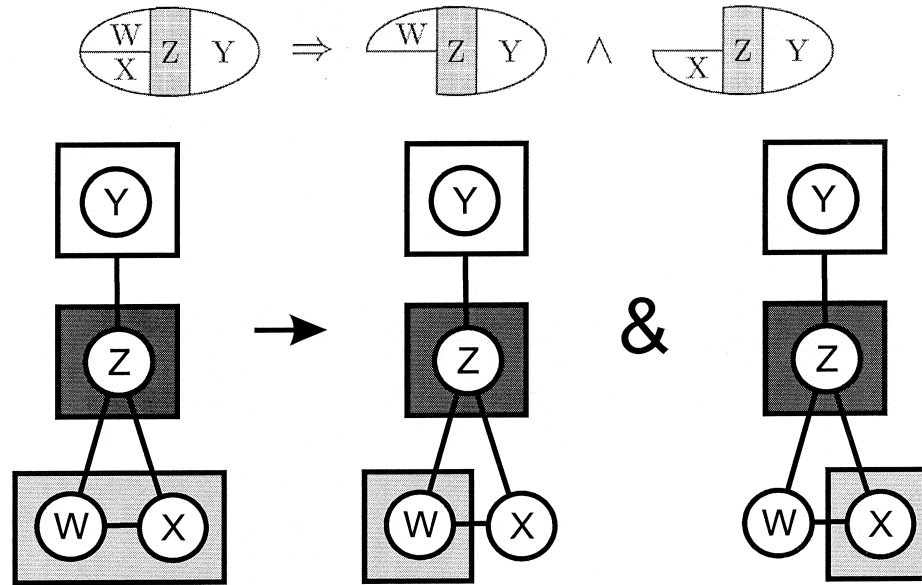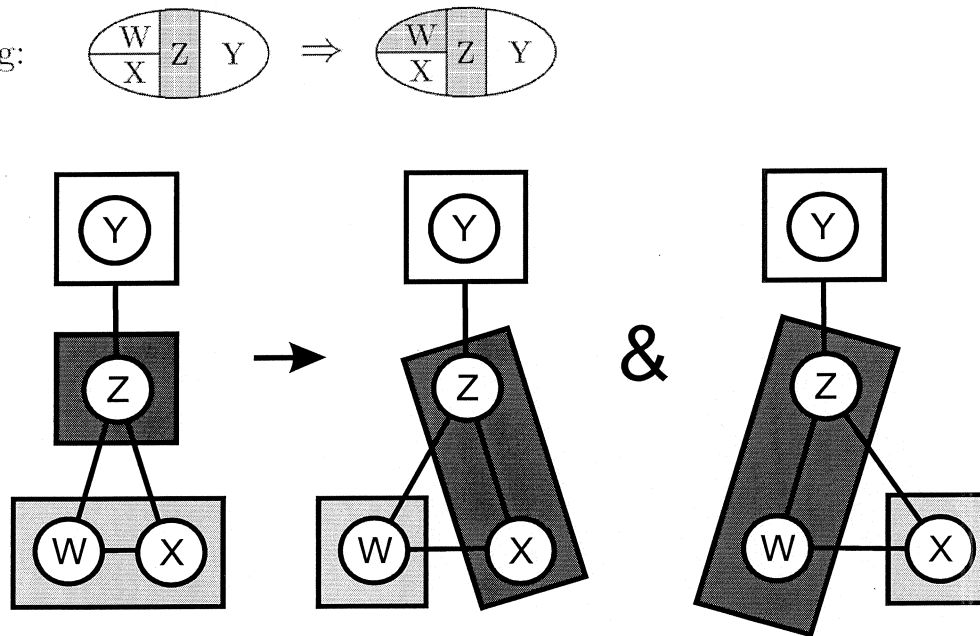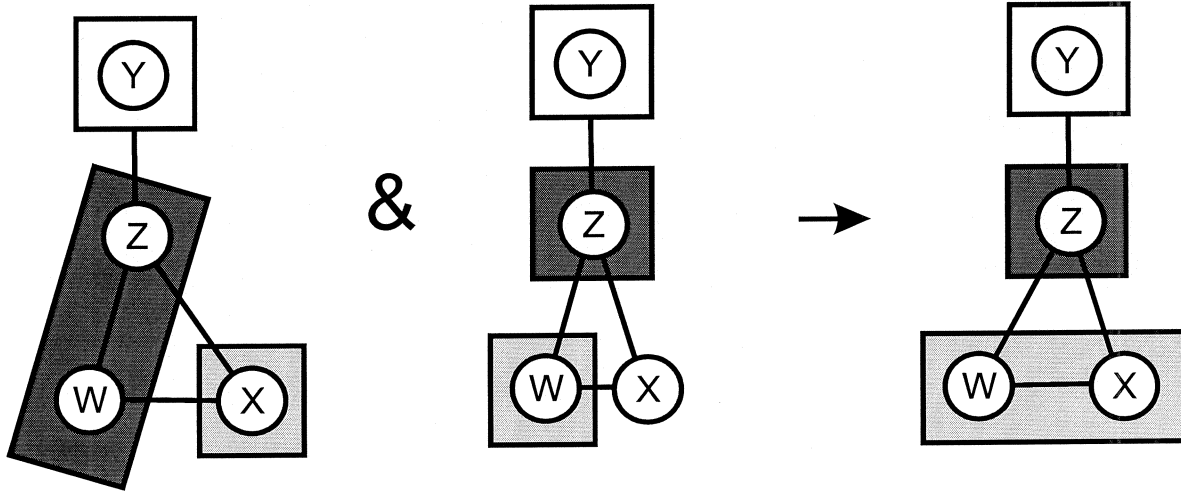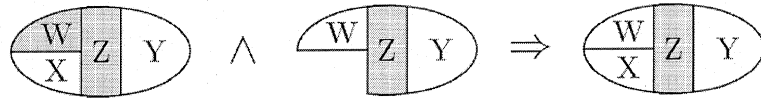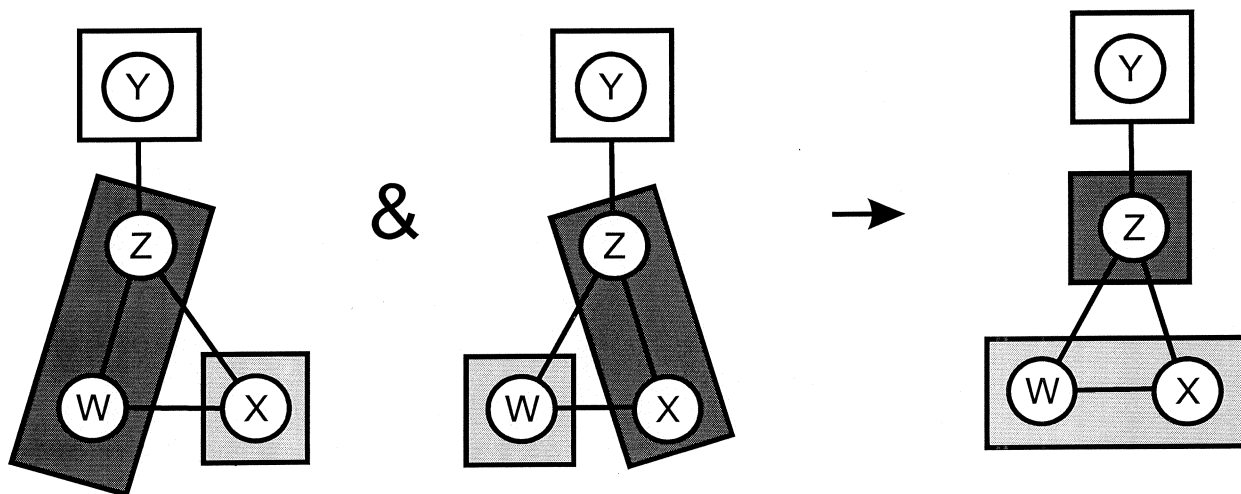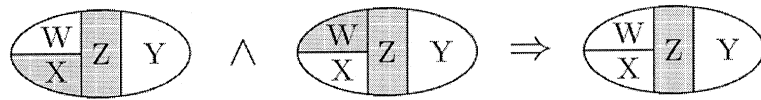Zerlegung:

