

1.3 Pronouns and tenses in translation

You should avoid **pronouns** whenever possible when translating statements from a natural language into simple statements. Sometimes we cannot avoid using pronouns, such as when we are referring to the world at large (e.g. “it is snowing”). Once we have translated our statements into symbolic form, formal logic operates on the symbols themselves. Thus, if we insert pronouns (e.g. “he,” “she,” “they,” “it,” etc.) into our simple statements, we may not know the original referent of the pronoun once we have finished dealing with the symbols. For instance, take these statements:

“Jeff and Phil both offered to buy my car. Jeff offered more money for it, but he is unreliable, so I accepted Phil’s offer instead.”

We could symbolize those statements like this:

P = “Jeff offered to buy my car.”
Q = “Phil offered to buy my car.”
R = “Jeff offered me more money for it.”
S = “He is unreliable.”
T = “I accepted Phil’s offer.”

Note that R and S are imprecise in this formulation. We may ask what the “it” is in R and who “he” is in S. Also notice that R includes a comparison, though it does not currently include the full information needed to fully understand what the comparison is between. Let us rewrite our simple statements to be clearer:

P = “Jeff offered to buy my car.”
Q = “Phil offered to buy my car.”
R = “Jeff offered me more money than Phil for my car.”
S = “Jeff is unreliable.”
T = “I accepted Phil’s offer for my car.”

Note that we have even changed the content of T to be clearer about the meaning of taking Phil’s offer, as well as R to make the comparison clear on its own. We may be tempted to rewrite T as “I sold my car to Phil.” But to be justified in doing that we would need to know that the car has, in fact, been sold to Phil, and all we are told in the original is that the speaker has accepted Phil’s offer for the car. While pronouns are a welcome part of natural language (when used with clear referents!), they are not welcome in the artificial language of statement logic. Symbolizing natural language statements in this way makes the meaning of each simple statement more precise, and thus lets us better distinguish between true and false statements as we move forward in our logical analysis.

We should briefly consider the issue of **tense** when translating statements. Arguments may concern what is presently the case, what may happen in the future, or even what has happened in the past. Some arguments concern themselves with a mixture of these possibilities. Just like the use of pronouns, the use of the three primary tenses (past, present, and future) can pose potential problems when translating natural language statements into simple statements.

One potential problem with using tenses in our simple statement translations is that tensed simple statement may be true at one time and false at another. This problem is similar to the problem that pronouns can pose: depending on the pronoun's referent, the same statement may be true or false. For example, the statement "Karl wrote a book on logic" is false at the present time (because I am still currently writing this book). However, by the time you read that sentence it will be true, because by that point the book will be finished.

There are two ways of trying to deal with this difficulty. The first is to make simple statements as precise as possible by using fixed dates. If we change the example sentence from "Karl wrote a book on logic" to "Karl was writing a book on logic in January 2021," the latter formulation will be true forever because I really was writing the book in that month of that year. Using this strategy can be quite helpful, but we don't always know enough information to formulate our simple statements this precisely.

The second strategy is to always make our simple statements in the present tense. "Karl wrote a book on logic" can become "Karl writes a book on logic." This strategy does not rely on having the precise information the first strategy requires. Given the merits of this strategy, it can be worth using the present tense when possible in creating simple statements.

However, the content of some arguments seems to rely on the distinctions between past, present, and future events. For example, a statement such as "if artwork now possessed in a collection was stolen in the past, then that artwork ought to be returned to its rightful owner" contains two tenses, and it could be used in constructing an argument about what ought to be done in the present. Translating that statement into "artwork possessed in a collection is stolen" and "that artwork ought to be returned to its rightful owner" seems to miss the point of the original statement because we are not talking about a theft that may happen now, but about a theft that has happened in the past.

Rather than trying to formulate all simple statements according to one of the two methods above, we can recognize that the truth of statements can change over time. ("Karl's dog is asleep" is true now, but was false an hour ago.) When we evaluate an argument, and we have to determine whether or not its component statements are true, we can (mentally) recognize that our evaluation itself happens at a specific point in time. A statement that is true today may be false tomorrow because the world changes.

Put simple statements in the present tense if the tense doesn't seem important to properly translating them. Otherwise, retain the original tense of the statement(s) if doing so seems important for producing an accurate translation. The latter approach is useful when you

encounter statements that explicitly concern themselves with temporal relations that connect the past, present, and future.