Bridging or Breaking?
A Critique of the Norwegian Action Plan for Academic Language

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Prelude

The Tower of Babel

The Tower of Babel, as described in biblical literature, was a structure built in the land of Shinar (Babylonia) sometime after the Great Flood. The account in Genesis 11:19 suggests that the story serves to explain the origin of diverse human languages. According to the narrative, the Babylonians sought to establish their renown by constructing a grand city and a tower "with its top in the heavens." However, God intervened by confusing their language, making communication impossible among the workers. As a result, construction was abandoned, and the people were scattered across the earth [6].

Disaster in Space

In 1999, the Mars Climate Orbiter was lost just 10 months into its mission, breaking apart in the Martian atmosphere due to a preventable miscalculation [10].

> "The Mars Climate Orbiter, a 638-kilogram robotic space probe costing $125 million, was launched by NASA on December 11, 1998, to study the Martian climate, atmosphere, and surface changes. Additionally, it was designed to function as a communications relay for the Mars Polar Lander as part of the Mars Surveyor '98 program. However, a critical error occurred: the navigation team at NASA's Jet Propulsion Laboratory (JPL) used the metric system (millimeters and meters), while Lockheed Martin Astronautics, the spacecraft's manufacturer, provided crucial acceleration data in imperial units (inches, feet, and pounds). JPL engineers did not account for this discrepancy–acceleration values given in English units of pound-seconds^2 were mistakenly interpreted as newton-seconds^2. In essence, the spacecraft was lost in translation."

Medical Miscommunication

In 1980, a young man named Willie Ramirez was admitted to a hospital in Florida in a comatose state. His family, who spoke only Spanish, told doctors that he was "intoxicado," which in Cuban Spanish can mean food poisoning or feeling unwell due to something ingested. However, the medical team mistakenly interpreted the term as "intoxicated" (i.e., drug or alcohol overdose). This misinterpretation led to a critical delay in diagnosing a brain hemorrhage, ultimately leaving Ramirez quadriplegic. The case became a landmark example of the necessity of medical interpreters and the risks of linguistic misunderstandings in life-or-death situations [15].

1 Introduction

Reproducibility, transparency, and open access are frequently highlighted as key indicators of scientific quality. A fundamental requirement for all three is that readers can comprehend the scientific content, making terminology and language crucial factors. Effective communication of

scientific findings relies on a shared vocabulary that fosters mutual understanding. This need has become even more critical in the era of *Big Science*, where large-scale research projects involve collaboration among numerous researchers, often across state lines [18].

In 2023, the Norwegian government introduced an action plan to strengthen Norwegian academic language [13]. The initiative is driven by the need to preserve cultural identity, social cohesion, and effective communication in society. Recognizing the increasing dominance of English in a globalized and digitalized world, the government seeks to implement strong measures to safeguard Norwegian as a viable academic language and encourage institutions to take greater responsibility for its preservation. As a recent development following this plan, the Norwegian Research Council has allocated 120 million NOK to establish two new research centers dedicated to Norwegian academic language [8]. These centers aim to enhance the use of Norwegian in research, ensuring its relevance in education and broader society.

Such an action plan may be beneficial for language preservation, but can be detrimental to scientific progress. In this essay, I present a critical review of the Norwegian action plan by highlighting the role of language in academia and how the plan may be a step backward for the advancement of science.

2 The Role of Language in Academia

2.1 Big Science

Big science refers to large-scale research projects that demand substantial funding, extensive collaboration, and complex infrastructure, typically supported by national governments or international organizations. This approach gained prominence during and after World War II, marking a shift from individual or small-group research to large, coordinated initiatives [18].

A prominent example of big science is the Large Hadron Collider (LHC) constructed by the European Organization for Nuclear Research (CERN). One of the most groundbreaking discoveries from the LHC was the Higgs boson, a finding published in a paper co-authored by 5,154 researchers from a diverse range of nationalities [1].

A defining feature of big science is its reliance on international collaboration, often involving researchers from multiple countries. As noted by the Organisation for Economic Co-operation and Development (OECD) [14]:

> "Science is inherently international. Researchers and research institutions cooperate across national borders, and a high proportion of scientific publications include co-authors from different countries. Maintaining a well-functioning international research ecosystem is an important focus for science policy."

In this context, language plays a crucial role in ensuring effective collaboration. Clear communication is essential for fostering mutual understanding and trust among scientists from diverse linguistic backgrounds. Without a shared language, large-scale research efforts would face significant barriers to coordination, knowledge exchange, and technological advancement.

