

Resolution

$$\frac{X \vee R \quad \neg R \vee Y}{X \vee Y}$$

R does not occur
in X or Y

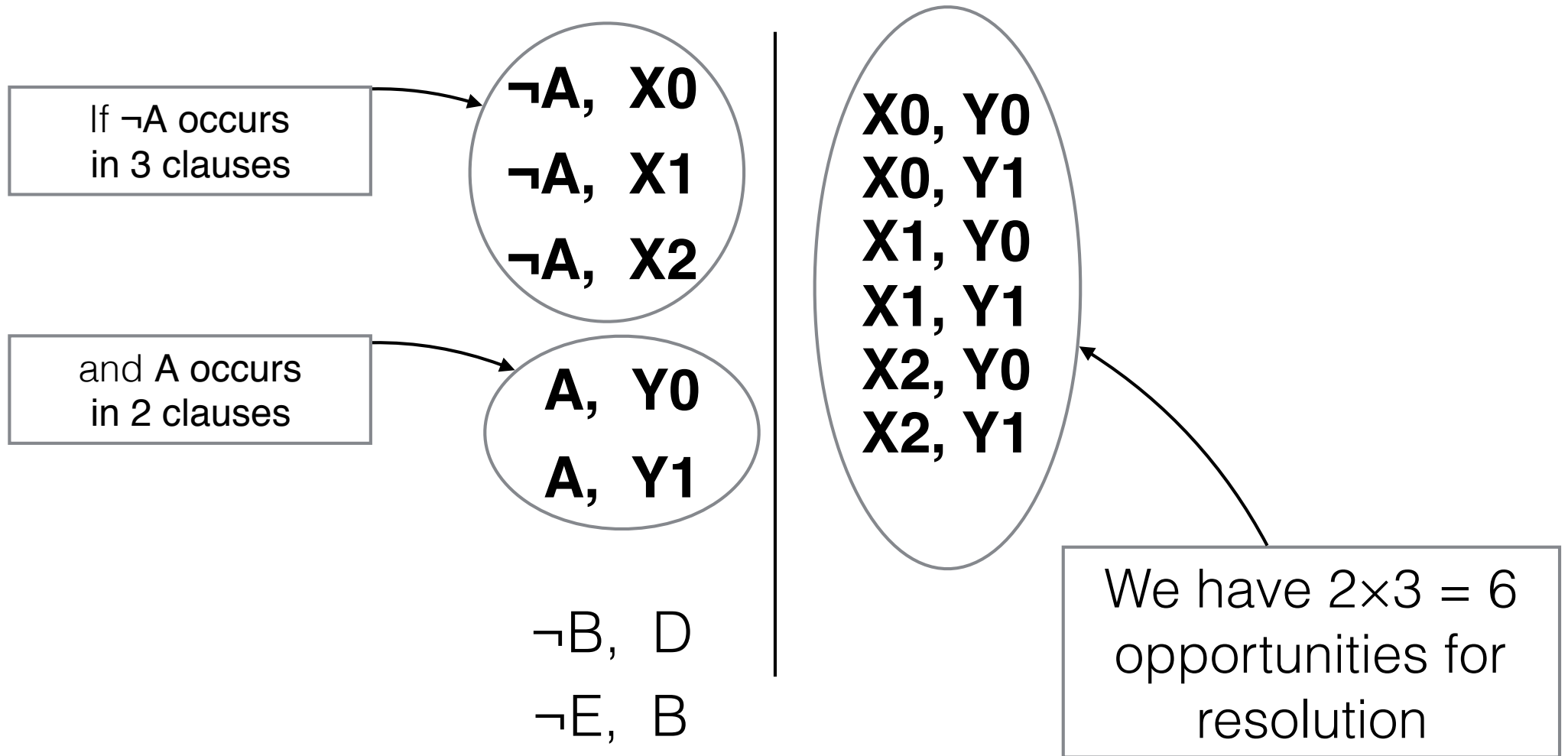
This rule is **sound**:

