

Standing Committee on Science and Research

SUBJECT: Research and Scientific Publication in French

Introductory Remarks by
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Madam Chair, the Honorable Kirsty Duncan, I thank you and the honorable members of the Standing Committee on Science and Research for inviting me to testify on research and publication in French in Canada.

First, let me summarize my experience on the basis of which I will testify.

- My research is primarily in theoretical quantum chemistry and chemical physics.
- I am a Full Professor and Chair of the Dept. of Chemistry and Physics, Mount Saint Vincent University (Nova Scotia).
- I have just completed a four-year term as a member and then as the immediate past Chair of the Interdisciplinary Adjudication Committee of the Canada Research Chairs Programme.
- I currently serve as a Member of the Board of Director of the Canadian Society for Chemistry.
- I am a member of the Acfas-Acadie as a regional representative for Nova Scotia under the leadership of Professor Selma Zaiane-Ghalia the president of our committee.

That being said, in this testimonial I do not invoke the authority of any institution or organization, I testify as an individual and speak in my own name.

Centuries ago, the *lingua franca* of science was Latin, the linguistic ancestor of French and all romance languages. Sir Isaac Newton himself chose Latin, rather his native English, when he wrote his "*Philosophiæ Naturalis Principia Mathematica*" (Mathematical Principles of Natural Philosophy).

Today, English is the *lingua franca* of science, but this is relatively recent. It began with the emergence of the United States as a World superpower after WWII. Before that, it was commonplace to publish in other languages. For example, the four papers of Albert Einstein of 1905 where he lays the foundation of the special theory of relativity including the one where he derives the famous $E = mc^2$, explains the Brownian motion, and explains the photoelectric effects were all published in German and so were the articles by Schrödinger and by Max Plank where the foundation of quantum mechanics were erected. Louis Pasteur, Henri Poincaré, Marie Curie, and many others have published in French.

A couple of years ago, I came across a beautiful paper by Alain Aspect (this year's co-recipient of the Physics Nobel Prize for his work on quantum entanglement underpins all quantum computing technologies) in the prestigious (yes, I said "prestigious", but seldom cited) French publication: *Le Bulletin de l'union des physiciens* (le BUP). This is not an isolated instance, in fact a large number of articles by highly placed French (and French speaking) physicists and chemists, including several Nobel Laureates (with legends no lesser than Loui de Broglie) appeared in the BUP over its 120-year history. This *does* show that first rate scientists do publish in the French Language indeed.

So why do they publish - or why to publish - in French? Well, in my opinion language as a vehicle of thought does modulate how you think. You are influenced by the cultural heritage that is associated with the language and its nuances and modes of reasoning. Do you really need to understand the words to recognize a Cuban piece of music, an Argentinian Tango, or a Greek or Russian folkloric music? The music phraseology emerges from the logistic culture in which it is embedded. The same in other domains of intellectual work. The limit of your language is the limit of your knowledge as argued by Ludwig Wittgenstein in his *Tractatus Logico-Philosophicus*.

As a witness before this committee, I am practicing what I preach: I have published two papers in the BUP and have given dozens of lectures in the French language around the world. With two colleagues, we have co-organized the 45th CHITEL or QUITEL congress in August 2019 in Montreal (QUITEL or CHITEL is the conference of theoretical and computational chemists who's first language is one of the Romance (or Romanic) group derived from Latin, such as Catalan, Italian, French, Portuguese, Romanian and Spanish). Most of the oral and poster presentations were in French and in Spanish. I dare to suggest that the conference was a total success and that the language added an important dimension to the interest in this conference. (See the article published in the *Acfas* journal in 2019, attached, which I published with my two co-organizers and the director of administration of the conference).

I close with a few practical suggestions, which I cannot imagine being totally original, to enhance scholarship in the French language in Canada:

- Earmarking an adequate budgetary quota for submissions in French to the three agencies of the tri-council of Canada. Thus, each agency would have a set percentage of its financial allocation specifically targeted to proposals which are submitted in the French language in the natural and health sciences, engineering, mathematics, in addition to the social and political sciences and arts.
- When an evaluation committee does not have among its members those who have sufficient mastery of both French and the technical subject of a proposal, external members can be recruited to fill this gap from a "*global francophone reviewers database*". The agencies would pool together a database of potential reviewers in all

domains of scholarship that are francophone from Canada and internationally from all French-speaking countries.

- Opening up the eligibility to scholarships that are presently restricted to Canadians, landed immigrants, or Refugees – to also allow those international students who plan to undertake their studies in French but fall in none of these categories.
- Treating French in the same way we treat EDI (equity, diversity, and inclusion).
- Establishing a multidisciplinary first-rate general science journal based in Canada for publishing high quality peer-reviewed research in the French language (with the addition of an extended abstract in English).
- Encouraging periodic and highly visible conferences and symposia in French – I can expand on that later perhaps.

The engine for pushing any and all of these suggestions is, unsurprisingly, financing.

In closing I thank you again for the opportunity and look forward to address your questions.