

3.4.1. Translation Problems

A. Translate each of the following English sentences into the formal language.
(For each translation, first build a **translation table** linking English subject matter sentences with sentence letters.)

1. Jake joined a cult, and he also shaved his head.
2. Suki will eat deviled eggs, though Neko won't.
3. Rex likes pie but Barbie doesn't
4. Buck is a dog who isn't a dog.
5. Either Logic is difficult or it's not.
6. They won't hold the reptile rodeo unless the weather improves.
7. Rex will show up for his bond hearing even though he's irresponsible.
8. Jack will neither eat turkey nor drink whiskey.
9. Rex passed Chemistry without passing Chemistry.
10. Either the results are atypical, or the experiment has failed to confirm our hypothesis.

B. For each pair of English sentences, translate both sentences into formal language, and then decide: do we translate both English sentences as **the same formal sentence**, or as two **different** formal sentences? (Use the same translation table for both sentences in the pair.)

(1a) It's not raining unless it's cloudy

(1b) Either it's not raining, or it's cloudy.

(2a) Either it's raining or it isn't.

(2b) Either it's not failing to rain, or it's not raining.

(3a) We'll have ice cream but we won't have cake.

(3b) We'll have ice cream even though we will fail to have cake.

(4a) The argument is convincing unless it's invalid.

(4b) Either the argument is convincing, or it's not valid.

C. A Puzzle About Deleted Repetition: Sometimes when subject matter sentences share some words, the **left** copy of the repeated material is deleted.

P: Rex will win the race

Q: Ace will win the race

Either Rex _____ or Ace will win the race.

But sometimes the **right** copy is deleted.

R: We will have tacos

S: We will have sushi

We will have tacos or _____ sushi.

What feature of the repeated words explains *which* copy gets deleted?