Participant's Question: intuition and duality of stratification and SLD-NF resolution

p <- not q

(this will be extended in the slides)

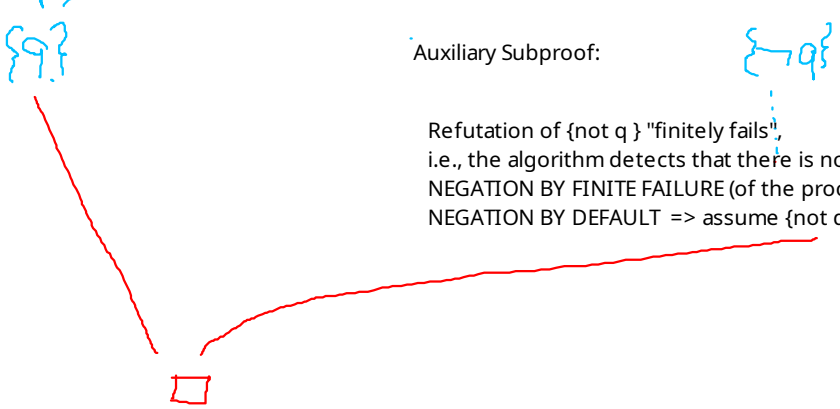
as clause:

{ p, q }

Query: ?- p.

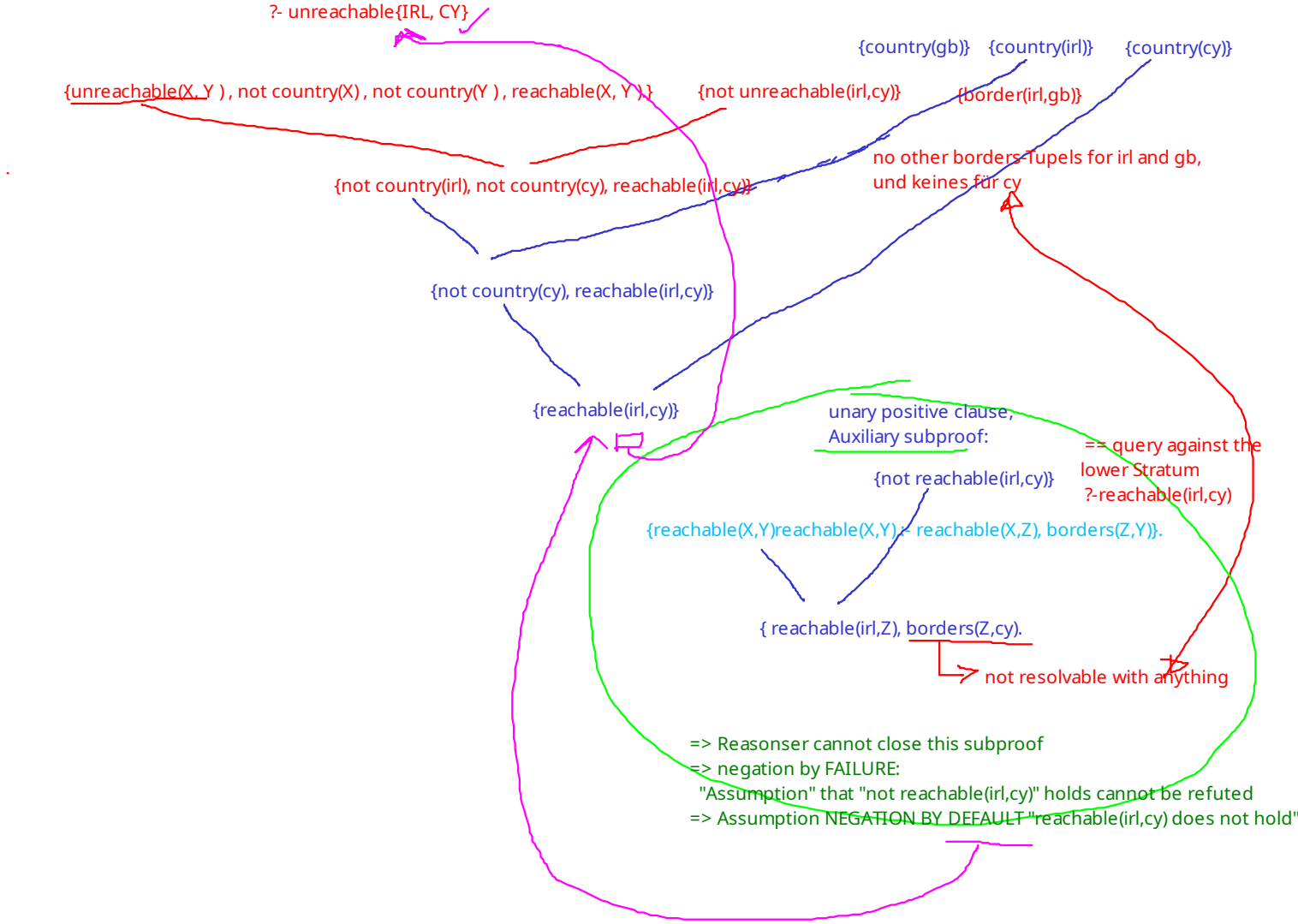
as unary clause:

{ not p }



Refutation of {not q } "finitely fails",
i.e., the algorithm detects that there is nothing that could be resolved with {not q}.
NEGATION BY FINITE FAILURE (of the proof tree)/
NEGATION BY DEFAULT => assume {not q} to hold.

main proof closes -> {not p} refuted -> p proved


?- unreachable{IRL, CY}
{country(gb)} {country(irl)} {country(cy)}
{unreachable(X, Y) , not country(X) , not country(Y) , reachable(X, Y) .}
{not unreachable(irl,cy)}
{border(irl,gb)}
no other borders-Tupels for irl and gb,
und keines für cy
{not country(irl), not country(cy), reachable(irl,cy)}
{not country(cy), reachable(irl,cy)}
{reachable(irl,cy)}
unary positive clause,
Auxiliary subproof:
== query against the
lower Stratum
?-reachable(irl,cy)
{not reachable(irl,cy)}
{reachable(X,Y)reachable(X,Y) :- reachable(X,Z), borders(Z,Y)}.
{ reachable(irl,Z), borders(Z,cy).
not resolvable with anything
=> Reasonser cannot close this subproof
=> negation by FAILURE:
"Assumption" that "not reachable(irl,cy)" holds cannot be refuted
=> Assumption NEGATION BY DEFAULT "reachable(irl,cy) does not hold"