

Article

# Publish in English or Perish in Portuguese: Struggles and Constraints on the Semiperiphery

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**Abstract:** This paper examines the choice between English lingua franca and Portuguese (a pluricentric language in research article publishing), a choice which presents both a challenge and an opportunity to authors operating within the semiperipheral space of Portuguese research communities. Data on articles from three disciplinary areas: Linguistics, Information Science and Library Science, and Pharmacology and Pharmacy, written in Portuguese and English, have been retrieved from the Web of Science (WoS) covering a 20-year period (1998–2017). Figures show a rise in publications in the second decade (2008–2017) in both languages: the number of English papers is higher throughout, but the rise in the number of Portuguese papers is steeper over these latter years. Given the disparity in the number of Portuguese and English-language WoS-indexed journals, the rise in English is probably not due to individual authorial choices, but to the lack of indexed journals in Portuguese, as well as to the constraints of the publishing market. Language choice is embedded in symbolic places of knowledge construction—in the processes of voicing research claims, in the multilayered historical processes within disciplinary communities of practice, and in the marketization of research publishing. These issues may shape future ways of disseminating knowledge in a publishing arena that will continue to be globalized, though perhaps not so monolingual.

**Keywords:** publishing; research article; English; Portuguese; Web of Science

## 1. Introduction

Choosing a language for disseminating research is largely dictated by the social norms and conventions of different communities of scientific practice. Just as with Greek, Latin and French centuries ago, English is nowadays considered the language of science. Its lingua franca status [1] has had a substantial impact on the construction, dissemination and communication of scientific knowledge, on the statuses of other languages in which scientific knowledge is being produced and disseminated, and ultimately on the opportunities they bring to researchers around the world. Articles and other scientific texts written in English are accessible to larger research communities through publication in international, peer-reviewed and prestigious journals [2]. Reaching a larger audience, which in turn translates into higher citation figures, is often more appealing than asserting the author's native linguistic background, since publishing in a language other than English means restricting knowledge dissemination to highly specialized and closely-knit research communities ([3], p. 209, [4], p. 105). As a result, the growing trend to publish in English favors this language even in countries where it has no official status whatsoever.

Language choice may seem less important in disciplinary areas where research perspectives artificially separate so-called “reality” from its communication a posteriori, i.e., after carrying out experimental work at a research lab, as in Sciences (S). However, it is paramount in Social Sciences and the Humanities (SSH), where writing or speaking about knowledge is also seen as a way of constructing its foundations, concepts, boundaries and methodologies ([2], p. 13). In fact, academic language is actively *constitutive* of knowledge, since all sciences are discursive constructions about facts ([5], pp. 10–12, [6]).

From the broader perspective of language hegemony, i.e., the international field of symbolic struggles between communities, the preference for English also entails a critical challenge, because speakers of any other language competing for research production struggle to expand the specialized lexicon for different disciplinary areas without borrowing English terms. This may lead not only to what Ferguson terms “domain loss” ([7], pp. 14–15), but also to the disadvantages faced by non-native speakers (NNSE) vis-à-vis native speakers of English (NSE). Numerous scholars have studied these disadvantages and resulting inequalities (see, for instance, [1], p. 347, [8], [9,10], p. 248, [11–22], amongst others). Others have questioned the criteria that distinguish NNSE from NSE (see, for instance, [23], p. 214, on the potential of English as an international language of Science, [24] on the limitations of this fuzzy distinction, [25] on the acceptance of English articles from NNSE and [26] on the myth of “linguistic injustice”).

The impact of English is potentially more challenging for speakers of other major and pluricentric languages, i.e., languages with more than 250 million native-speakers (NS) that are spoken across different continents as a result of a history of colonialism or migration, such as Spanish, Portuguese and French. In countries where scientific journals provide publication forums in languages other than English, or for authors whose research subjects dictate their linguistic choices, one possible strategy is to choose one of these major languages. This is indeed the case in Portuguese-speaking South America, where, in 2016, Brazil was responsible for 2.3% of the scientific publications in the world; in Europe, Portugal’s contribution is considerably smaller (0.6%, see [27], p. 102). In contrast, in the same year, and for the first time in history, China surpassed the USA in the total volume of publications ([27], p. 109), being responsible for 18.6% of publications in the world (see also [28]). These figures raise an obvious question as to the role of widely spoken languages such as Chinese and Portuguese vis-a-vis their interrelationship with the current status of English as a lingua franca. Are there prestigious and valued spaces available for publishing research in other languages besides English?

