

## AN AMPIFICATION OF THE TWO EPISTEMOLOGICAL LEVELS

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- The basic problem of scientific explanation is to find the best model that fits the observations.
- The basic problem of mathematics is to provide a smorgasbord of models from which the scientist may select the most suitable.
- The basic problem of philosophy is to supply one or more meta-models which can contain all extant models

There seem to be several species of existence: material existence, informational existence, numerical existence, spiritual existence, theo existence (the non-existent existence of God), ... We cannot assert whether these different species of existence are independent or exclusive or affirm in what ways they are interdependent. For example, we have no instances or experience of pure information, information totally detached from matter. Materialists maintain that information is an attribute of matter, others hold that matter is "frozen" information. A proper meta-model allows not only for the possible varieties of existence and also for the conceivable ways in which the varieties may be related or unrelated.

Returning to mathematics, in saying that the basic task of mathematical physics (or biology, ...) is to provide a smorgasbord of models from which the scientist may select the most suitable, mathematics is not "queen of the sciences", but is a chef to the sciences. But mathematics is more than a servant to the sciences. It is itself an independent and alternate approach to understanding. Theories are generally tied to observations at several points, but mathematics may sustain an existence independent of observations, data, and sensory experience. The Pythagorean view is that math does not derive from the sensory, but that it derives from number and that number has a different sort of existence than do material objects.

