## In Defense of Being Offensive: Our Responsibility as Intellectuals

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I am interested in many things, interested in discussing many things, and consider my colleagues in the Academy to be my best hope of interesting and high-level discussions. That said, I often worry that my colleagues consider a variety of factual claims, and even interest in the truth of factual claims, to be offensive. My own experience is that not offending others is sometimes valued more highly than the pursuit of truth. But being inoffensive—or, more particularly, not pursuing truth, whatever the truth may be—can have a price: we may fail to discover truths that have material consequences, truths that can help us address problems that we *all* want solved, regardless of our political views.

True ideas can offend. Socrates was said to have offended his fellow Athenians for, among other things, not believing in the gods of the state. While his views may have offended many of his fellow citizens, nevertheless the Greek gods don't exist. It is the truth, offensive or not. Galileo was said to have offended Church officials for promoting heliocentrism. While it may have offended the powers-that-be that the Earth is not the center of the universe, nevertheless the planets do not revolve around the Earth. It is the truth, offensive or not.

In our modern Academy we think of ourselves as having progressed from the days of Socrates and Galileo. But we may not have progressed that much. Our colleagues are often offended. And while they can't force you to drink hemlock, it can still be dangerous to offend them. There are many ways to marginalize an offensive colleague: by writing negative promotion reports, reducing or withholding raises, and so on. Nevertheless the gadflies among us should be celebrated. They may be wrong. But as truth-seekers we should always be ready to explain why they are wrong, to engage them, and in turn, engage the wider culture.

The real danger with cutting off investigation on a topic because of some community's norms and sensitivities is practical: adhering to the prevailing norms of your department, university or field can not only lead you away from discovering the truth but it will also keep you from making decisions informed by the facts. If the Greek gods don't exist, then time spent praying to the Greek gods for specific interventions, for instance, is necessarily time wasted. If the planets do revolve around the sun, then a heliocentric description of the solar system will make it easier to predict the future locations of planets and comets. I will mention two examples that I have thought about recently: one involves group differences and the other involves the relatives effects of racism and poverty; the consequences of these investigations are inform the practical questions of how to produce more top scientists, and of how best to improve our schools.

In the past year I read a number of books by books by Nobel science prize winners who happen to be Jewish (including Daniel Kahneman, Eric Kandel, and Roald Hoffman). Then is struck me that there have been a *lot* of Nobel science prize winners that are Jewish. Various sources report that more than 25% of Nobel-prize science winners are Jewish—which would be astounding, given that the percentage of the world population that is Jewish is much much smaller. So what explains this?

Our colleagues in the Academy might be interested in investigating this question. Beyond intellectual curiosity, there are also *practical reasons* to investigate: if the answer is entirely "cultural"—due, for instance, to the Jewish community's emphasis on education and learning—this could be of tremendous value. The 20<sup>th</sup> century saw enormous advances in increasing human longevity, in our ability to feed the world's growing population, and in the amount of time we have to spend with our families, for recreation, and pursuing our hobbies and interests. In order to see continuing progress we need lots of creative ideas, we need to encourage the kind of extraordinary creativity these Jewish scientists have. Can we replicate this culture and creativity more universally?

These questions may not seem offensive—nevertheless, we are now talking about *group differences*. Talk of group differences *can* be uncontroversial. African-Americans, for instance, are at greater risk for heart disease than non-African-Americans. There is no controversy here; we need to find an explanation and a cure. But, of course, investigation into group differences has also been extraordinarily controversial. Many of my colleagues consider it offensive to investigate group intelligence differences.

But there is a truth to the matter: either there are group intelligence differences or there are not (leaving aside just who is "Jewish" and whether "intelligence" is a single thing or many things, whether IQ captures or correlates with whatever we mean, etc—for the purpose of a scientific investigation, "intelligence" or any other measurable quantity is *defined* by how it is measured—so different scientists may reasonably use the word in overlapping ways). And there are imaginable practical consequences: if Jewish scientific success at the very highest end is explained more by genetics than by culture, then equivalent success will not be achieved in other populations simply by replicating Jewish culture. Investigation of group intelligence differences is a clear example of a case where the norm of not offending usually trumps our desire to find the truth.

Here's another example. The majority of the children in my city are socioeconomically disadvantaged. There seems to be a direct correlation between socioeconomics and school performance (the graph of income versus SAT scores is astounding). The majority of the children in my city are also black. What can be done about improving education for these children? Of course, this is a huge issue. But we are failing them. What can be done with the current level of school funding? What can be done with a greater level of school funding? What is politically possible? What should we do? Black kids do worse on average than white kids by various measures of educational achievement. And these outcomes percolate up: African-Americans, for instance, are awarded less than 2% of math Ph.D.s in American universities—the same is true for English Ph.D.s—while African-Americans make up 13% of the population.

Lagging African-American educational attainment is at least partly due to the legacy of slavery, the continued suppression of rights, and lingering racism. But we also know that the income effect is color blind: poor white kids do worse than rich white kids, for instance. So what part of African-American school performance is explained (predicted) by socioeconomics and what part by race (or other factors)? This obvious question seems to offend many people (even asking questions can lead to charges of "racism").

