

Promoting balanced multilingualism

in open science & scholarly communication

OPERAS Community: Policy Brief

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Introduction

Multilingualism represents a core stake in today's world. Considered as one of the pillars of an inclusive, pluralistic, equitable, and sustainable society, it has been at the heart of political and institutional discourses over the past decades. For instance, since 1995, a resolution on multilingualism has been adopted every two years by the plenary session of the United Nations General Assembly in New York. In 2003, the UNESCO General Conference adopted the Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace to underscore the importance of multilingualism in the digital age. With specific regard to scholarly communication, the Helsinki Initiative pointed out in 2019 that multilingualism plays a crucial role in creating research impact, preserving locally-relevant scientific work, and fostering interaction between science and society. As a major shift in the recognition of the importance of language diversity and linguistic equity in scholarly communication, the Helsinki statement has been supported by over 1000 signatories from more than 70 countries so far.

Since 2019, a number of initiatives and projects have emerged to address the challenge of multilingualism in scholarly communication from different angles, including language biases in research assessment, the availability of multilingual metadata to improve research discoverability and accessibility, or the role of Al-powered technologies and collaborative tools in the production of multilingual content and language resources. Past and ongoing multilingualism-related actions, projects and resources, developed by different stakeholders from different countries and geographic areas, include:

- Coara's Working Group on Multilingualism and Language Biases in Research Assessment (started in 2023): according to its description, the Working Group "supports the EU (and other) institutions in fulfilling their duty to enhance, promote and uphold linguistic equity, diversity and non-discrimination in Europe and globally. This requires fostering an academic culture that values diverse competencies, interactions and communications in all languages without exclusions or priorities."
- ▶ DIAMAS Deliverable D4.6 on Equity, Diversity, Inclusion and Belonging (EDIB) in scholarly communication working with communities to develop resources for multilingualism, gender equity and accessible and inclusive websites (published in 2024): this report explains, among other things, how the DIAMAS project on Diamond Open Access incorporates multilingualism into its broader EDIB strategy by providing practical tools and guidelines, leveraging technology, and addressing systemic disparities to support a more inclusive and equitable scholarly publishing ecosystem.
- Exploratory studies for the creation of a technology-aided collaborative translation service in open scholarly communication (published in 2024): this general report, which comes with 7 detailed reports, was drafted as part of the Translations and Open Science project in order to explore the role of technology-aided translation in multilingual scholarly communication and to lay the foundations of a dedicated community-led service. While the project primarily focused on the French-English language pair, the methodology can be tested and the output can be used with other languages as well.





- Research Data Alliance Working Group on Alignment of multilingual vocabularies in the Social Sciences and Humanities (started in 2024): the objective of this group is to work towards the alignment of SSH disciplinary vocabularies, with a particular focus on multilingualism, multiculturalism, and the best practices to create interoperable multilingual vocabularies.
- ► TeresIA (started in 2024): this research project explores how artificial intelligence can be leveraged to extract and process disciplinary terminology and neologisms. While the project primarily focuses on Spanish, the methodology can be tested for use with other languages.
- DARIAH Multilingual DH Working Group (started in 2023): this working group aims at enhancing digitally-enabled research in under-resourced languages and dialects by gathering scholars who will assess the adaptation of existing tools to new languages and scripts.
- ▶ OPERAS-PLUS Deliverable 5.5 Design components architecture to support the translation platform (published in 2023): this deliverable provides an indepth overview of the translation platform initially conceptualized in the OPERAS Multilingualism White Paper published in 2021. Since its introduction, the translation platform has been launched in a beta version and is expected to be included in the OPERAS service portfolio under the name *Mondaecus*.
- ▶ OPERAS Multilingualism White Paper (published in 2021): this White Paper was collectively written by the OPERAS SIG Multilingualism as part of the OPERAS-P project. The paper was intended to: (i) synthesize evidence in the literature as to innovative dynamics of knowledge-sharing and scholarly communication within linguistically diverse scholarly contexts and research networks; (ii) have a better understanding of the role of multilingualism within bibliodiversity in scholarly communication, through the lens of publishers and translators/researchers; and (iii) present the conceptual design of a future OPERAS Translation Platform aiming at supporting translation services at the scholarly communication level (involving publishers, translators, researchers).
- ▶ <u>GoTriple</u> (project started in 2019): this multilingual platform was developed to foster the exploration of Social Sciences and Humanities research. The platform is language-agnostic and can be searched in several languages, including (but not limited to) eleven official languages: Croatian, English, French, German, Greek, Italian, Polish, Portuguese, Slovenian, Spanish, and Ukrainian. The multilingual results are aggregated from several national and disciplinary scientific repositories, so that research productions in multiple languages can be easily found.
- ▶ <u>UNESCO Recommendation on Open Science</u> (2021): at a more institutional level, UNESCO identified language diversity as a core foundation of open science and encouraged multilingualism "in the practice of science, in scientific publications and in academic communications."

