MARQUIS


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Dear Jeanpierre

Thanks for yours of the 24th, Next time make sure you affix a PAR AVION label to the envelope. This time we were lucky. Your guardian angel must have been looking over the shoulder of the P.O. clerk--which leads me to suspect that the clerk was a pretty girl. (You know of course that all angels are male.)

Thanks for being patient with me. This time I understood, although I am not happy with what you call a slight abuse of notation. To me it is a strong abuse: it is insulting.

You did well to apply the theory to scientific inference. A theory of partial truth that does not guide us in making scientific inferences, e.g. from data cum assumptions to hypotheses, is no good.

The problem you note, namely the theory in Vol. 6 does not allow one to infer the truth value of the antecedent of a hypothesis from the truth value of the hypothesis and that of a consequence of it, is real. Given the simplistic nature of the theory, no strong results can be expected from it.

However, the problem is not as serious as it looks at first blush, and this for the following reasons. In actual scientific practice the antecedent of a hypothesis of the form "If p, then q" is rather innocuous, and normally you make sure it is true, e.g. by preparing the object of experiment in the laboratory. Thus, you state "If b is a body of mass m upon which a force f acts, then b acquires an acceleration a =f/m". You make sure you deal with bodies, not fields or ghosts, and you do apply to it a measured force of so many newtons. I,.e., you take it for granted that the antecedent is fully (or very approximatly) true. Then you measure the acceleration a and compare this measured value with the predicted value f/m. If the measurement is precise, or the f/m ratio very high, you'll get some nonvanishing discrepancy e between the calculated and the measured values of the acceleration, i.e. you will set V = 1 - e. Given this and V(p) =1, the theory allows you to infer that V(If p, then q)= 1 - e. Likewise,

* This holds also in mathematics: normally you take it for granted that the antecedent is true (in some sense) and proceed to find out what it entails.

if the experimentally determined truth value of the consequent is very low, e.g. $e \ll 1$, the theory tells you that V(If p, then q)= e . In fact, the inferences are:

Confirmation of the hypothesis

$V(p) = 1$ assumption

$V(q) = 1 - e$ ( experimental result , $e \ll 1$ )

$V(p \Rightarrow q) = V(-p \vee q) = \max\{V(-p), V(q)\} = \max\{0, 1-e\} = 1-e$ Theory

Refutation of the hypothesis

$V(p) = 1$ assumption

$V(q) = e$ , $e \ll 1$ experimental result

$V(p \Rightarrow q) = V(-p \vee q) = \max\{V(-p), V(q)\} = \max\{0, e\} = e$ Theory

In both cases the discrepancy between the experimental result and the consequent of the hypothesis affects the hypothesis itself to the same extent. In the first case it confirms the hypothesis up to e , in the second it refutes the hypothesis up to e .

True, this is not the way I presented things in Vol. 2. I am sorry I misled you on this point. On the other hand you may feel relieved to see that there is point in continuing to work along the lines you have traced yourself.

You are quite right: Miller, Tichy, Hilpinen & Co do not deal with partial truth at all. I don't know what they are doing, except getting promotions on the strength of the endurance of their bottoms. As for Tuomela's statement that the concept of truth is epistemic (rather than semantic) I don't have a quarrel with it. Actually it is both semantic and epistemic. But if you insist that it is only semantic, you run the risk of being taken for a partisan of Tarski's theory of truth, which is simply irrelevant to factual truth. (As you know, T's theory is usually called 'the semantic theory of truth'.)


Of course I'll gladly recommend you for a renewal of your fellowship. Just send me the paper in time. I'll be away (in Italy) between Dec. 18 and Jan. 5

Amitiés de la part de nous trois.