

Re: Epistemology 201: The Science of Science

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From: ae06 (ae06_at_cornell.edu)

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OsherD said:

> >From Osher Doctorow

>

> Tony said:

>

> >When you were talking at first about schools of probability vs.

> >statistics as a method in QM, I found myself wondering what the

> >difference really was

>

> There is actually a difference besides the fact that the mathematical
> tool of statistics

> is probability. In fact, there are several differences, which go as

> far as to partly

> explain the inferior position of philosophers and mathematicians in the

> economic

> world of today. Statisticians basically arose as "concrete"

> probability people

> somewhat in the way that engineers are relative to physicists. In

> fact, statisticians

> are probability's "engineers", just as engineers are physics' "concrete

> applications"

> people. In one way this is good, but there was an unexpectedly bad

> "side effect"

> as computer programmers say. Or in sociological language, there was a

> bad

> "latent effect" besides the "good" manifest effect.

>

> The good part was lots of practical inventions that Bob likes to talk

> about or hint

> about, which reminds me of Nixon telling the Russians that we were

> ahead of them

> because we had TVs. Tell that to the Dalai Lama! The bad part was

> that when

> any field develops concrete-oriented people, such as physics'

> experimentalists

> (and those guys really differ from theoretical physicists in mostly

> being promoted

> for experiments rather than some mixture of great theory and

- > *experiment), there's*
- > *a slowdown in theory. That may not sound bad, but when we think about*
- > *Euclidean*
- > *geometry lasting for thousands of years when Non-Euclidean geometry and*
- > *all its*
- > *theoretical advantages (including general relativity, but by no means*
- > *limited to it)*
- > *ruled, dozens of generations of human beings can die before the next*
- > *great*
- > *theoretical advance. Politically, we become a nation of materialists,*
- > *priding*
- > *ourselves on TV sets and faster but dumb computers and faster*
- > *communication*
- > *with the same dull (or occasionally regular) people. Actually, we*
- > *become a world*
- > *of materialists. Flattening a TV monitor or screen becomes our goal*
- > *instead of*
- > *exploring the solar system and stars. Putting more data into a*
- > *computer becomes*
- > *our goal instead of breakthroughs in medical theory and psychology and*
- > *social*
- > *sciences and philosophy.*
- >
- > *Surely I'm exaggerating? In fact, I'm understating it.*
- > *Statisticians, as opposed to*
- > *probabilists not employed by aerospace companies or government, "sold*
- > *out" to*
- > *a large extent to the highest bidder. They became imitators of physics*
- > *and*
- > *engineering rather than pioneers telling physicists and engineers where*
- > *to get off.*
- > *They accepted every little fad and nuance that physicists and engineers*
- > *and*
- > *incidentally computer scientists and AI people developed uncritically,*
- > *starting their*
- > *statistics from those fads as assumptions. That's the stuff of which*
- > *the Fall of*
- > *Rome was made. But it endears them to government and corporations,*
- > *which*
- > *really are fad-driven and there to guard Number One (themselves), and*
- > *new*
- > *theoretical breakthroughs be damned.*
- >
- > *Einstein bought into the faddish statistical school. He used*
- > *statistics as a cover*
- > *for determinism, believe it or not. The advantage of using the word*
- > *"statistics" was*
- > *that it would appeal to Ingenious Imitators and the establishment, for*
- > *whom statistics*
- > *was anyway just a bunch of surveys and ways of eliminating experimenter*
- > *bias or*

- > *experimenter error. These type of statisticians don't really believe*
- > *that fluctuations*
- > *are real or have a pattern or even can be useful. They're out to*
- > *imitate the*
- > *determinists and eliminate fluctuations. Some fluctuations should be*
- > *eliminated.*
- > *But what gives us our Individuality and our Creative Genius are those*
- > *Rare*
- > *fluctuations, the tails of the probability curves which are studied in*
- > *Large Deviations*
- > *theory (important in Israel and now much of the world) and my Rare*
- > *Event Theory*
- > *and Probable Influence (PI) theory.*
- >
- > *I'll try to continue this soon. Remind me if I forget.*
- >
- > *Osher*
- >
- >

Very good, Osher, thank you. This is more of a sociological statement it seems than scientific, or socioscientific. There are certainly two sides of the scientific coin as we've seen evidenced in this thread, the concrete and the abstract, and two different kinds of people that adhere to them. Did I characterize statistics okay when I said it's probability turned inside out to deal with empirical data instead of hypothetical chance? It's too bad that folks on both sides of the aisle can't admit that they need the other more. Like body and mind, female and male, plant and animal, the concrete and abstract ineract to form a stable progression.

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Smiles,
Tony