

Leverage Equation I:  $P(h/e) = [LR - P(e/h)/P(e)]/(LR - 1)$

or

$$P(h/e) = [P(e/h)/P(e/\sim h) - P(e/h)/P(e)] / (P(e/h)/P(e/\sim h) - 1)$$

*P(h/e) in terms of P(e) and likelihoods, i.e., P(e/h), and P(e/~h)*

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Leverage Equation II:  $P(h) = [P(e) - P(e/\sim h)]/[P(e/h) - P(e/\sim h)]$

*P(h) in terms of P(e) and likelihoods*

Bayes Theorem:  $P(h/e) = P(e/h)P(h)/P(e)$

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“Fixed Likelihoods”

$$P(e) = P^*(e/C) = P^*(e/h.C)P^*(h/C) + P^*(e/\sim h.C)P^*(\sim h/C)$$

C = I observe by candlelight that Mary’s test was positive.

e = Mary’s test was positive.

h = Mary has the disease.

h, ~h screen off C from e. I.e.,  $P(e/h.C) = P(e/h)$ ,  $P(e/\sim h.C) = P(e/\sim h)$

p = The tree has leaves.

q = S looks in the direction of the tree. (RP)

q' = S looks through a solid object in the direction of the tree. (not RP)

q'' = S looks through a solid object made of transparent material  
in the direction of the tree. (RP)

q''' = S looks through a thoroughly filthy solid object made of transparent material  
in the direction of the tree. (not RP)

### *Variation*

$$| P_u(q/-p) - P_u(q/p) | \leq | P_u(-p/q) - P_u(-p/-q) | \text{ and}$$

$$| P_u(-q/-p) - P_u(-q/p) | \leq | P_u(-p/q) - P_u(-p/-q) | \quad *$$

### *Adherence*

$$| P_u(q/p) - P_u(q/-p) | < | P_u(p/q) - P_u(p/-q) | \text{ and}$$

$$| P_u(-q/p) - P_u(-q/-p) | < | P_u(p/q) - P_u(p/-q) | \quad **$$

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I'd first like to say something general about the logical structure of the book to avoid misapprehensions, since Eric and Kyle have suggested there is more *logical* interdependence among the parts than there is. First, the theory of knowledge of chs. 2, 3, and 4, is logically independent of the theory of evidence. You can accept one of these while rejecting the other, and they're argued for on independent grounds. The situation does change when you accept the further claim that better evidence makes it more likely that you know. If you accept that and one of the two accounts, either of evidence or of knowledge, then it probably would be foolish not to commit yourself to the other because the two accounts together *explain* why better evidence makes you more likely to know. That's one of the selling points of the overall view.

Second, on the issue of the logical structure, although if you accept my account of evidence from chapter 5, you *will* think that the Likelihood Ratio is the one true measure of confirmation, and that measure plays a role in the argument about realism and anti-realism in the last chapter, the last chapter doesn't appeal to chapter 5, but argues for the Likelihood Ratio where relevant on independent grounds specific to the realism-anti-realism debate.

[For example, the anti-realist appeals on empiricist grounds to a principle that observational evidence could not possibly confirm the non-observational part of a theory, and the realist argues that such a principle is arbitrary or doesn't make sense of examples from science.]