

HOW PRESCRIPTIVE IS DECISION THEORY?

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The role NDT (normative decision theory) plays in improving rationality is less obvious than I used to think. In particular, substituting the output of an NDT model for my judgment may not make me a more rational decider.

NDT produces tests of coherence, not prescriptions (at least not directly), much like arithmetic. If I think there are 8 men and 12 women in my class, and 18 in total, arithmetic alerts me that I am inconsistent; it does not tell me what to change. So it is with NDT and its derivative, “Bayesian” inference. If I see black clouds and assess 80% chance of rain, but Bayes’ theory produces 50% from my prior and likelihoods, NDT alerts me that I am inconsistent; but it does not oblige me to change my probability of rain from 80% to 50%. Similarly, if I propose to bet \$100 on a horse, but give only 5% chance of winning \$1000, NDT alerts me that I am inconsistent¹. However, it does not tell me not to bet.

These alerts may help me make my judgment sounder, but not in any unambiguous way. There may be some unique *ideal* judgment that I would adopt if I could apply NDT perfectly to *all* my initial judgments--and not just those I choose to model². NDT could in principle get me there, if I had enough skill and resources. However, that does not mean that any NDT model that is practically feasible, i.e. DA (decision analysis), will get me closer to my ideal than direct judgment, because the model may tap less well into my total knowledge. (This may help explain why seasoned deciders often back their own judgment their DA.)

Addressing my judgment several different ways (including intuition, non-DA techniques and canvassing other opinions) may use more of what I know than any single NDT model, however sound technically. Reconciling inconsistencies among conflicting results *somehow* (say, by changing least what I am most confident about), should close in on my ideal judgment--but I cannot prove it.

Getting my judgment closer to the ideal may not involve NDT at all. However, I like to think that effective plural evaluation will, in fact, usually include one or more NDT models. If not, we decision analysts may need to explore other lines of work—or at least define decision analysis more broadly!

Am I missing something?

¹ If I only care about the money and am not bothered by risk.

² Extending a position proposed by Rudolph Carnap.