

DATA MODEL, RELIABILITY, AND THE NEGLECTED RELEVANCE OF RELEVANCE

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To be a representation is to be used as such, and being used calls for a user. So the representational function of models cannot be accounted for merely in terms of a 2-place relation, between the model and the phenomenon it is a model of. It has also been suggested that a 3-place relation is still too simple and should be complemented by adding the function of the model.

The addition of new terms to the relation notwithstanding, these accounts still share a critical, undermining feature of the 2-place relation picture: they take for granted what needs to be represented. Part of model construction, however, is precisely to specify what has to be accounted for by a model in order to count as a model of a certain phenomenon P, that is, to be usable as a representation of P.

Scientists will be able to refer to a phenomenon under investigation well before they agree on what characterizes this phenomenon. Rather, it is typically part of an experimental process of modeling not only to produce theoretical models able to make correct inferences but also to determine what would count as correct inferences, that is, what has to be accounted for. What has to be accounted for is a data-model; but not any data-model will do. What is needed is what I will call a 'data-model *of P*'.

The difficulty of getting the data-model 'right' is usually treated as a technical one, in terms of empirical reliability grounded on statistical and/or causal analysis.

But first, the data-model of P is typically meant to show the causal dependence of some variable of interest on the different factors whose effect is regarded as relevant to the understanding, and representation, of P. But it is not clear that the relation between P and the data-model of P is a causal one.

Second, reliability, avoiding artifacts, is a technical affair only in so far as it is already clear what these relevant factors are whose effect only should be accounted for by a model of P. But judgments of relevance, even though they depend on empirical considerations, are clearly not just empirical judgments.