if a valuation satisfies both **premises**
then it satisfies the **conclusion**

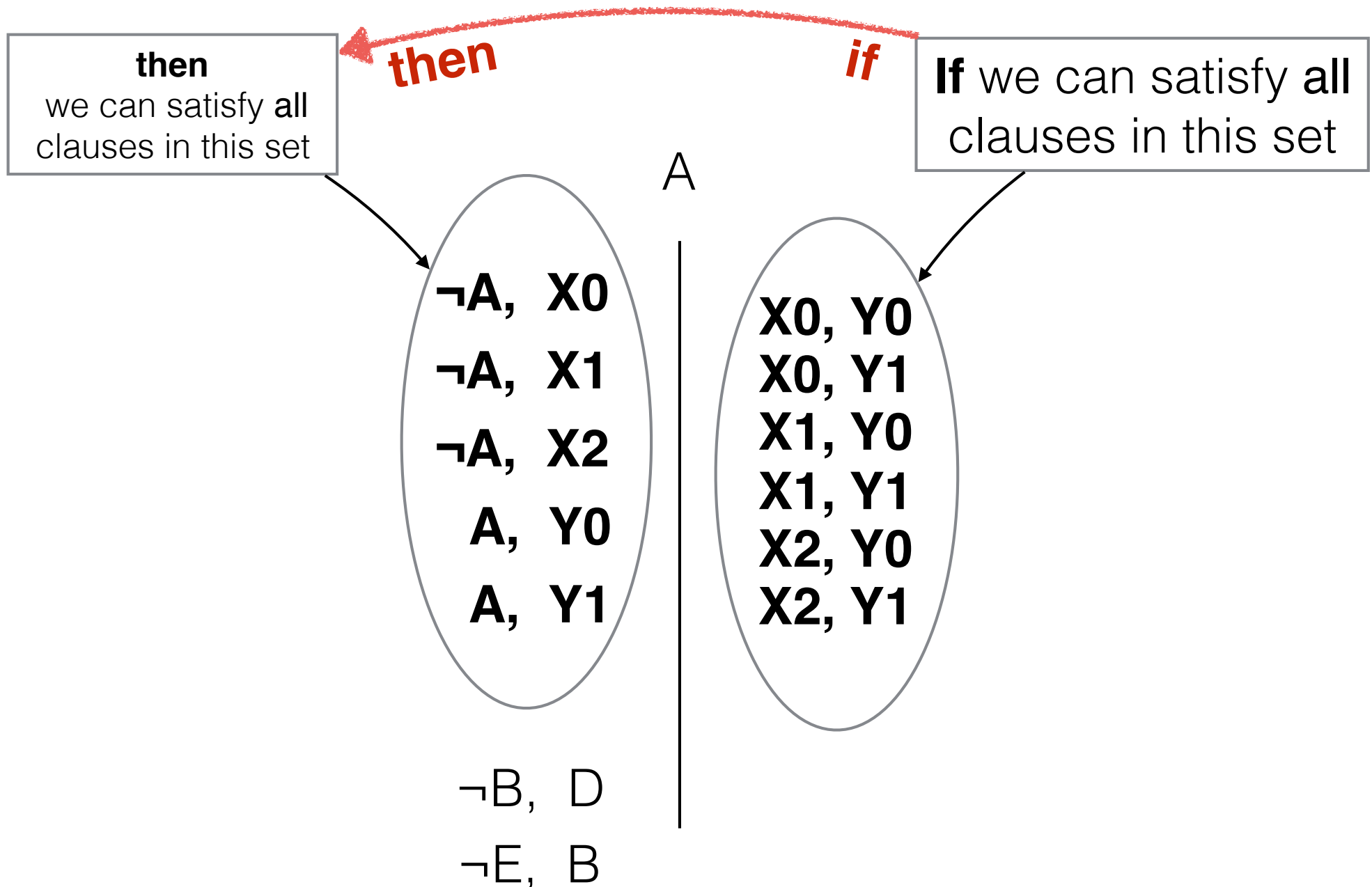
if a valuation falsifies the **conclusion**
then it falsifies one of the **premises**

