

## Chapter Three Translation Problems Set 4 #C1, #C2, #C4: WebCT Discussion

*Problem:* **Translate** each of the following English sentences into the formal language.

*Discussion:*

C1. Jack will neither eat turkey nor drink whiskey.

(**P**: Jack will eat turkey. **Q**: Jack will drink whiskey.)

The translation begins by picking out the form phrases – here, just “*neither... nor*”.

C1. Jack will ~~neither~~ eat turkey ~~nor~~ drink whiskey.

(**P**: Jack will eat turkey. **Q**: Jack will drink whiskey.)

That leaves the subject matter sentences “*Jack will eat turkey*” and “*Jack will drink whiskey*”. (Note that the repeated words “*Jack will*” are deleted in the second sentence.)

C1. Jack will ~~neither~~ eat turkey ~~nor~~ drink whiskey.

(**P**: Jack will eat turkey. **Q**: Jack will drink whiskey.)

Neither **P** nor **Q**

“*Neither... nor*” is translated as the negation of an “*either... or*”.

Neither **P** nor **Q**

$\sim(\mathbf{P} \vee \mathbf{Q})$

C2. Suki won't attend the meeting, unless neither Ace nor Rex are coming to work.

(**P**: Suki will attend the meeting. **Q**: Ace is coming to work. **R**: Rex is coming to work)

This sentence has the form phrases “*n't*,” “*unless*,” and “*neither...nor*”. Putting those aside leaves just three subject matter sentences.

C2. Suki won't attend the meeting, ~~unless neither Ace nor Rex~~ are coming to work.

(**P**: Suki will attend the meeting. **Q**: Ace is coming to work. **R**: Rex is coming to work)

N't **P**, unless neither **Q** nor **R**

The competition to be main connective is settled by the comma clue: “*unless*” falls right by the comma, making it the main form phrase here. “*Unless*” is translated by the vel.

N't **P**, unless neither **Q** nor **R**

( N't **P** ∨ neither **Q** nor **R** )

“N't” is translated by the tilde, while “neither... nor” is the negation of a disjunction.

( N't **P** ∨ neither **Q** nor **R** )

( ~**P** ∨ ~(**Q** ∨ **R**) )

C4. Rex will not pass the exam unless he's a genius who doesn't need to study.

(**P**: Rex will pass the exam. **Q**: Rex is a genius. **R**: Rex needs to study)

Here the form phrases are “*not*,” “*unless*,” “*n't*” – plus the ‘disguised’ conjunction of the relative clause “who doesn't need to study.”

The whole relative clause sentence – “he's a genius who doesn't need to study” – is thus translated as a conjunction.

C4. Rex will not pass the exam unless he's a genius who doesn't need to study.

(**P**: Rex will pass the exam. **Q**: Rex is a genius. **R**: Rex needs to study)

Not **P** unless (**Q**  $\wedge$  n't **R**)

Both “not” and “n't” are translated by tildes.

$\sim$ **P** unless (**Q**  $\wedge$   $\sim$ **R**)

“Unless” is translated by the vel.

$\sim$ **P** unless (**Q**  $\wedge$   $\sim$ **R**)

( $\sim$ **P**  $\vee$  (**Q**  $\wedge$   $\sim$ **R**))