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Endangered languages in scientific contexts (with particular reference to Spanish)

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Pontificia Universidad
Católica del Ecuador

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Endangered languages

- “glottophagie” (Calvet 1974); “language shift” (Fishman 1991); “endangered languages“, “language loss” (Hale 1992): “threat”, “danger”, “loss”, “death”, “extinction”
- Genocide or linguistic suicide? (Spolsky 2004: 216)
 1. Endangered languages in absolute terms, at risk of extinction in all domains: e.g., Wao Terero in Ecuador, Efutu in Ghana, Kula in Indonesia (*Endangered Languages Archive*)
 2. Endangered languages in relative terms, at risk of displacement or extinction in specific domains or contexts: e.g., Spanish in natural sciences or Spanish in migration situations
 3. Endangered languages subjectively: *English Only Movement* in the United States



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Endangered languages

- This issue has been addressed in recent decades not only because of the loss it represents for the respective communities but also for the human species because it leads to the disappearance of modes of conceptualization and diverse articulations between semiotic systems, such as between writing and orality.
- Sociolinguistics has studied how linguistic marginalization occurs to the benefit of other languages that differ in terms of their degree of relative power and the strength of their equipment for use in societies considered "advanced".
- On this occasion, we are going to reflect on a language, Spanish, considered supercentral (colonial and hegemonic at the national and regional levels) but which, due to the advance of globalization and the dominance of a hypercentral language, English (Calvet, 1999), sees its presence in scientific domains threatened (Arnoux, 2016).



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Spanish as an “endangered” language

This occurs due to:

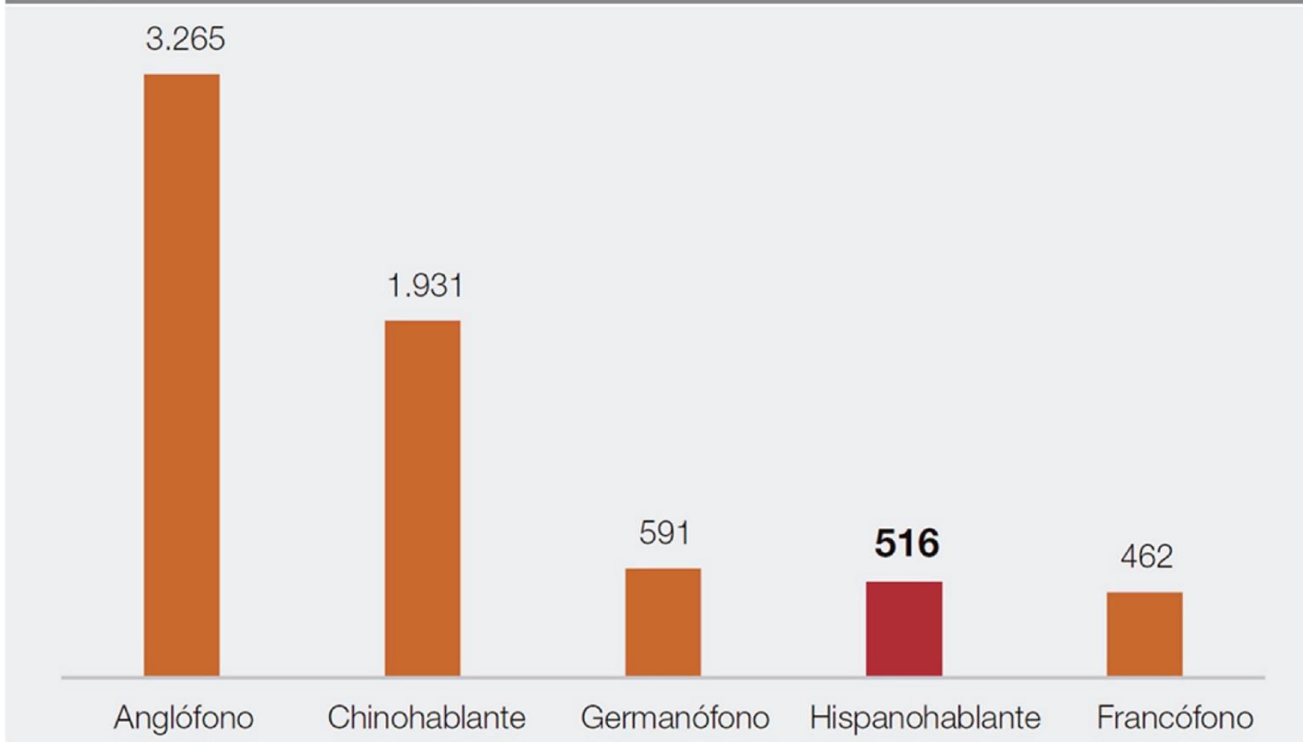
- The extreme valorization of scientific papers in English at the expense of production in Spanish, which is a result of the uncritical imposition of the ideology that "English is the language of science". Cf. "English is the international language of science, for better or for worse, but most of the world's scientists speak it as a second language" in the journal Nature (Elnathan 2021).
- The imposition of writing models different to the native developments (simplification and standardization of prose linked to the model of English prose).



Presencia global en la ciencia de los distintos ámbitos lingüísticos

GRÁFICO 25

Presencia global en la ciencia de los distintos ámbitos lingüísticos⁶⁶



Fuente: elaboración propia a partir de datos obtenidos del Índice Elcano de Presencia Global (Real Instituto Elcano 2021). El peso de la presencia global está expresado en números absolutos.



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Scientific production in Spanish

- "In the last ten years, Latin American researchers who publish in WoS [Web of Science] have gone from publishing in journals that use their own languages at 24% to doing so in just under 16%, and English-language texts from the region have increased from 75% in 2010 to 84% in 2020" (Badillo 2021: 62-63).



