

$$p(\mathbf{Q|U}) = kp(\mathbf{U|Q})p(\mathbf{Q}), \quad \text{dove } k = 1/p(\mathbf{U})$$

$$p(\mathbf{U|Q}) = p(\mathbf{U|P})p(\mathbf{P|Q}) + p(\mathbf{U|-P})p(\mathbf{-P|Q})$$

$$p(\mathbf{P|Q}) = p(\mathbf{P|R,Q})p(\mathbf{R}) + p(\mathbf{P|-R,Q})p(\mathbf{-R}) =$$

$$0,95*0,01+0,8*0,99 = 0,80$$

$$p(\mathbf{-P|Q}) = 1 - 0,80 = 0,20$$

$$p(\mathbf{U|Q}) = p(\mathbf{U|P})*0,80 + p(\mathbf{U|-P})*0,20 = 0,7*0,8+0,2*0,2 = 0,60$$

$$p(\mathbf{Q|U}) = kp(\mathbf{U|Q})p(\mathbf{Q}) = k*0,6*0,05 = k*0,03$$

Analogamente si calcola:

$$P(\mathbf{-Q|U}) = kp(\mathbf{U|-Q})p(\mathbf{-Q}) = \dots = k*0,20$$

$$\mathbf{P(Q|U)} = 1 - p(\mathbf{-Q|U})$$

$$\text{cioè } k*0,03 = 1 - k*0,20 \quad \text{da cui } k = 4,35$$

$$\text{Così: } p(\mathbf{Q|U}) = 4,35*0,03 = 0,13$$