Nevertheless, there is a truth to the matter. And there are practical consequences: knowing the truth can help guide the best use of finite (limited) resources. If socioeconomics is the dominating factor then we should try to ameliorate socioeconomic disadvantages and provide, for instance, more mentoring, more tutoring, better access to transportation, and better access to books and resources that encourage creativity and investigation to *all* socioeconomically disadvantaged kids. If racism is the dominating factor then our resources should predominantly be directed at ameliorating racism; we could, for instance, more carefully monitor, dissuade, and negate all negative behaviors which correlate with racism, work to more towards positively treating everyone absolutely equally regardless of the color of their skin, and educate everyone about the damage that perpetuating racism is causing.

Questions, for instance, about the existence of group differences or whether racism is the best explanation for the difference between black and white educational outcomes are just scientific questions; data can be collected, hypotheses can be formed, corroborated, falsified, and improved.

These questions have material consequences and are thus properly in the domain

of the various sciences. In this domain making hypotheses—which by their very nature may be false—is part of the process of getting to the truth. Linus Pauling's 1952 triple helix model for DNA structure is an example. His model was quickly supplanted by the Crick and Watson double helix model. Pauling was wrong. His model did explain some facts that were known about DNA. But it is simply the case that DNA does not have three strands. In this sense, Pauling was completely and totally wrong. But that's not only common in the sciences, its encouraged. Of course this process can also be found outside of the sciences. Philosopher's research on the "theory of knowledge" is an example, together with Gettier's famous argument that knowledge cannot be the same as "justified true belief", and continuing responses. There is no final, accepted, theory of knowledge, but this iterative process has greatly increased our understanding of what issues a theory of knowledge must address.

In mathematics, you must learn to be wrong. It is part of the process of mathematical discovery. And students must be taught that it is OK to be wrong, that it is even typical; they often have the idea that science progresses from truth to truth. It does not. Isadore Singer—who with Sir Michael Atiyah won the 2004 Abel Prize, a sort of lifetime achievement award in mathematics—once said "I'm wrong 99% of the time." In the same interview he described his research with Atiyah: one would "[m]ake a suggestion—and whatever it was, we would put it on the blackboard and work with it; we would just enthusiastically explore it. If it didn't work it didn't work. But often enough, some idea that seemed far-fetched did work." One of the principles of G.H. Hardy and J.E. Littlewood, mathematicians famous for their early  $20^{th}$  century collaboration, was "when one wrote to the other, it was completely indifferent whether what they wrote was right or wrong."

Truth discovery requires the freedom to be far-fetched, the freedom to be wrong and even the freedom to be offensive. "Freedom of speech", "academic freedom", etc, are words that obscure the most important issue: we need to encourage unfettered exploration of all possible theories right or wrong. But we should also recognize that when we allow any virtue, including being inoffensive, to be valued more highly than truth discovery, then the discovery of truth is in danger, as well as any material consequences of those discoveries. We should not only be free to offend, but we must learn to be offended, that this is a price of our most important shared goal, discovering truth. We should offend without fear and we should encourage each other to throw off hypothesis after hypothesis until we find the truth. Relatedly we should accept that most of our ideas are wrong, that they will need revision in the face of new data and arguments—and we should look forward to that data and these arguments.

There are of course potential problems. There will be scoundrels and racists

among us who will use a defense of truth discovery to hide their bad intentions. Let us systematically demolish their research with arguments and data. Are there group intelligence differences? If there there are not then it is better to clarify faulty research, faulty assumptions, falsified hypotheses, and discredited arguments than to suppress research altogether. This is the work we are obligated to do in order to enjoy our role as the primary arbiters of truth. We must trust each other; we must trust that our fellow members of the Academy share the same overriding ideal. Some miscreants may slip in to our Academy. But rather than be offended and suppress research, we should be vigilant.

Secondly, there are colleagues in the Academy who seem to reject the idea the ideas of truth, objectivity, and rational discourse. Regardless of their views on these essentially philosophical questions, the practical and scientific questions I have mentioned must still be addressed: what is the best way to produce the top scientists we need to advance our material conditions, what are the best ways to improve educational outcomes? These colleagues are free to call the answers contingent-truth, truth-in-a-perspective, or "truth" (truth-in-scare-quotes), but the investigation must still be the same. And we must make decisions, and informed decisions are always better than uninformed decisions.

Thirdly, some colleagues have told me that there are facts that it would be better not to know (if there are group differences, for instance, it may be better not to know this). Against this view, Bertrand Russell, truth-seeker par excellence, once wrote, "The pursuit of truth, when it is whole-hearted, must ignore moral considerations; we cannot know in advance that the truth will turn out to be what is thought edifying in a given society." Of course, there may be arguments for and against any particular investigation. It is our job in the Academy to discuss these issues—never to cut of investigations or debate preemptively.

Despite the fact that we may offend each other, let us remember that we in the Academy are the last bastion for truth; there is nothing behind us, no other institution that is as at a remote distance from being corrupted by forces with ulterior motives. We should always assume that our colleagues are on the same journey—until proven otherwise. The people who should be vilified are those that do not have the search for truth as their primary goal—they are the enemies of our mission—and potentially dangerous. We should still call out politicians and outsiders who don't share our mission. But let us trust each other. Let us offend each other. And let us find the truth. Not offending others is a virtue—but pursuing truth is a higher virtue.

Acknowledgements. I would like to thank many friends who have read drafts of this essay, made many useful suggestions, and made thoughtful comments.