

# What is a proposition?

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A proposition can be defined (we will use the case of a triadic relation) as follows:

The proposition corresponding to the fact  $R(a,b,c)$  would be the relation

**proposition**( $R,a,b,c$ ) between  $R,a,b$ , and  $c$  such that

$(\exists S)(\exists t)$   $S$  **understands**  $R(a,b,c)$  at time  $t$ .

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This is not to say that the proposition is true. The proposition is true if a fact corresponds to the proposition. One can see from the proposition, what fact would have to hold for the proposition to be true, but the fact need not hold, for the proposition to exist. Also we could relax that the symbolic relations all hold for the *same person*. *We could say*

**proposition**( $R,a,b,c$ ) iff

$(\exists w)(\exists S_2)(\exists t_2)(\exists x)(\exists S_3)(\exists t_3)(\exists y) (\exists S_4)(\exists t_4)(\exists z)(\exists S_5)(\exists t_5)$

- & **symbol-R**( $S_2,t_2,w,R$ )
- & **symbol-R**( $S_3,t_3,x,a$ )
- & **symbol-R**( $S_4,t_4,y,b$ )
- & **symbol-R**( $S_5,t_5,z,c$ )

But the practices symbols are used in would have to have a sort of similarity.

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