

**Conference of the University-Based Institutes for Advanced Study:
“The Challenge for Scientific and Academic Knowledge”
September 19, 2013
Professor Stephen J. Toope
President and Vice-Chancellor
The University of British Columbia**

Thank you, Janis, for your kind introduction.

It is an honour to speak before such a diverse group of my peers. The University-Based Institutes of Advanced Study’s network spans the globe, and members work in nearly every discipline. Its mandate is equally broad: to spread knowledge globally. When I was first asked to speak today on “The Challenge for Scientific and Academic Knowledge,” I admit it felt just about as broad. What piqued my interest, though, was that the topic draws a (perhaps unintentional) distinction between scientific knowledge and academic knowledge. I decided that was where I needed to dive in.

By way of putting this distinction in historical context, I'll draw upon C.P. Snow's concept of the two cultures of science and humanities. The thesis of his influential Rede lecture at Cambridge in 1959 and of his subsequent book published in the same year titled, *The Two Cultures and the Scientific Revolution*, was that "the intellectual life of the whole of western society" was split into the titular two cultures — namely the sciences and the humanities — and that this split was a major hindrance to solving the world's problems. To quote from the lecture: "So the great edifice of modern physics goes up, and the majority of the cleverest people in the western world have about as much insight into it as their neolithic ancestors would have had."

While Snow oversimplified and made polarizing declarations, he was right about the lack of scientific understanding among decision makers, a lack that persists today across the globe. Where he left off, however, and where I think universities have a special responsibility now, is with the *limitations* of scientific knowledge and thinking and the consequent need to be conversant in *both* cultures.

Universities in general and Institutes of Advanced Study in particular deal with the whole sweep of knowledge, and must work to encourage the expression of all viewpoints on important questions. More pointedly, they must provide a meeting place for these viewpoints to learn from one another, as they are one of the only places where that can happen. While scientific knowledge is crucial, and the disciplined approach to thinking represented by science is very powerful, it is not the solution to the world's problems in and of itself.

If we hope to fulfill our mission—of service to our communities, local and global—we must first teach our students—of every discipline—to see the value and strength in both cultures, and even in the ‘culture clash.’ I worry that universities are too often places where we shy away from the social realities of deep diversity, where we try to find consensus before we allow for the spirited dialogue that sharpens real understanding, where comfort is prized over robust and challenging debate about the future of our society and of our places within it. We scholars can be an

inward-looking lot, and we can pass that proclivity along to our students. Instead of generating robust debate, our disciplinary certainties can lead to dialogues of the deaf, or to mere 'tolerance' of diverse views without real engagement. If we are really going to bridge disciplines and open up new ways of addressing the fundamental challenges of our generation, we need to be more truly interested in diverse theoretical presuppositions, less inclined to prove others wrong or to simply condescend. We should be actively exploring points of complementarity and synergy.

We have to ask ourselves why so many of our undergraduate students are called upon to make all the connections themselves, do the integrating and synthesizing, bridge the artificial gaps? Why so many of our programs are so credit-intensive that students simply can't take the opportunity to explore outside their fields? Why we replicate the same courses in various departments, rather than trying to find ways to share resources and create more diverse learning communities for our students? Why young professors with joint appointments fear they won't

get tenure? Why ‘interdisciplinary’ programs and research centres are so often disconnected from undergraduate teaching? Why such programs and centres often have trouble finding space within faculties?

We are simply not doing a good enough job of marshaling the incredible resources at our disposal; we are not making the difference in society that we could. And in this failure we are providing de facto support for the prevailing political and media discourse that values science over the humanities; that says societal progress and prosperity are based solely on advancements in science and technology, rather than on constant dialogue between Snow’s “two cultures.”

But let me flip that coin for a moment. The *conclusions* of science are frequently either ignored or attacked by politicians, the media, and the public. Climate change is one obvious example. Another is our dependence on the efficient (or rational) market hypothesis in economics. The inability of its precise formulas to account for some aspects of human behavior contributed to the financial crisis of 2008. A

third is the controversy surrounding vaccinations of children. The scientific approach to quantifying and communicating risk is clearly ineffective here.

So what's going on? Could it be that people innately know the information they're getting isn't balanced? And what is the role of universities in general, and institutes of advanced study in particular, in bringing scientific and humanistic knowledge back *into* balance?

I am a law professor, not a chemist; but in the spirit of being conversant in both cultures I will put on my science "cap" and use my limited understanding of catalysts to describe my own experience of universities. A catalyst, as I understand it, acts very much like a gathering place for different molecules, holding them together, facilitating their interaction with and ultimately reaction to each other. By creating a space for collisions, a catalyst speeds up the rate of a reaction.

Universities attract and combine people of vastly different aptitudes and interests, placing them in environments where they can react with one another—law professors and chemists, particle physicists and performance artists, climate scientists and classical scholars. The collisions that take place, both deliberate and accidental, create the conditions for unpredictable discovery. Universities are among the only institutions on earth that are able to cultivate serendipity and innovation in this way to a significant extent.

Universities are also the only places where pursuit of knowledge in and of itself is considered a good thing, where the primary motivation is to carry out the best scholarship possible, and where many different types of research co-exist. Institutes of Advanced Study embody these ideals at the highest possible level of achievement. Universities are now able to connect people across countries and cultures, and we are in the business of sharing knowledge freely. Universities are the one place where quite often the question is more important than the answer, and the journey of discovery is as important as the outcome.

Solutions to (or even just a clearer understanding of) the most pressing issues of our day require the application of all types of knowledge, a dialogue across academic cultures. Institutes of Advanced Study provide a venue and support for this type of work, and are among the most important contributions a university can make. To meet our potential, though, we at universities need to work harder to cross borders and foster connections. And to do that, I suspect we will have to confront our fear of controversy and robust debate. Perhaps we'll even start today. If universities fully claim the terrain as sites for the rich contestation of values, we might just become the deeply influential social institutions we aspire to be. Social, scientific, innate, or learned: whatever knowledge we possess, *that* is the challenge we face now.

Thank you.