Resolution on A

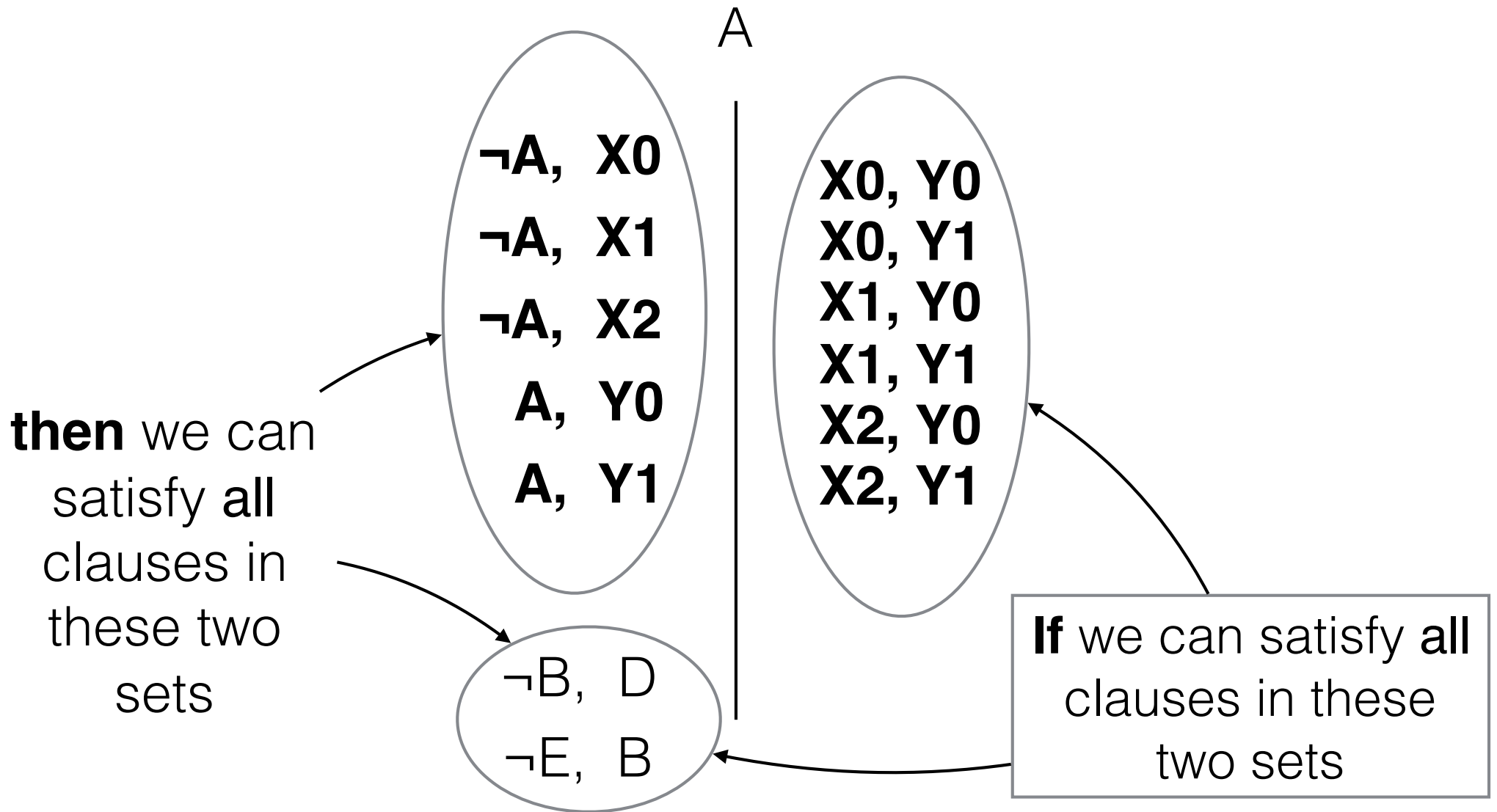
A



Making progress



Making progress



Making progress

A

~~$\neg A, X_0$~~

~~$\neg A, X_1$~~

~~$\neg A, X_2$~~

~~A, Y_0~~

~~A, Y_1~~

X_0, Y_0

X_0, Y_1

X_1, Y_0

X_1, Y_1

X_2, Y_0

X_2, Y_1

then we can satisfy all clauses in this set, so we can forget them.

These are carried forward.

$\neg B, D$

$\neg E, B$

If we can satisfy all clauses in this set