The LHC, for instance, currently involves 24 member states [2], making it one of the largest international scientific collaborations in history. The complexity of such a project necessitates efficient scientific communication, further underscoring the importance of a common language in global research endeavors.

2.2 The Global Language

English is widely regarded as the global language and is the most spoken worldwide [3]. It also dominates academia, with approximately 90% of scientific publications written in English [4].

This linguistic dominance has drawn criticism, particularly in fields such as climate change research, where English can be perceived as a barrier to knowledge dissemination. While climate change is a global crisis, the countries experiencing its most immediate and severe consequences

often have low levels of English literacy–primarily developing nations [16]. This raises concerns that vital scientific information may remain inaccessible to those who need it most.

Despite these concerns, no clear monolingual alternative to English exists. Replacing English with another language would likely exclude an even larger portion of the global population. Since no single language is universally spoken, any alternative would still create barriers. Moreover, effective science communication goes beyond translation. It requires further refinement, another type of translation.

2.3 Science's New Social Contract with Society

As science evolves under a new social contract with society [9], researchers must acknowledge that their responsibility extends beyond producing knowledge–it also involves making that knowledge accessible and relevant to policymakers, businesses, and the public. Transparency and engagement are now critical to maintaining public trust in science. Simply publishing findings in peer-reviewed journals is no longer sufficient; scientists must also communicate their work in ways that facilitate informed decision-making. This means conveying complex research for actionable insights, participating in policy discussions, and collaborating with industries and communities.

In this context, linguistic accessibility is only part of the challenge–the greater issue is ensuring that scientific knowledge is framed in a way that allows society to understand, evaluate, and apply it effectively. While some advocate for research to be available in multiple languages, simply translating scientific literature is insufficient. Scientific writing is often highly technical, making it difficult to understand even for native speakers without specialized training. Meaningful public engagement requires not just translation but also simplification into accessible, non-technical terms. This process is already complex, and adding an extra step–translating research into another language before simplifying it–introduces further challenges, including increased resource demands and a greater risk of errors. Between the two possible approaches, one is clearly more efficient and less error-prone:

1. Technical terms in English → Non-technical summary in native language
2. Technical terms in English → Technical terms in native language → Non-technical summary in native language

2.4 Expert Communication

For effective communication between experts, using one's native language may be beneficial within small research circles within the same country. However, for the larger scientific community, this practice severely limits accessibility. A paper written in a less widely spoken language, such as Norwegian, would be difficult for non-Norwegian researchers to find, read, or accurately translate.

Given that researchers have the highest level of education attainable, it is reasonable to expect them to be proficient in English, particularly in countries like Norway, which ranks among the highest in English literacy [5]. While this may pose challenges for those with limited English skills, the alternative–a fragmented scientific landscape with competing languages–would likely be even more exclusionary.

3 The Norwegian Action Plan

The Norwegian action plan for academic language [13] is driven by the need to preserve cultural heritage and ensure that knowledge remains accessible to a broader segment of society. The increasing dominance of English is viewed as a potential threat to both Norway's cultural identity and its democratic discourse.

The action plan introduces several measures across education and research. Here, I summarize the main points:

- **Norwegian language in teaching and learning.** The government aims to clarify language requirements in the University and College Act (universitets- og høyskoleloven) [11], making Norwegian (or Sami) the default teaching language with exceptions. Students may also recieve the right to write theses in Norwegian.
- **Norwegian competence for instructors.** Faculty will be required to achieve B2-level Norwegian within three years, with language training offered for PhD candidates and postdocs. Universities must prioritize Norwegian-language dissemination in hiring and promotion.
- **Norwegian language in research and dissemination.** The government plans to support research in fields like lexicography and language technology, improve access to quality dictionaries, and incentivize Norwegian-language publishing of research.
- **Norwegian in university administration.** As English usage increases in administrative settings, the government will ensure that Norwegian (Bokmål, Nynorsk, or Sami) is used as the main administrative language in public universities, in accordance with the Language Act (språklova) [12].

The action plan acknowledges that globalization is both necessary and beneficial for research. The Norwegian government seeks to maintain a strong international presence and foster a workforce capable of competing globally. However, the government argues that this internationalization must be managed in a way that safeguards the Norwegian language.

At the same time, many of the proposed measures run counter to the trend of scientific globalization. Emphasis on Norwegian will inevitably limit the accessibility of Norwegian research to the international community or divert resources from other academic ventures. This raises a critical question: does the allocation of resources toward maintaining Norwegian as an academic language yield sufficient benefits to justify the potential trade-offs?

