Inversion: An English Curiosity

To our list of translation variations we append a final bit of English oddness.

Translating Sentence (1) into Formalese is simple enough: with "although" the only form phrase, this sentence is a simple conjunction, taking formal conjunction (F1) as its translation.

(1) Rex was cut from the team, **although** he tried his best.

P: Rex was cut from made the team
Q: Rex tried his best

(F1) **(P ∧ Q)**

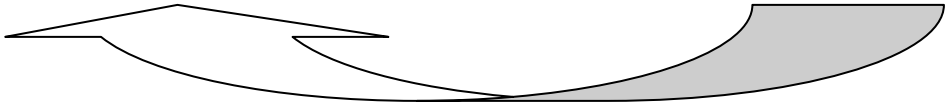
Sentence (2) seems to make the same claim as (1) – even using the same words to do so.

(2) **Although** he tried his best, Rex was cut from the team.

Yet for all its simplicity, (2) puzzles us in two ways. *First*, 'although," as a conjunction phrase, connects left and right parts. But note that there is nothing to the left of "although," getting connected to what follows. *Second*, between the two subject matter sentences "[Rex] tried his best" and "Rex was cut from the team," no form phrase appears to glue the sentences together.

Of course those two bits of oddness are just two sides of the same coin: a left-right form phrase without the usual left and right parts, and two parts lacking a left-right form phrase to unite them. Intuitively, English starts with Sentence (1), and yields (2) by shifting "although," and the sentence that follows, to the front of the sentence.

(2) **Although** he tried his best, Rex was cut from the team _____.



We will say that Sentence (2) is an **inverted** version of Sentence (1).

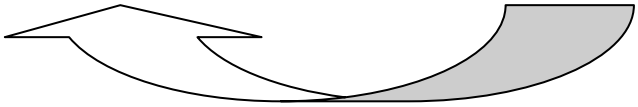
(1) Rex was cut from the team, **although** he tried his best.

(2) **Although** he tried his best, Rex was cut from the team.

Other 'left-right' form phrases of English, such as the conjunction phrase "even though" and the disjunction phrase "unless," also allow inversion.

(3) It's not raining, **even though** it's cloudy

(4) **Even though** it's cloudy, it's not raining _____.



(5) Rex will fail the exam unless he studied.

(6) **Unless** he studied, Rex will fail the exam _____.

But beware this seemingly trivial stylistic variation of English – for no such option is permitted in Formalese. The following 'inverted' formal translation of (2) is pure gibberish.

P: Rex was cut from made the team
Q: Rex tried his best

(2) **Although** he tried his best, Rex was cut from the team.

☠ Some Formal Gibberish ☠

(∧ Q P)

A wedge must always appear *between* the left and right parts it connects. **There are no inverted *formal* sentences**.

How, then, to translate an inverted English sentence such as (2)? Two options are equally acceptable.

We could *undo* the inversion in Sentence (2), then translate the standard (uninverted) conjunction. On this approach, Sentence (2) is translated (like Sentence (1)) into the formal sentence "**(P ∧ Q)**".

P: Rex was cut from made the team
Q: Rex tried his best

(2) _____ Rex was cut from the team, **although** he tried his best

(P ∧ Q)

Or we could leave the two parts of Sentence (2) where they lie – "**Q**" first, "**P**" second – so long as the formal translation recognizes that these two parts are being *conjoined* together. On this approach, Sentence (2) translates as "**(Q ∧ P)**".

We can afford to be casual about which option to follow, because in conjunctions **order of parts makes no difference to truth**: whenever it's true that "*We're having* both *ice cream* and *cake*" it's true that "*We're having* both *cake* and *ice cream*" (and vice versa). The same holds for disjunctions: whenever it's true that "*We're having* either *ice cream* or *cake*" it's true that "*We're having* either *cake* or *ice cream*" (and vice versa). And since validity depends on issues of truth, the **validity of an argument is likewise indifferent to the order of parts** in a conjunction or disjunction.