
3. Devendra Banhart is not bald.  
~Bb  
That's fine; he's hairy.  
But we don't want '~Bk' to mean that the king of America is hairy.

Russell's solution:

- 1 entails three simpler expressions:
  - A. There is a king of America.
  - B. There is only one king of America.
  - C. That thing is bald.
4. The country called a sub-continent is India.
  - A. There is a country called a sub-continent.
  - B. There is only one such country.
  - C. That country is identical with India.
5. The author of Waverly was a genius.

### IV. More Translations

1. All prime numbers are odd except the number two.
2. There is at least one mouse bigger than Rene.
3. There are at least two mice bigger than Rene.
4. There are at least three mice bigger than Rene.
5. Rene is the smallest mouse.
6. Syracuse is the nearest major city.
7. There are at least two odd prime numbers.
8. At most two persons invented the airplane.
9. There is exactly one dollar bill in my wallet. (Dx, Wx)
10. There are at least four students in the course. (Sx, Cx)
11. There are exactly three applicants.
12. The murderer was Colonel Mustard. (m, Mx)