3.1 Closed Science and Non-Global Students

The action plan introduces several measures that will require students and university staff to use Norwegian more frequently in both education and research. This includes a push for courses to be taught in Norwegian and for academic publications and materials to be written in Norwegian. While these measures may contribute to preserving the Norwegian language in academia, they simultaneously risk weakening Norway's international presence and scientific competence.

A student who primarily learns a subject in Norwegian may struggle when engaging with the broader academic community, where the vast majority of literature, research, and discussions occur in English. This could hinder their ability to access global knowledge, collaborate internationally, and remain competitive in an increasingly interconnected academic and professional landscape. The shift may also make it more difficult for Norwegian students to pursue studies abroad or transition into international careers, where English proficiency in their field is essential.

For researchers, an increased prioritization of Norwegian-language dissemination significantly reduces the potential impact of their findings. Science thrives on open exchange, and limiting the accessibility of research by confining it to a smaller linguistic audience reduces citations, collaborations, and contributions to global knowledge. Moreover, this shift could discourage international researchers from coming to Norway, as the language barrier in both administration and academia might make integration more challenging.

A clear example of this is the representation of temporary scientific staff in department councils at the University of Bergen. In the Department of Informatics, there is no strict requirement to know Norwegian to be elected to the council. However, nearly all documents are written in Norwegian, which alienates international PhDs and postdocs who have limited exposure to the language, leaving them unable to effectively represent their own interests.

3.2 Loss of Culture

The action plan argues for the significance of the Norwegian language in preserving cultural identity and national cohesion, stating (translated) [13, p. 5]:

> "The Norwegian language is a carrier of Norway's cultural history. Our two written languages and many dialects are essential to our cultural identity and the cohesion of Norwegian society. For each of us, our mother tongue is the most important tool we have for thinking, creativity, learning, conversations, and participation in public discourse. The Norwegian language is one of the most valuable resources we have."

But is the Norwegian language truly as essential as claimed? While it has undeniably shaped Norwegian society in the past, languages evolve over time. The way we communicate today differs significantly from a century ago, just as the language spoken a millennium ago is far removed from modern Norwegian. Language is dynamic, constantly adapting to cultural, economic, and technological influences. Latin dominated much of Europe during the Roman Empire, French reshaped English after the Norman Conquest, and today, English serves as a global lingua franca, facilitating communication across borders.

A gradual shift toward a common language across larger parts of the world could offer tangible benefits. It could foster broader collaboration, enhance the exchange of knowledge and resources, and reduce barriers in academia, research, and industry. A shared language could also bridge cultural divides, potentially reducing conflicts arising from linguistic differences.

The urgency to protect Norwegian bears striking similarities to resistance against technological advancements, such as the opposition to the Spinning Jenny during the early Industrial Revolution. Invented by James Hargreaves, the Spinning Jenny drastically improved textile production, shifting the industry from manual home-based work to mechanized factory production [17]. While this advancement led to increased efficiency, it also displaced workers, sparking backlash from groups like the Luddites, who sought to destroy the machines threatening their traditional livelihoods [7].

Yet, history shows that these technological shifts ultimately benefited society, paving the way for greater innovation and economic growth. This parallel suggests that, just as mechanization revolutionized industry, the increasing dominance of English may offer a more practical and efficient means of communication, collaboration, and academic progress.

While advocating for the complete replacement of Norwegian in academia may seem extreme, it is worth critically examining the motivations behind strict language policies. Does enforcing Norwegian in higher education truly serve the best long-term interests of students, researchers, and society at large? Or are we resisting an inevitable and beneficial evolution?

4 Conclusion

While the action plan for Norwegian academic language may support the preservation of cultural heritage and make scientific developments more accessible to the general public, it does so at the expense of open and globally accessible science. Prioritizing Norwegian–a minority language in the research community–risks isolating Norwegian academia, restricting collaboration, and weakening our international presence. Allocating resources to this nationalistic effort may ultimately hinder the goals of open science and knowledge dissemination.

A more forward-thinking approach would be to embrace Norway's increasing English proficiency. Redirecting funds and efforts away from maintaining a Norwegian-specific scientific vocabulary would free up resources for more impactful initiatives. Furthermore, fostering English literacy would position Norwegian students, researchers, and society as highly progressive and open, ensuring greater access to the latest global knowledge and scientific advancements, aligning well with science's new social contract with society.

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