Two Types of Models

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VALIDATED AND VERIFIED

There is something people should know in today's world.

There are two types of computer models (at least). One of them is a mathematical representation of data collected during the course of an event. It is often used in an attempt to establish relationships among the variables and the strength of those relationships. It is a representative model. The other takes existing known or hypothetical relationships among variables (factors with uncertain values) and runs off into the future. These are predictive models. Both the relationships and the values used can be very well known or very poorly known. For example, plotting the course for Apollo moon missions used predictive models based on very well-known relationships. Even so, mid-course corrections were needed. When the relationships, and the strength of those relationships, are less well known, the predictive model is nothing more than a mathematical guess.

Some of the inaccuracies can be reduced if the model is subjected to two standard tests. Validation is the process of determining that the model chosen is the correct one for the situation. Verification is the process of checking the mathematics to assure that the variables and relationships are as accurate as they can be.

This is all well and good when astro-physics or stream-flow is being modeled, but when human behaviour is one of the factors, the predictive model becomes much less reliable. Variables and mathematical relationships among humans fail both the tests of validation and verification. That's right. Personal determination and individual decisions are variables in predictive social models. And that explains a lot about the year 2021.

Even so, a decent predictive social model has its uses. People, clusters of people, perhaps those sometimes referred to as voting blocks, can look at a predicted outcome and decide whether to accept a predicted future, or to remain questioning, and even work towards a more desirable one.