

Academic Bigotry

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The fields of cancer epidemiology, biomarkers, and prevention in the 21st Century are hallmarked by calls for transdisciplinary, translational investigations of cancer. Given the complex multifactorial etiology of cancer, these collaborative interactions are critical. Despite the need for better communication among researchers, barriers still exist that limit scientific progress.

First an example: early in my academic career, I gave a chalk talk to a group of scientists about my ideas for identifying genes involved in human cancer. I proposed to use epidemiologic methods to compare cases with disease to controls without disease. I discussed how the sampling design was important, how I would minimize bias to the effect estimates I hoped to obtain, and how I would obtain valid measures of the genetic variation of interest. I presented data demonstrating the principle. When time came for questions, there was a silence in the room. Finally, a senior and esteemed faculty member asked: "If you really want to answer these questions, why don't you just develop a mouse knockout model?" I was not even sure how to reply. I mumbled something about wanting to understand how genes acted in humans to cause disease, but my voice was clearly not going to carry across the deep canyon dividing our scientific cultures. It was my first direct encounter with academic bigotry.

What is academic bigotry? Commentators have used the term to describe decisions to boycott Israeli academics (1). As used here, academic bigotry is something different: I define it as distrust or contempt by an individual in one discipline toward the approaches, results, or individuals in another discipline. "Academic bigotry" may seem like a strong term to some, but its existence diminishes scientific productivity and the ability to find creative solutions to complex problems.

As with other forms of bigotry, academic bigotry probably stems from ignorance and fear: ignorance of the methods or approaches used by others; fear that promotion of another discipline or researcher will undermine one's own academic success. In times of competition for increasingly limited resources, the potential for academic

bigotry to influence scientific progress is heightened. Academic bigotry takes on many, often subtle, forms. It is not uncommon to hear investigators refer to "soft science" when discussing the social or behavioral sciences. Although this term is ostensibly used as shorthand to refer to certain disciplines, the term often has pejorative connotations about the academic rigor or value of those fields. Some will imply that certain "soft science" disciplines aren't "science" at all. More than once have I heard statements of the form: "No, he's not a scientist, he's an epidemiologist."

Also like other forms of bigotry, academic bigotry is taught and not an innate characteristic of an individual or field. Academic bigotry is transmitted through educational and research experiences. Science and academia are fertile fields in which academic bigotry can grow. Scientists are required to think critically about the methods and results presented in articles, grants, and dissertations. However, it is easy to use these important skills to dismiss a body of work without a thorough (or even superficial) understanding of the methods of the other discipline. Appropriate application of critical thinking requires that the scientist distinguishes the quality of scientific work from the discipline itself.

Why is it important to be aware of academic bigotry and rid it from the scientific culture? Besides the respect for achievement that each of us should have for our academic colleagues, the existence of academic bigotry holds back scientific progress. Investigators may not appreciate or be aware of important research tools available through other disciplines that may enhance their own work. Some scientific endeavors may require the development of novel approaches not available within a single discipline. It has been widely argued that multi- or transdisciplinary research is an important means by which complex research questions will be answered. Numerous agencies have issued statements and funding announcements that attempt to foster integrative, transdisciplinary, or translational research to address important research problems. These initiatives have encouraged scientists to develop better communication between disciplines. However, the cultural barriers between fields are difficult to eliminate (2): researchers from different disciplines themselves bring a variety of (often conflicting) norms, methods, and metrics for success that impede scientific discourse.

Besides constraints on science itself, academic bigotry raises concerns and confusion about the value of science in general to those outside academia, including policy-makers, funders, and the general public. Pejorative messages about a scientific field, whether intentional

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or not, can leave a negative impression about scientific endeavors in general to those outside academia.

How can we put an end to academic bigotry? At minimum, disparaging attitudes and labels (e.g., "soft science") should be eliminated. At best, training programs and academic discourse should develop and use common language and conceptual frameworks, consistent with existing norms, to improve communication across disciplines. Similarly, metrics that identify research success should be defined that can be accepted by all.

The philosopher Karl Popper said, "We are not students of some subject matter, but students of problems. And problems may cut right across the borders of any subject matter or discipline." Because the goal of research

is to address important problems, the elimination of academic bigotry in the scientific community can only help to improve the status of all science and its benefit to humankind.

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