Bearing all these issues in mind, the present paper addresses the case of Portuguese, a native (L1) Romance language in Portugal and Brazil with two acknowledged norms (European and Brazilian Portuguese). Portuguese is also an L2, i.e., an official language with emergent varieties in some African countries ([29]). Depending on the number and impact of their research production, all these countries belong either to the semiperiphery or to the periphery on the global market (see Section 2). The present paper will assess the implications for scientific production resulting from the choice of authors affiliated to Portuguese institutions to publish their research in English or in Portuguese.

The following section explains the theoretical assumptions in the paper. Drawing on the notion of “communities of practice”, the paper proposes a view on knowledge dissemination that relates it to socially and culturally constrained practice situated in history. It links language choice to authorial voice and to symbolic places of knowledge construction with English as a lingua franca and Portuguese as a pluricentric language. It also takes into account the impact of the recent trend towards science “marketization” across global scientific communities. Section 3 presents the research procedure for retrieving Web of Science (WoS) data in Portuguese and in Portugal. Three disciplinary areas have been taken for comparison, two from the Social Sciences and one from the Sciences: (i) Linguistics (L); (ii) Information Science and Library Science (IS & LS); (iii) Pharmacology and Pharmacy (P & P). The collected data is presented in Section 4. Finally, in Section 5, discussion of data suggests that language choice depends not so much on authors’ preferences as on the constraints of publication forums.

## 2. Theoretical Assumptions

Drawing on the notion of “communities of practice” (see Section 2.1), this theoretical Section relates language and authorial voice choices in a multilayered historical context (see Section 2.2). In the case of Portuguese authors, such choices are constrained by their semiperipheral location and traditional rhetorical conventions, as well as current marketization publishing practices (see Section 2.3).

### 2.1. Research Communities and Authorial Voice

Any aspiring author wishes to become a member of a particular disciplinary community, which is situated in a broader socio-historical context. In this community, practices for knowledge construction and dissemination are informed by dominant discourses and social norms. Academics use language “to acknowledge, construct and negotiate social relations”; they “create a recognizable social world as their discourses both reflect and construct their communities” ([30], p. 87). Academic groups have been described as a network of “communities of practice” ([31]). They are also “speech communities” in the Hymesian sense, i.e., groups of “users of a particular (specialized) code within a repertoire” who share particular ways of writing/speaking in a language within a configuration of disciplinary norms and rules ([32], p. 32), or “discourse communities”, i.e., groups of individuals who share public goals and means of intercommunication ([33], pp. 24–32). This paper adopts the comprehensive notion of “communities of practice” since ‘practice’ highlights socially defined ways of doing and goes beyond sharing an interest. Moreover, the notion itself is built around constructing common knowledge and creating texts on the basis of this common knowledge. It also suggests its emergence over time, i.e., its historicity (see Section 2.2).

Language choice is one of the main paradigms within these communities ([30], p. 91), since it carries through an author’s voice. This is often seen as building on each researcher’s previous experiences, education, academic position and preferences. However, as it results from an individual dimension, it also entails a negotiation between writers and readers ([34]). This is a process where sociocultural traditions apply, either explicitly—through peer pressure and reviewers’ comments—or implicitly, through an author’s expectations about his or her fellow researchers. Disciplinary practices are thus very important, since they help to define cultural identities in a research community ([35], p. 15). That is why it is more productive to view authors as members of a disciplinary community of practice, rather than speakers or writers of a particular language.

Just like voice ([36], pp. 39–40), the act of choosing a language in order to express research claims has a collective dimension. From this perspective, language of publication is not so much an author’s choice as a sociocultural compliance with community expectations, reinforced through repeated experiences and increasing expertise [37–39]. Within this context, the symbolic values of a language such as Portuguese may provide insightful counterpoints in a global English-speaking world, given that all members of its communities of practice face difficult choices when they publish their research and build up their voices and identities in at least two languages (see Section 4).

