

## Arrogance, Social Consensus, and Experimental Psychology

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As I considered various topics for my APA Division 3 presidential column, I thought of writing about the need to boost the division's membership but, no, that topic did not seem satisfying for this purpose right now. Instead, I have been contemplating how experimental psychology could enrich everyone's life; not just ours. It could do so through its method and its content. It allows us to think more critically about human beings, and thereby to be less arrogant. It teaches that none of us should be too sure of ourselves -- not our attitudes, nor our beliefs, nor our reasoning, nor our memories, nor our attention, nor even our perceptions. None of us should be too readily dismissive of others' ideas or beliefs, or to accept the social consensus too readily.

Debates about ideas run throughout much of my life, and probably yours, in two separate species that I would like to cross-pollinate. On the one hand, I get scientific journals and participate in debates on esoteric topics of the mind: whether working memory capacity is restricted to a few items or spread across many items, whether activated memory rapidly decays or lingers over time, and so on. Occasionally, these debates touch upon practical matters, such as whether working memory training can help the elderly stay young. On the other hand, I get newspapers and read about debates on urgent matters of fact and policy: whether the president knew there were no weapons of mass destruction in Iraq, when we should withdraw our troops, and so on. Aside from the striking difference between the scientific versus political topics of debate, there is a notable difference in civility. The debates in scientific journals are refereed and monitored in a way that eschews personal attacks. A good argument is one that sticks to the relevant points and addresses them cogently and convincingly, with a strong appeal to logic and evidence. In contrast, the debates in newspapers often rely to a substantial degree on personal attacks, either subtly or blatantly. The lines of argument often seem designed to persuade the reader that the opposing view is out of the mainstream, the product of weak minds, ludicrous, or even a bit insane. These arguments only alienate and disgust me and I really, really would like to see the civility of debate transplanted more often from scientific journals to newspapers and other political forums.

A lesson of humility about one's beliefs stretches back to the roots of experimental psychology in the physical sciences. In an 1898 *Science* article, Truman Safford wrote about what happened in 1706 when an Astronomer Royal at Greenwich, England, named Maskelyne, found that his assistant repeatedly timed the transit of stars 0.7 seconds later than he did. Maskelyne fired the assistant for his apparent incompetence. About 25 years later, a famous astronomer and mathematician, Friedrich W. Bessel, showed that Maskelyne was mistaken to take this action. He found, contrary to a popular assumption, that various great astronomers around Europe disagreed with one another in their measurements. He introduced the notion of the *personal equation* to make astronomers match up; the observer was not objective, but was part of the equipment in need of tuning and adjustment. Bessel interestingly hypothesized that

some astronomers attend more to the clock beats and others attend more to the stars' images, and that the more-closely-attended stimuli are perceived to occur earlier (a mechanism later confirmed as the *law of prior entry*).

Along with the bias to assume that one is correct in one's perceptions and beliefs, there also is a huge tendency for people to go with the crowd. This has been demonstrated in studies that traditionally appear under the rubric of social psychology, but can be viewed as a branch of experimental psychology. In them, individuals are randomly assigned to different socially-relevant treatments that are compared with one another. How much humans rely on social consensus was demonstrated in classic experiments conducted in the 1950s by Solomon Asch. He showed that many subjects would make egregiously wrong line-length judgments if they were in the presence of a group of confederates who unanimously went for the wrong answer. A 2005 study of brain function by Berns and others shows that going against the group in such situations is highly emotional. We often like to think that we live primarily by reason, but that does not seem to be as important a factor as social agreement and emotion. If one has learned from a young age that everyone who is sane believes that the world was made by the Great Moose in the Sky then that belief usually sticks, at least so far as public admissions go.

Of course, even scientists need reminders about humility. Consider an obituary I read in *Newsweek* about "A quiet hero in the cancer war: Dr. Judah Folkman, 74." This scientist pioneered the theory of angiogenesis, the notion that tumors grow by recruiting a blood supply. This is a leading view in the field but Folkman had told the reporter that, when his theory was new, he often heard researchers "laughing in the corner" or excusing themselves for a bathroom break when he got up to speak at scientific meetings. I wager that this kind of behavior occurs in every scientific field to some degree, even in ours. (Did you ever hear of Edwin Twitmyer? He discovered the conditioned reflex independent of Pavlov, at about the same time but in human subjects, using the knee-jerk reflex and a warning bell. His talk at the 1904 APA convention fell flat because he was ahead of his time or, more mundanely, because his talk was delaying lunch. He apparently became discouraged and dropped what should have been an earth-shaking subject after one publication. See, for example, Coon, 1982.) We cannot allow social consensus to govern by fiat in place of reason. When there are too few facts or too many plausible interpretations, we must learn to live with the suspension of judgment.

In 1964, John Platt spoke against scientific reasoning by social consensus. He noted (p. 350), "... I think that there are ... areas of science today that are sick ... because they have forgotten the necessity for alternative hypotheses and disproof. Each man has only one branch -- or none -- on the logical tree, and it twists at random without ever coming to the need for a crucial decision at any point. We can see from the external symptoms that there is something scientifically wrong. The Frozen Method. The Eternal Surveyor. The Never Finished. The Great Man With a Single Hypothesis. The Little Club of Dependents. The Vendetta. The All-Encompassing Theory Which Can Never Be Falsified." Each researcher seeks his or her consensus group, and that effort is at its worst when it operates by attempting to marginalize the opposition socially. Fortunately, at least in several areas of experimental psychology, I have often witnessed much more civility in exchanges between researchers with strongly opposing views, and I have admired this about the field. Studying thoughts and beliefs may help us to realize our own limitations.

If the error of seeking truth by social consensus is a problem in science, it is perhaps much more so in the public domain, in which the determination of facts more directly helps to decide who will prosper and who will suffer. In the 2008 primary season, for example, I admired Dennis Kucinich, who appears too honest and unguarded to maintain a high political status. In one infamous episode, he was asked if he had seen an unidentified flying object and answered that he had, explaining in all good humor that he saw something flying that he could not identify. His honesty and reasonable suspension of judgment were all too readily twisted by his political detractors into evidence of mental instability. More generally, when commentators on television refers to politicians "on the far left" or "on the far right," they are crassly fostering an implication that, in contrast to their own mainstream views, their targets are totally different from the social consensus and hence unreasonable. In a recurrent example, a wide variety of alleged "conspiracy theorists" are dismissed as if they were all paranoid schizophrenics, despite the many clandestine operations known to have been carried out by criminal organizations, intelligence agencies, and other groups in the past (e.g., Enron in California). All plausible theories, and not-widely-known evidence supporting them, should remain under consideration for further logical analysis.

Civil debate is imperiled partly because many of the media have corporate interests that socially constrain the news, perhaps more than ever, and help to shape a narrow social consensus with which they are comfortable. For example, as I was coming home from a trip abroad, I found that the cover of the international edition of *Newsweek* for October 2, 2006 read "Losing Afghanistan"; when I returned home, I found that the cover of the U.S. edition for the same week read "My Life in Pictures." We are deprived of feeling uncomfortable, and a false consensus is maintained.

Scientists need to do more to disrupt the dual tyranny of arrogance and social consensus. We are a group that closely studies facts and how to find them. Experimental psychologists, in particular, study facts about the mind and its limits, using carefully-considered, highly analytic procedures. We have a rare tradition that needs to be carefully preserved in its own right, but also should be applied to facts about the mind, behavior, and society. It is a society that now sorely needs scientists to demonstrate how logical skeptics of the social consensus think, and how those who study human limitations think. Collectively, scientists can take a triple course of basic research, applied or translational research, and political involvement.

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