**Model theory – A formalization of a “database”**

**Quiz question**

- Which individuals are the red things in Palo Alto?
- Who respects Kathy (k)?

**A disappointment**

Our first idea for NPs with determiner didn’t work out:

"A man" → ∃x.man(x)

"A man loves Mary" → ∃x.man(x),mary

But what was the idea after all? Nothing!

∃x.man(x) just isn’t the meaning of “a man”.

If anything, it translates the complete sentence “There is a man”.

Let’s try again, systematically…

**Curried multi-argument functions**

**Adding more complex NPs**

NP: A man → ∃x.man(x)

S: A man loves Mary

→ ∃x.man(x),mary

- How to fix this?

**A solution for quantifiers**

What we want is:

"A man loves Mary" → ∃x.man(x),mary

What we have is:

“man” → λy.man(y)

“loves Mary” → λx.love(x,mary)

How about:

∃x.man(y)(z) ∧ λx.love(x,mary)(z)

Remember: We can use variables for any kind of term.

So next:

λP(λQ.∃z(P(z) ∧ Q(z))) ← "A"