Schwache Vereinigung:

Learning irrelevant information W cannot render irrelevant information X relevant.

Zusammenziehung:

$$\left(\frac{W}{X} \middle| Z \middle| Y \right) \wedge \left(W \middle| Z \middle| Y \right) \Rightarrow \left(\frac{W}{X} \middle| Z \middle| Y \right)$$

&
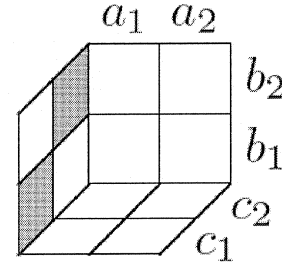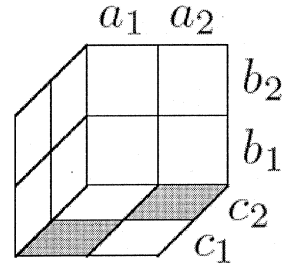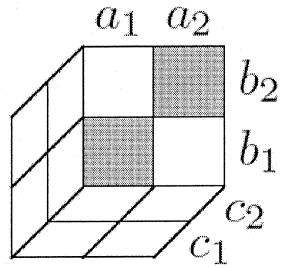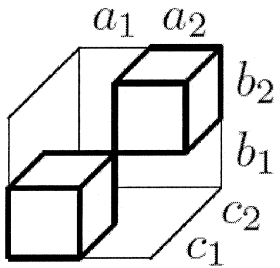
→

If X is irrelevant (to Y) after having learnt some irrelevant information W, then X must have been irrelevant before.

Schnitt:

$$\left(\frac{W}{X} \middle| Z \middle| Y \right) \wedge \left(\frac{W}{X} \middle| Z \middle| Y \right) \Rightarrow \left(\frac{W}{X} \middle| Z \middle| Y \right)$$

&

→

$A \perp\!\!\!\perp B \mid C$

$B \perp\!\!\!\perp C \mid A$

$A \perp\!\!\!\perp C \mid B$

With Z={} according to the intersection axiom, there should be the following conclusions:

$$A \perp\!\!\!\perp BC$$
$$B \perp\!\!\!\perp AC \xrightarrow{\text{Decomposition}} \begin{array}{c} A \perp\!\!\!\perp B \\ B \perp\!\!\!\perp C \\ C \perp\!\!\!\perp A \end{array}$$
$$C \perp\!\!\!\perp AB$$