### 2.2. Issues of Historicity, Pluricentricity and Semi-Periphery in Rhetorical Conventions

The academic writer’s choice to publish in one language or another is constrained by larger sociocultural contexts: multilayered sites of symbolic struggles that have emerged over history. They are multilayered and overlapping in the sense that each observable moment in time is also simultaneously inhabited and influenced by several other layers of historicity ([40], p. 131). In the case of academic publishing in Portugal, the moment when a Portuguese-speaking author makes a decision in favor of the Portuguese language results from (1) a history of authorial decisions within the concrete disciplinary area, as these differ, for instance, in the humanities and in the natural sciences; (2) the history of science in Portugal as compared with other knowledge production areas; (3) the history of science in Europe within global science; and (4) the historical role of Portuguese as a language loaded with imperial power and colonial past.

This last layer of historically emerged practice incorporates the fact that Portuguese is a European Romance language which is pluricentric. Most of its speakers come from countries outside Europe, namely Brazil, Angola and Mozambique [29,41]. In academic publishing, Angola and Mozambique belong to the symbolic underprivileged periphery [42], whereas Brazil and Portugal enjoy a different status, albeit still far from the privileged English-speaking “center” where abundant publishing resources and research funding foster competitive practices [42]. In a broader sense, European Portuguese communities of research practice may well be situated in what Santos has called a semiperipheral place [43], where language, discourse and practice challenge established “rules” about “up-to-standard” published material and “valid” scientific results expected in the “center”.

Semiperipheral communities of practice play a mediation role, sometimes unwittingly, in disseminating alternative values and paradigms, especially when their members choose to publish in a language other than English. Since language choice is situated in a multilayered history of power relations, where the role of the Portuguese language in the country’s colonial past is juxtaposed to the role of English lingua franca, authors in Portugal may be able to use their semiperipheral status strategically. As they become socialized into the rules of the central game, they can amplify their field of symbolic struggle by imploding arguments from within (i.e., by publishing in English), and, at the same time, they may strive to set new trends in research practice as they construct a dialogue across Portuguese-speaking (or rather—writing) research communities. By investing in the symbolic value of either a formerly or a currently prestigious language, authors in Portugal get to diversify their scope of practice. Academic dissenting voices and practice of publishing in languages other than English can be thus seen as semiperipheral stances [44]. Through their alternative historical tradition, they question the status quo of the center, yet they do not displace it.

Mainstream research publishing follows central models linked to natural sciences and very specific language structures modelled on academic English. However, Portuguese academic writing practices diverge from this mainstream as their roots lie in Jesuit schooling and in a strong affiliation to French rhetorical tradition [2,6]. The origin of modern science in Portugal is linked to the Jesuits of the 15th–16th centuries, specifically to André de Gouveia, who studied at the Collège Sainte-Barbe in Paris. In Jesuit practice of the time, the French language acted as an intermediary for learning Latin and replaced it as a language of science. French was also a strong influence in Portuguese academic practice and intellectual thought up to the 1970s, when English, already a major language in international politics and finance, gained prominence in the country. In the humanities and social sciences too, works by French philosophers have had an influential role in shaping disciplinary practices in Portugal [45].

Finally, Portuguese academic writing shares some discursive formulae with other Romance language scientific cultures, such as the French, Spanish and Italian. Numerous works have been produced since the 1960s (starting from Kaplan’s research [46]) that suggested attestable cultural differences in academic discourses (for references, see for instance [47]). Drawing on a corpus of almost half a million of words from scientific areas as different as medicine and arts, Bennett’s research registered the ongoing “power struggle” within Portuguese academic writing between the models that hail from different disciplinary and cultural traditions. Traditional and postmodern Portuguese academic writing styles are characterized by such features as “copiousness”, [...] general wordiness and much redundancy; a preference for a high-flown erudite register; a propensity for indirectness [...]; and the extensive use of figurative language and other forms of subjectivity” ([47], p. 30, see also [6]). It should be stressed that most of Bennett’s examples result not only from an epistemological positioning rooted in classical rhetoric ([2], p. 19), but also from specific Romance language syntax such as noun–adjective word order, which requires the use of prepositional phrases, and successive embedding of subordinate phrases with alternation between indicative and subjunctive verbal modes. Structures unknown in English also play a major role, since Romance grammars allow sentences without a subject and frequent use of the passive voice, to avoid what is seen as a “subjective” way of presenting research. Most of these structures are often literally transferred into academic writing, despite being perceived by NSE as unacceptable in English ([2], pp. 16–23).

