

REACHING THE SPANISH-SPEAKING AUDIENCE THROUGH PLANETARY NEWS WRITTEN IN SPANISH: CHALLENGES AND IMPORTANCE. G. M. Martínez^{1*}, B. Aponte-Hernández¹ and E. G. Rivera-Valentín¹, ¹Lunar and Planetary Institute, Universities Space Research Association, Houston, TX, USA. *E-mail: gmartinez@lpi.usra.edu

Introduction: In an effort to diversify and broaden the audience, the Lunar and Planetary Institute (LPI) offers translated versions of its weekly science Planetary News [1] to Spanish-speaking audiences [2]. Planetary News is an informational service for the planetary and astrobiological community that helps disseminate recently published research, job opportunities, community news and announcements, among others.

For science news, recent publications are summarized and edited by LPI staff. These summaries are then translated into Spanish by LPI staff who, in addition to being fluent in English, are Spanish native speakers. A staff member does the first pass through the translation, while another reviews it and makes final edits.

In this abstract, we describe the challenges inherent to the translation of science news into Spanish, and the importance of these translations to reach Spanish-speaking communities, both in the US and globally.

Background: With more than 480 million people around the globe speaking Spanish at home, this language makes the second largest population of native speakers after Mandarin (Table 1). Following Mexico, the US is the second largest Spanish-speaking country, with an estimated 41 million native speakers and nearly 12 million bilingual speakers (ahead of Spain or Colombia). Moreover, the US is the country with the largest number of students learning Spanish (Fig. 1), and predictions show that a third of the US population will speak Spanish by 2050 (including bilingual people) [3]. These numbers make Spanish the third most used language on the internet (behind English and Mandarin).

However, the number of publications in science journals in Spanish is substantially lower than those in English (2% vs 56.2% of total number of publications in 2021, respectively [3]). Thus, there is a substantial imbalance between the relevance of Spanish as a language and its role in disseminating science.

Challenges: Due to historic and geographic reasons, the Spanish language has evolved differently in each Spanish speaking area. Currently, there are eight widely accepted linguistic areas: Caribbean, Mexico and Central America, The Andes, Rioplatense, Chile, and three in Spain (north, south, and Canary Islands) [4]. In each of these areas, Spanish has been strongly shaped

by local indigenous languages (e.g., Guarani in Paraguay, Maya in Mexico or Quechua in Peru), as well as non-local indigenous languages due to the slave trade of Native Americans, and diverse African influences due to the slave trade of Africans. Additionally, the European immigration waves in the 19th and early 20th centuries (e.g., Rioplatense and Chile), and the influence of the English language in countries with strong cultural and historical ties to the US (e.g., Mexico and Caribbean) have also impacted local languages causing distinct regional differences.

Table 1. Population of Spanish Native Speakers by country as of 2021, ordered from largest to lowest. Adapted from [3].

Country	Population	Native Speakers (%)
Mexico	128.972.439	96,8 %
USA	331,449,281	16% (including bilinguals)
Colombia	51.049.498	99,2 %
Spain	47.431.256	92,0 %
Argentina	45.808.747	98,1 %
Peru	33.149.016	86,6 %
Venezuela	32.985.763	97,3 %
Chile	19.678.363	95,9 %
Guatemala	17.109.746	78,3 %
Ecuador	16.154.354	95,8 %
Bolivia	11.797.257	83,0 %
Cuba	11.317.505	99,8 %
Dominican Republic	10.535.535	97,6 %
Honduras	9.450.711	98,7 %
Paraguay	7.353.038	68,2 %
Nicaragua	6.702.385	97,1 %
El Salvador	6.518.499	99,7 %
Costa Rica	5.163.038	99,3 %
Uruguay	3.485.151	98,4 %
Panama	4.381.579	91,9 %
Puerto Rico	3.193.694	99,0 %
Equatorial Guinea	1.225.3772	74,0 %

The rich variety of the Spanish language introduces two difficulties when communicating with the Spanish-speaking community as a whole: (1) the established meaning of certain words is different from one linguistic

area to another, and (2) different words (with different origins) may be used to refer to the same concept. As the epitome of the former, the verbs “take/grab/pick/harvest” can be accurately translated by “coger” in Spain, but this word has different connotations in Latin-American countries, dissuading its use if the targeted audience is from such countries. As an example of the latter and of indigenous influences, one could translate “peanut” into “maní” or “cacahuete”. The word “maní” has Taíno roots, whereas “cacahuete” comes from the Nahuatl. While Mexicans and Spaniards would understand “cacahuete”, they may not understand “maní” (especially Spaniards). As an example of African influence, although “flu” translates into “gripe” for many Spanish-speaking communities, in Puerto Rico, the common word is “monga”, which is thought to have African origins.

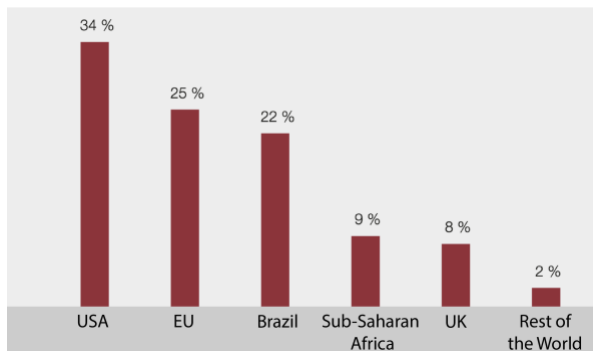


Figure 1. Main areas in which Spanish is learnt as foreign language. Adapted from [3].

In summary, the use of global Spanish (i.e., lacking jargon from specific linguistic areas) is strongly encouraged to write Planetary News targeting the Spanish-speaking community as a whole. Thus, certain specific knowledge of each linguistic area is advised. There are other challenges, as well, when translating across diverse Spanish-speaking cultures. Direct translations of English idioms or other anglocentric analogies are not globally effective. As such, in those cases, direct translations may not be possible. At the LPI, writers of Planetary News articles are encouraged to avoid such phrasing to be inclusive of diverse cultures and facilitate translations into Spanish.

Recommendations: As the second most spoken language in the US and the third most used on the internet globally, while at the same time significantly underused for science, translating recent scientific highlights into Spanish helps recognize this discrepancy and is inclusive of a broader audience. As such, we recommend organizations work towards including Spanish-translations as a new best practice. However,

those translations must be done from the perspective and acknowledgement that Spanish-speakers are culturally diverse and their language distinct depending on region due to various historical influences. As such, we encourage that organizations working on Spanish-translations include adequate regional representation on that work and/or work with a professional translating service.

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References:

- [1] https://www.lpi.usra.edu/planetary_news/ [2] https://www.lpi.usra.edu/planetary_news/category/noticias-de-ciencias-planetarias/ [3] https://cvc.cervantes.es/lengua/anuario/anuario_21/el_espanol_en_el_mundo_anuario_instituto_cervantes_2021.pdf [4] <https://www.cervantes.es/default.htm>