Such a diverse and rich landscape – which is expected to further evolve in the near future – makes it clear that there is a "multilingual momentum" in Europe and beyond. Such a momentum should be leveraged to raise awareness, implement tangible actions and establish collective best practices in order to promote multilingualism in scholarly communication. The sections below outline OPERAS' vision and recommendations in this regard.



Lingua franca, lingua unica and balanced multilingualism in scholarly communication: challenges and opportunities

While recognising the crucial role of a shared language facilitating international exchanges within the global scientific community, OPERAS believes that using a *lingua franca* should not mean implicitly imposing a *lingua unica* in scholarly communication. The benefits of publishing in English in the current landscape – increased prestige, outreach and collaboration opportunities – do not come without consequences. Firstly, this linguistic dominance hinders information sharing and co-construction of knowledge, not only among researchers, but also in science communication, citizen science and participatory research activities, which are all the more important in an age of disinformation and mistrust. Moreover, imposing a language – including and especially to non-native speakers – limits intellectual creativity and thought, thus paving the way to standardisation of knowledge production and dissemination, to the detriment of local research and bibliodiversity.

The idea of "balanced multilingualism" promoted by OPERAS intends to challenge the hegemony of English in sciences while encouraging reasonable and sustainable approaches for the production and dissemination of multilingual research content. According to the definition proposed by Sivertsen (2018) and referenced by Balula and Leão (2019), this means to encourage "a dynamic approach", which considers and values a variety of "communication purposes in all different areas of research, and all the languages needed to fulfil these purposes, in a holistic manner without exclusions or priorities." As per the same definition, balanced multilingualism also consists in establishing "instruments for documenting and measuring the use of language for all the different purposes in research, thereby providing the basis for the monitoring of further globalization of research in a more responsible direction."

In order to support this vision, which establishes multilingualism as a cornerstone of Open Science, trust in science and equitable knowledge dissemination, OPERAS undertakes the following efforts:

- Advocate for robust national publishing infrastructures and collaborate with national nodes to strengthen open science practices and policy development aimed at fostering scholarly publishing in multiple languages. OPERAS national nodes play a critical role in this effort by supporting diverse linguistic communities
- Develop multilingual discovery platforms and databases. Initiatives like GoTriple – whose platform is operated by OPERAS – provide access to multilingual or language-agnostic discovery tools, fostering global collaboration and inclusivity.
- Explore how to leverage technology-aided translation tools. OPERAS actively develops prototype tools (i.e. the collaborative translation platform Mondaecus) and produces reports (i.e. the Translations and Open Science exploratory studies) to suggest workflows and best practices for technology-aided multilingual content production, fostering discoverability and accessibility for different audiences.
- **Encourage innovation.** OPERAS supports the development of diverse dissemination formats to enhance multilingual communication: blog posts, long and plain-language summaries, etc.

- Promote non-for-profit publishing models. Through initiatives like DIAMAS and ALMASI, OPERAS supports equitable and sustainable open-access publishing, ensuring accessibility and inclusivity in scholarly communication, including from a linguistic perspective.
- Advocate for reform in research assessment. OPERAS partners with initiatives such as CoARA and GraspOS to push for assessment frameworks that value diverse forms of scholarly communication in all languages, without exclusions or priorities.
- Establish connections and improve discoverability across languages and disciplines. The LUMEN project in which OPERAS is actively involved relies on existing multilingual disciplinary platforms to advance cross-domain and cross-language collaboration and discovery processes in four academic fields: Mathematics (Maths), Social Sciences and Humanities (SSH), Earth Systems (ES) and Molecular Dynamics (MD).



Recommendations

Based on the experience acquired and the feedback received, OPERAS promotes a set of recommendations which can be actionable by other organisations within the scientific community and beyond.

The recommendations cover the four topics described hereafter:

Bibliodiversity

Bibliodiversity encompasses the diversity of scholarly publishing in terms of languages, formats, voices, epistemologies, and geographic origins. When paired with multilingualism, it becomes a powerful strategy to resist the homogenizing effects of global academic norms, particularly the dominance of English. Promoting bibliodiversity and multilingualism not only broadens access to knowledge but also affirms the legitimacy of underrepresented languages as fully capable vehicles for scientific thought.

Translation

Translation is here defined as the process that involves understanding and conveying meaning across languages and within languages. In the case of interlingual translation, the meaning is conveyed from a source language to a target language, while in intralingual translation, the meaning is reformulated or adapted in the same language to adjust to different audiences and expectations.

Research Infrastructures

Research infrastructures are the physical or digital facilities, services, and resources (such as repositories, digital archives, and collaborative platforms) that support research activities and innovation

Language technology tools

Language technology is an umbrella term here used to refer in particular to software tools that facilitate the conversion of text or speech from one language to another, or that directly generate texts in a given language as a writing aid.

Research assessment

Research assessment refers to the structured evaluation of research quality, impact, and performance, typically conducted by institutions, funders, and policy-makers. These assessments have a profound influence on academic careers, funding decisions, and institutional reputations. In order to promote truly inclusive, equitable, and globally relevant research. ecosystems, assessment practices must embrace multilingualism and bibliodiversity as core values – not peripheral considerations.

