Subject: 148. Wolfram 3: Data Architectures for Rapid Learning Systems

Dear Dr. Fischhoff & Colleagues (and Dr. Prewitt and Dr. Goodchild):

   Last week's Wolfram Data Summit heard exciting presentations about the emerging data architecture for a national/global rapid learning health system. The Institute of Medicine (IOM), which shares the Washington headquarters building with the National Academy of Sciences (and your project), has been providing conceptual and organizing leadership. They are good people and might be worth talking to, if you are not already in touch.

   IOM networks have worked through many intellectual issues, including the questions that are best answered by randomized clinical trials, the opportunities for "everything included" electronic health records with reference databases about key challenges, building open science global networks for the 6,500 rarer diseases (my earlier message), early warning networks re emerging infectious diseases, etc. Government agencies (e.g., NIH, FDA, NSF) realize that they are only a part of the system, but with unique responsibilities for funding and rapid learning in the public interest.

   The IOM is providing a good example of the kinds of data architecture plans for rapid learning systems that you and behavioral scientists in the National Academy of Sciences also might recommend to the DNI, James Clapper, in his areas of responsibility, which include a full range of global, political, economic, social, environmental (etc.) forecasting and policy options with capacities for abstraction and foresight. For $75 billion/year, there ought to be data architectures for rapid learning systems.

   It's taken several projects for the IOM to get to its current level of integrated thinking and vision. I hope that you will see your forthcoming Report as a platform to include recommendations for next steps.

Global Economics and Other Projects
   Designing global data architectures for rapid learning systems re economic recovery

and sustainable development/GDP growth across all market economies might be one useful and supportable follow-on project,

IOM: A Good Example
 At this point, to judge from the Wolfram presentations, there are lots of disciplines and areas of activity with large curated databases. However the IOM disciplines are about the only set of scientific fields/institutions that deal with human beings and that are thinking boldly, at a high level, about global data architectures for rapid learning systems.

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