

PROMISE THEORY WITH LATEX  
PLEASE REDISTRIBUTE FREELY

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2015

A promise:

$$A \xrightarrow{+b} A' \quad (1)$$

Promises stretch:

$$A \xrightarrow{+A \text{ rose garden}} A' \quad (2)$$

A conditional promise:

$$A \xrightarrow{+b|C} A' \quad (3)$$

An imposition:

$$A \xrightarrow{+b} \blacksquare A' \quad (4)$$

A promise with scope  $\sigma$ :

$$A \xrightarrow[\sigma]{+b} A' \quad (5)$$

Sometimes handy to do reverse promises: A promise:

$$A' \xleftarrow{-b} A \quad (6)$$

A promise to keep a promise:

$$A_1 \xrightarrow{+A_3 \xrightarrow{+b} A_4} A_2 \quad (7)$$

Trust:

$$S[T] \xrightarrow{b} \mathbf{Trusts} R[U] \quad (8)$$

meaning that  $S$  trusts  $R$  to ensure that  $T$  keeps a promise of  $b$  to  $U$ .

Example:

$$\text{Server} \xrightarrow{+E(P)} \text{Client} \quad (9)$$

$$\text{Server} \xrightarrow{-P,+E} \text{Proxy} \quad (10)$$

$$\text{Proxy} \xrightarrow{+P,-E} \text{Server} \quad (11)$$

$$\text{Proxy} \xrightarrow{+P(E)} \text{Client} \quad (12)$$

$$\text{Client} \xrightarrow{-E(P)} \text{Server} \quad (13)$$

$$\text{Client} \xrightarrow{-P(E)} \text{Proxy} \quad (14)$$