On these topics, OPERAS therefore formulates the nine recommendations below:

Recommendation 1 – Support multilingual publishing and assessment policies that give full scientific legitimacy to all languages: encourage academic institutions, funding bodies, and publishers to value and support research outputs in a wide range of languages; reform assessment frameworks to explicitly value research outputs in diverse languages as legitimate and impactful contributions.

Rationale: reinforce the visibility, credibility, and continued viability of all languages, especially underrepresented languages, as vehicles for scientific communication, and challenge linguistic hierarchies in scholarly publishing.

Topics: bibliodiversity, research assessment.

Recommendation 2 – Foster bibliodiverse and linguistically inclusive publishing ecosystems by strengthening and valuing regional, non-profit and local-language publishers: invest in and collaborate with publishing initiatives that promote regional, indigenous, and minority languages, ensuring their presence and sustainability in academic discourse.

Rationale: counter the concentration of academic publishing in dominant languages and geographies, support diverse ways of knowing and communicating.

Topics: bibliodiversity.

Recommendation 3 – Develop sustainable open science infrastructures and expert networks that foster multilingual research preservation and international collaboration: develop multilingual repositories, editorial practices, and discovery tools that can accommodate, connect and elevate a wide range of languages and scripts; establish auto-sustainable infrastructures dedicated to preserving multilingual research outputs and fostering collaboration between national and international research clusters; establish community networks of multilingual disciplinary and language experts so as to ensure linguistically-unbiased research assessment and accurate content production in as many languages as relevant.

Rationale: ensure that open science is not only free and accessible, but also linguistically inclusive, qualitative and sustainable, preventing the erasure of less dominant languages from the global research landscape.

Topics: bibliodiversity, translation, research infrastructures.

Recommendation 4 – Advocate for high-quality translation to be fully recognised as a scholarly output: encourage funders, academic journals and publishers to publish high-quality translations and establish formal mechanisms to cite/credit translators appropriately; advocate for the inclusion of translations in scholarly databases and indexing services.

Rationale: encourage resource planning and commitment to the production of multilingual content; give value and visibility to scholarly translation as an expert human skill; support more inclusive forms of Open Science by ensuring that language is not a barrier to the circulation and uptake of knowledge.

Topics: translation, research assessment.

Recommendation 5 – Promote and value not only interlingual but also intralingual translation: produce innovative communication formats and make scientific languages and publications understandable across different domains and audiences.

Rationale: a foreign language may not be the only barrier in accessing scientific publications. Reproducing, reformulating, or adapting research outputs in different communication formats – including in the same language – can increase discoverability and accessibility across different audiences.

Topics: translation, bibliodiversity.

Recommendation 6 – Invest in the development of language-agnostic discovery tools with integrated open translation platforms: support the development of language-agnostic discovery tools integrated with open translation platforms to enhance multilingual accessibility and dissemination.

Rationale: expand research discoverability across linguistic barriers and ensure equitable access to scientific knowledge.

Topics: research Infrastructures, language technology tools.

Recommendation 7 – Identify efficient use cases for language technology tools: help produce and disseminate multilingual content according to specific communication purposes, such as translation and writing aid for authors and translators, (semi-)automatic translation for metadata, information or assessment purposes, technology-aided collaborative translation, etc.

Rationale: ensure that language technology, and in particular Al-based tools, are used to meet precise expectations based on comprehensive and meaningful assessment, and not as a universal solution to produce multilingual content indiscriminately.

Topics: translation, language technology tools.

Recommendation 8 – Establish and promote guidelines to ensure that the ethical and legal implications of using artificial intelligence are taken into account in multilingual content production, evaluation and search: develop and enforce ethical and legal standards for Al-based tools and metrics integrated into multilingual research processes; comply with human-centric technology principles, licensing and copyright obligations, risk assessment and bias mitigation measures, accuracy and transparency requirements.

Rationale: promote Al literacy and responsible integration in research processes while ensuring outputs are reliable and validated across diverse languages.

Topics: research infrastructures, language technology tools, research assessment.

Recommendation 9 – Encourage the adoption of open-source and/or community-led language technology tools: foster tailored, fair, transparent, human-centric and independent strategies for technology development and usage.

Rationale: contrary to proprietary tools which are developed and maintained according to the strategic vision of a profit-oriented entity, open-source and/or community-led solutions can be built to meet the specific needs of scholarly communication: language diversity, domain specialisations, interoperable design, nonprofit model, political independence, etc.

Topics: language technology tools, research infrastructures.

Conclusion

Promoting multilingualism in academic communication involves complex challenges. Gaining attention from policymakers and stakeholders, this complexity can serve as a catalyst for promoting collaborative and holistic approaches that bring together different actors, skills, tools, perspectives and, above all, language communities. As an international research infrastructure providing coordination frameworks and assets, OPERAS is committed to facilitating these efforts in order to build more inclusive and accessible models of scholarly communication recognising multilingualism as a core value.



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