Why D? Whyn't F?

Question: Given an alg. structure $A$, what rels. should automatically be imposed on $A \ast (\text{proj } A)$?

Possible Answer: Relations are imposed on operations, not on elements, and a relation is imposed iff for every choice of inputs in $A$ there exist a choice of inputs in $\text{proj } A$ that make the relation hold. What does this mean?

Maybe the trick should be to consider "polarized shielded tangles", tangles with two shields, one marked + & one marked -, with some $M \leftrightarrow M$-type relations imposed?