

Seven Levels of Information Structure

Computer scientists first spoke of 'data'. This became 'data processing' and the like. Data referred to the binary existence of information at its lowest level in machine format.

Marketing then began to call data 'information,' which is data with semantic impact.

The current level of discussion refers to a mish-mash of concepts relating to information. At its top level, 'knowledge' is about how things are done or how they exist. This discussion of knowledge usually implies consciousness of fact, held in computer memory and transferable to a person.

I would like to assign more precise meaning to these first three levels, and yet comprehend their common understanding and connotation.

Proposal

Data represents binary information in machine format.

Information represents data which have semantic value, perceived as 'sememes.'

Knowledge is a set of aggregations which exceed the semantic value of the individual element. For example, information would be that the balance on my account is \$5,250. Aggregations would be that my total accounts are such that I have a large amount of money (as compared to something or someone else).

Three new levels are also possible: Impression, Recommendation, and Autonomic Action

Impression represents the knowledge in a network of interdependent fact. I have enough money, so I can buy a car, or a refrigerator.

Recommendation states that since I have enough money, and I need a car, and I don't need anything more than a car, and that if I don't buy a car I will have a difficult life, I **should** buy a car.

Autonomic action occurs because the recommendation is taken at face value and some action ensues as a result of prior reasoning. Most of us wouldn't want to buy a car this way, but we might want to let a system initiate the purchase of office supplies.

Thus, there is usually a layer between Recommendation and Autonomic Action. It lies in the pure subjective zone beyond our conscious or rational grasp, where, somehow, we evaluate the recommendation and determine whether we will pay any attention to it or not. In this case, we parse the Recommendation to determine whether it is valid and appealing or valid and unappealing, or invalid and appealing or invalid and unappealing. As we do this, we compare it to what else might be appealing, valid or invalid.

If there is an Autonomic function available, we pause before it and then release our permission or not.

Yet the Autonomic Action may be waiting to be realized (buy the car). It may be poling for recommendation and if it finds that, it can ask for permission.

The fear of robotics is based on Autonomic Actions that do not ask our permission, or may override what we have set up as the recommendation process.

Philosophy must return to tell us what we should do about recommendations.