# Toward An Analysis of Propositional Attitudes by Dennis J. Darland <br> February 20, 2016 <br> (c) 2016 Dennis J. Darland 

Assumptions:

- I'm first examining only the propositional attitude of belief - I will examine the others later.
- I will not assume people think logically.
- I will assume (just for simplicity's sake) that objects of propositional attitudes can be expressed F(a,b,...).
- These propositional attitudes will be analyzed into $1^{\text {st }}$ order predicate logic.
- The propositional attitudes themselves need not obey the rules of logic, but their analysis do.
$S$ believes $f$ of $a$ and $b$ is analyzed as:
- There are symbols F, A and B for S such that the relation belief_r hold between F, A and B
- The relation represents_r holds between S, F and f.
- The relation represents_r holds between $\mathrm{S}, \mathrm{A}$ and a.
- The relation represents_r holds between S, B and b.

S's belief is true if in addition:

- $f(a, b)$
$S$ honestly asserts $\mathbf{F}(\mathbf{A}, \mathbf{B})$ NOTE: Font change if:
- There are symbols F, A and B for S such that the relation belief_r hold between F, A and B
- The relation represents_r holds between S, F and f.
- The relation represents_r holds between S, A and a.
- The relation represents_r holds between S, B and b.
- S expresses $\mathbf{F}(\mathbf{A}, \mathbf{B})$
- The relation express_r holds between S, $\mathbf{F}$ and $F$.
- The relation express_r holds between S, A and A.
- The relation express_r holds between S, B and B.


## Comment:

Above F, A, and B are in what Jerry Fodor calls the Language of Thought (LOT).
$\mathbf{F}, \mathbf{A}$, and $\mathbf{B}$ are words in a (at least mostly) shared language.
$T$ accepts $S$ expressing $\mathbf{F}(\mathbf{A}, \mathbf{B})$ if:

- There are symbols $\mathrm{X}, \mathrm{Y}$ and Z for T such that the relation belief_r hold between $\mathrm{X}, \mathrm{Y}$ and Z
- The relation represents_r holds between T, X and f.
- The relation represents_r holds between T, Y and a.
- The relation represents_r holds between $\mathrm{T}, \mathrm{Z}$ and b .
- S expresses $\mathbf{F}(\mathbf{A}, \mathbf{B})$
- The relation express_r holds between T, $\mathbf{F}$ and X .
- The relation express_r holds between T, $\mathbf{A}$ and Y.
- The relation express_r holds between T, $\mathbf{B}$ and Z .

See that in T's LOT X, Y, and Z correspond to F, A, and B in S's LOT.
But through behavior $S$ and $T$ learn to use corresponding signs $\mathbf{F}, \mathbf{A}$, and $\mathbf{B}$ for $f$, a and $b$.

## On Quine and opacity

With this analysis, I will now consider one of Quine's examples of referential opacity, which causes him to want to give up meanings and beliefs.

On page 145 of word \& object, Quine gives an example:
(1) "Tom believes that Cicero denounced Catiline" is true.
and Tom thinks Cicero of the orations and Tully of De Senectute were two different people.
According to Quine, Cicero = Tully,
but (2) "Tom believes Tully denounced Caliline" is false.
But, according to Quine substitutivity precludes this, and thus objects of belief must be banished.
But on my analysis, (letting $S=$ Tom)
(1) is analyzed:

- There are symbols F, A and B for S such that the relation belief_r hold between F, A and B
- The relation represents_r holds between S, F and denounced.
- The relation represents_r holds between S, A and Cicero.
- The relation represents_r holds between S, B and Catiline.
- S expresses Denounced(Cicero, Catiline)
- The relation express_r holds between S, Denounced and F.
- The relation express_r holds between S, Cicero and A.
- The relation express_r holds between S, Catiline and B.
(2) is analyzed:
- There are symbols F, A and B for S such that the relation belief_r hold between F, A and B
- The relation represents_r holds between S, F and denounced.
- The relation represents_r holds between S, A and Tully.
- The relation represents_r holds between S, B and Cateline.
- S expresses Denounced(Cicero, Catiline)
- The relation express_r holds between S, Denounced and F.
- The relation express_r holds between S, Tully and A.
- The relation express_r holds between S, Catiline and B.

Substituitivity of identity does not fail, on my analysis, because Cicero not = Tully (they are words of an external language - not the people named by them) and

- not (The relation express_r holds between S, Tully and A.)
although Cicero = Tully. (the one person)
I believe all the problems with opacity can be similarly disposed of. The cases involving quantification, at least, need further consideration, and, doubtless, will be more complex.

Note F, A, B, X, Y, and Z are bound variables - sort of like dummy variables in integrals in calculus.