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Spanish devaluation

- Moreno Fernández (2016: s. p.), Congreso Internacional de la Lengua Española (VII CILE), from Puerto Rico:
- *Scientific communication must be conducted in English by the international elite most involved in cutting-edge research.* However, their communicative needs do not end there because there are other areas such as education, regional research, or scientific dissemination that a language like Spanish cannot resign. With this, we aim for a necessary multilingualism, among whose possible combinations, the combination of English and Spanish appears to be one of the most beneficial.



	el saber local → <i>überdachte Sprache</i> / "lengua bajo techo", lengua colonizada, lengua minorizada	el saber externo o universal → <i>lingua franca</i> , <i>Dachsprache</i> / "lengua techo", lengua colonial, lengua dominante
ciencias naturales y formales		física
		química
		astronomía
		lógica
		matemáticas
		biología
ciencias sociales / humanidades		geografía
		historia
		lingüística
		estudios literarios
		estudios del arte
		sociología
		estudios económicos
	estudios religiosos	

Criterios del uso de lenguas minorizadas vs. lenguas dominantes en el ámbito científico
(Becker 2011, basado en Kloss 1978 y Anzenbacher 1981)



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New perspectives

- We believe that these positions are part of a stage that has already been overcome (1) due to the advances in Artificial Intelligence, (2) due to the appreciation of multilingualism, including in the scientific field, (3) due to the increasingly developed awareness of language as a semiotic tool of thought, and (4) due to the rejection of the exercise of global colonialism in the scientific field.



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New perspectives

- (1) Advances in automatic translation of written texts, especially in planned productions, and in the interpretation of oral presentations and debates on specific topics within a particular field, make the use of a single language unnecessary for international visibility and circulation.
- (2) Various manifestos have emphasized the importance of native languages and multilingualism in knowledge production.



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Helsinki Initiative
on Multilingualism

Hi!

#InAllLanguages

READ

SIGN

SIGNATORIES

EVENTS

MEDIA

INFO

Choose Language

English

Helsinki Initiative on Multilingualism in Scholarly Communication

Research is international. That's the way we like it! Multilingualism keeps locally relevant research alive. Protect it! Disseminating research results in your own language creates impact. Endorse it! It is vital to interact with society and share knowledge beyond academia. Promote it! Infrastructure of scholarly communication in national languages is fragile. Don't lose it!

The signatories of the Helsinki Initiative on Multilingualism in Scholarly Communication support the following recommendations to be adopted by policy-makers, leaders, universities, research institutions, research funders, libraries, and researchers:

1. Support dissemination of research results for the full benefit of the society.

- Make sure researchers are merited for disseminating research results beyond academia and for interacting with heritage, culture, and society.
- Make sure equal access to researched knowledge is provided in a variety of languages.

2. Protect national infrastructures for publishing locally relevant research.

- Make sure not-for-profit journals and book publishers have both sufficient resources and the support needed to maintain high standards of quality control and research integrity.
- Make sure national journals and book publishers are safeguarded in their transition to open access.

3. Promote language diversity in research assessment, evaluation, and funding systems.

- Make sure that in the process of expert-based evaluation, high quality research is valued regardless of the publishing language or publication channel.
- Make sure that when metrics-based systems are utilized, journal and book publications in all languages are adequately taken into account.



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New perspectives

- (3) Language is a semiotic tool of thought, and particularly in the social and human sciences, the more refined it is, the more it can advance in intellectual production. Writing from a limited command of English impoverishes thought, subordinates the researcher by imposing foreign formulas and a prose inscribed in another discursive tradition.



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New perspectives

- **(4) Manifesto: Reconsidering English as the Lingua Franca in Scientific-Academic Contexts (Navarro et al. 2023)**
- Some principles upheld include: the use of English as a scientific-academic "lingua franca" does not always promote inclusivity; a supposed scientific-academic "lingua franca" can act as a language of domination; policies that position English as the "lingua franca" can discourage translations and limit participation;
- policies that place English as the contemporary scientific-academic "lingua franca" may imply that knowledge produced in English is the only valid knowledge; the imposition of English as the presumed scientific-academic "lingua franca" is an expression of unequal distribution in the production and reception of knowledge; languages and varieties serve as powerful resources for knowledge production; the choice of a language for publication or presentation is a political act; ...



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Conclusions

- The development of Artificial Intelligence and advances in automatic translation make the mandate for production and circulation in English seem outdated as a way to participate in cutting-edge scientific debates, particularly in the social and human sciences.
- It is necessary to formulate proposals that confront global colonialism, which is rooted both in the widespread dissemination of English and in the regulation and discursive simplification based on models of scientific writing in English supported by academic journal norms and in peer review.
- Regarding Spanish, scientific institutions and researchers should promote the development of Spanish (and other languages!) in knowledge production and dissemination, and establish normative mechanisms that align with this goal.



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Conclusions

- It is crucial to advance in the digitization of materials, improve search tools to enhance visibility, and support open knowledge initiatives in the scientific field. Examples of such initiatives include OPERAS in Europe (Open Scholarly Communication in the European Research Area for Social Sciences and Humanities) and AmeliCA in Latin America since 2018 (Open Knowledge for Latin American and the Global South).
- Commercialization of linguistic technologies
 - *European Language Resource Coordination — supporting Multilingual Europe* (<https://www.lr-coordination.eu>)
 - *Language Technology Industry Association: „Language Technology makes the world intelligent, multilingual and interactive“* (<http://www.lt-innovate.org>)
- There is a growing interest in the technologization of minority languages often referred to as "low-resource languages". This interest could potentially enable their utilization in scientific contexts, cf. Mager et al. 2018, *Challenges of language technologies for the indigenous languages of the Americas*



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