Minority Language Speakers in Palaeontology

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When we think of diversity, we typically think in terms of visible diversity, however many of the things that make us diverse are invisible. Linguistic diversity is one such aspect of this so-called invisible diversity. Academia, for the most part, remains monolingual. Across the world, English is commonly used as the language of instruction, and in science, English is the language we predominantly use to communicate – at conferences, in emails, in publications, and to the media. Not all scientists are native English speakers, creating significant and largely unseen difficulties, that native speakers almost never experience, for example during peer review (1). For others, whose native language is English, there are other regional, or minority, languages that make up a considerable part of their identity and culture, which can seldom be expressed at work and in scientific circles.

Nussaibah is a Mauritian PhD student in Germany. Her research focuses on understanding the impact of environmental change on reefs and reef-building organisms. Languages were a big part of Nussaibah's time in Mauritius, where she was born and raised. She grew up speaking a multitude of languages: English and

French which were reserved for school, Mauritian Creole – a french based patois – which were for family and friends, and Urdu, which she learned in school as part of the “ancestral language” initiative in Mauritius. She spent three years in Turkey at Ankara University, where the main language of instruction and science was Turkish. Now in Germany, she has had to learn German as a requirement to obtain her residence permit. Emma is an Irish postdoc in England, studying the patterns and drivers of biodiversity through deep time. In Ireland, English is the most widely spoken language; a result of several centuries of British conquest and colonisation. However, like the majority of people in Ireland, Emma grew up learning both English and Irish (Ireland’s first official language). While Irish is spoken daily by only a small percentage of the population, Irish is a compulsory school subject, and Hiberno-English, the dialect of English spoken by Irish people, borrows heavily from Irish, especially in terms of sentence structure and phrasing.

As speakers of minority languages (Creole and Irish), Nussaibah and Emma noticed several similarities but also many important differences in how their languages have shaped their academic experiences. This led to a discussion about privilege, identity, diversity and barriers to science:

Nussaibah: The first thing that came to mind when we were asked to write this piece was how lucky I was to have grown up speaking English. English has now become my dominant language, mostly due to the fact that it is the lingua franca of academia (2). But this has also meant that the other languages I speak, which remain very much part of me, have had to take a backseat. More and more, I find myself forgetting a word here and there, just because I don’t use these languages as much as I do English.

Emma: This was also my first thought, I am very privileged to be a native English speaker in science. Using it daily, and in a much more technical way than I would use Irish, means that over time Irish is slipping from my mind. Unlike when I was back in Ireland, I now need to actively keep up my Irish – I watch and read a lot of Irish language news media and listen to podcasts. I’ve even changed the language on websites like Twitter, so that I have to navigate the sites through Irish!

Nussaïbah: I also started listening to French podcasts, especially science ones because I realised that I would never be able to speak about my research in French or Creole. This meant that I could not even explain to some of my family members who did not speak English, what my work was about. Despite English being one of our official languages, there still are not so many people who are fluent in it and the option of the French-based languages are more preferred. My research is really relevant to Mauritius, so I definitely would like to be able to talk about it with my fellow Mauritians.

Emma: My experience has sadly been the opposite. In Ireland, Irish still lags way behind English, meaning it’s not seen as the language of science, technology or business, which excludes a small, but significant, portion of the population who predominantly speak Irish. Amongst my family and friends, Irish is more typically reserved for general conversation (and for when young children are around and you don’t want them to understand what you are saying!). Usually, depending on what we want to say, we’ll either say it in a mishmash of Irish and English, or use an Irish word that is more descriptive or useful in place of an English word. It’s really wonderful to be able to switch back and forth like that, but something I can rarely do outside of Ireland.

Nussaïbah: There are times when I use – sometimes without even realising – a non-English expression and end up just speaking what others would describe as “weird” English. Because of the way I look, I’m automatically placed in the “non-native speaker”

pool and may even get patronising comments on how to fix my English. I always have to be aware of whom I'm speaking to and which words/expressions to use – which then usually leads to me getting complimented on how good my English is. Creole is a very expressive language and we have many words that can't be translated because they describe the way you feel or what you want to put emphasis on rather than a specific word. In the same way, there are so many things that could be described in a better way in another language that I sometimes feel that speaking just English is too restrictive.

Emma: When I'm not in Ireland, I am hyper-conscious of any 'Irish-isms' that creep into my everyday speech, as well as my scientific writing. This isn't only to ensure that non-Irish speakers better understand me, but it also helps to reduce the number of comments I will get for not speaking or writing in 'proper English'. Though infrequent due to my privilege of visibly being a native English speaker, these comments on my accent and turns of phrase are grating and part of a wider problem in academia.

Nussaibah: I experienced first-hand how it was to be a non-native speaker in academia in Turkey, where I was expected to be able to write my thesis and give presentations in Turkish. I had spent a year learning Turkish prior to starting university but this did not in any way make me fluent enough to be able to do these things. People were however very understanding and patient with me – something that I feel is lacking in the English speaking world of academia. Whenever I would submit a paper with my Turkish affiliation, I received comments that my English was not good enough and that I should get it checked by a native speaker. Funnily enough, this has not happened since I moved to a German institution. Coincidence? Maybe.

As speakers of minority languages (and several other major world languages),

we are acutely aware of the monopoly that the English language has in the scientific discourse, as well as in our own scientific research. Global sampling biases amongst fossil occurrences, e.g. the dominance of North American and European occurrences in the Paleobiology Database, are well-documented but considerably less attention has been paid to how these biases, that certainly go beyond physical processes, have arisen to start with. Due to the invisibility of non-English science, there is an inherent bias in whose research gets reported (3). As a result, scientists in the non-English speaking world feel compelled to publish in English, often at the detriment of contributing to scientific research and communication in their own local language. This outright exclusion of other languages is intrinsically contributing to increasing inaccessibility and loss of scientific knowledge in non-English speaking communities. Scientific excellency is only reserved for those who have managed to overcome the barriers that English represent.

As we move forward in our conversations about how to make science, and specifically palaeontology, more diverse, equitable, and inclusive, we must become aware of others' nuanced experiences – not just in terms of visible diversity, but also invisible diversity. It's our only way of conducting science that actually matters and makes a difference, science that goes beyond publishing or perishing.

This article first appeared in the Palaeontological Association Newsletter, No. 104, p. 71-73 under the title: "Spotlight on Diversity: Minority Languages".

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Acknowledgements. We would like to thank Rachel Warnock for encouraging us to write this article and to Sarah Greene for helpful comments.