

Science, the Innate, Uniquely-Human Ability

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Pro Bono Science Offerings

Life begins. We spend our first nine months in an ideal, cozy world of darkness and quiet - where our every need is attended. So our birth must come as quite a surprise. Suddenly, we are bathed in a sea of air, light, noise, odors, tastes and textures. Innately curios, and without instruction, we begin exploring and reasoning - essential survival skills which help us “make sense of it all”. Our human DNA contains the template for uncovering and recognizing truth which leads to knowing and understanding. At a tender age we have begun our personal, life-long task of figuring out the natural world and our social world .

Figuring Out the Natural World

If fortunate, as we mature, we are tutored by reasoning parents and teachers who appreciate our potential. They encourage our innate curiosity, exploration and reasonability because they know these traits lead to understanding and a smoother life. They teach us that the universe (absent people) is objective and can be understood only by way of objective methods.

The scientific process is the method (verb) by which knowledge is gained and the library of knowledge (noun).

Science, the Action

The method of acquiring reliable results and understanding is specific and systematic, but not difficult. It has been honed and refined into a valuable discipline over two hundred years.

Scientific Action:

- Make an observation.
- Propose a plausible explanation.
- Design and performed an experiment which test your explanation.
- Access the results objectively.

An important scientific discipline is making sure the experiment is relevant and produces valid results. Another is being sure one is sees what happens in an experiment, rather than seeing what one wishes to see. Is the experimenter being objective? Peer review is invited and welcomed. Richard Feynman, the famous physicist, said of science, “The first principle is that you must not fool yourself - and you are the easiest person to fool.”

Science works through the proposal of clear, testable, ideas of what something might be or how it might work. These are tested, criticized and refined. Out of this crucible, a series of ever more accurate and useful descriptions of nature is found, each better than the last.

Science, the Thing

Science is also the body of knowledge generated by Scientific Experimentation. Growing mountains of reliable knowledge in the “natural sciences” - physics, astronomy, chemistry, geology and biology share a common genesis: the Scientific Method.

The body of scientific knowledge is always open to question. It is mercilessly exposed to new experimental results. Knowledge stands or falls, not on the basis of who authored it or its popularity, but on the quality of the evidence which supports it.

Respect for this formalized process of carefully framing questions, suggesting, then testing answers and an eagerness to reject failed theories and accept more valid ones is the process of self-correction. With this discipline, ordinary people, with a full range of human frailties, can establish what is real.

Objectivity is Important Because:

Objectivity respects truth. Our greatest resource resides in the innate human ability to tease truth from fiction and understand. Success and efficiency follow.

Objectivity exposes prejudice. It provides answers that are true without regard to any boundaries of time, place, culture, politics, ego, prejudice, popular beliefs, customs or greed.

Objectivity rebuffs Typecasting.

Popular culture often portrays objectivity, reasonability, and therefore science, as boring and irrelevant and scientists as eccentric, unfeeling, even malevolent buffoons in white coats. All completely wrong and silly.

Objectivity reduces suffering, extends Life.

Self-understanding gained through physics, chemistry and biology is blossoming.

Figuring Out the World of People

Unfortunately, the socializing atmospheres of family, school, friends and the larger world don't help children to distinguish the fundamental differences between thinking and feeling.

In fact, family life, early schooling, peers, print advertising, TV commercials, competitive sports, political campaigns and, what passes as "news" are subjective influences.

As we grow older we learn to lose inquisitiveness.

To be finished.