### 2.3. Academic Practices and Marketization

Authors writing from a semiperipheral space must necessarily take into account the global language struggles inherent in late capitalism: their language choices will entail some degree of acceptance of science “marketization”. As a place of regulation and legitimization of political economic spaces throughout human history [48], languages have to adapt to the changed agenda in order to allow for free-flowing circulation of resources, discourses and people. In this scenario, uses of languages and literacies are no longer “markers of national or ethnic identity, but have become a form of economic and social capital in integrated markets and a globalized world” ([49], p. 12).

Economic metaphors have been largely incorporated into public and institutional discourses at different levels—cf. Fairclough, who noticed the discursive similarities between marketing and university brochures [50]. In 2002, the European Commission announced its new priority in building a “competitive knowledge-based *economy*”, where multilingual competences of European citizens could be ‘*capitalized*’ ([51], our italics). In order to become “capital”, languages and literacies have been re-conceptualized as cultural products for global markets [52].

Marketization has also influenced academic writing and especially publishing. Both are nowadays assessed according to market categories: impact factor, number of citations, journal rankings, bench-marking, etc. Scientific publishers offer authors and readers commercial services like “pay to publish” and “pay per view”. Hyland states that “Academic publishing is, quite simply, a massive commercial industry [...]. It is also, and at the same time, the main driving force of scholarly endeavour” ([17], pp. 1–2). Terms for presenting research are also appropriated from managerial discourses e.g., outputs, outcomes, milestones. Research practice, and academic writing with it, is becoming increasingly influenced by criteria borrowed from business and marketing, whose aims are implementation, distribution and consumption. In order to guarantee the increase in publication numbers and faster yield, genres of research publications have become diversified and now include brief papers, press-releases, newsletters, research highlights and even indexed abstracts. Many research publications are now recycled: research articles are collated into PhD theses, articles get converted into chapters and vice-versa. The focus has thus shifted from knowledge construction to knowledge production, seen as a configuration of information products and skills and therefore a series of commodities. Major academic publishing groups like Elsevier, Springer, Wiley-Blackwell, Taylor & Francis, Sage and Routledge have quickly spotted the marketization trend. They were among the first to act upon it by re-appropriating business-like formats such as video-abstracts, for instance, and introducing the commercial dimension into scientific publishing (cf. recent protests against Elsevier’s policies across the world). In contrast, Portuguese editorial houses seem to have been more reluctant to change, as they continue to keep to traditional formats such as monographs, chapters and course books.

Marketization also permeates recent Portuguese national science policies. From the late 20th century on, national research management practices have become largely modelled on European discourses (in the case of research proposal formats, these are imported almost word-for-word) and seek to bring Portuguese scientific writing closer to hegemonic discourses. This became obvious after 1997, the year of the restructuring of the Portuguese funding agency, the Foundation for Science and Technology (*Fundação para a Ciência e Tecnologia* or FCT) as we know it today. Research funds are linked to accountability and their distribution is monitored by panels of international experts. English as a lingua franca becomes de facto a necessity. As a consequence, publication and publishing figures changed after 1998 and also after 2007, when bilingual and English language proposals were introduced. It seems that the semiperiphery is thus aligning with the center, even if it is still guided by the need to set new trends, as suggested by Santos [43].

The space of this paper does not allow us to consider all the historical and social processes affecting academic visibility of languages. However, a careful look at language choices between English and Portuguese made by authors affiliated to Portuguese scientific institutions for publishing their research articles in three disciplinary areas (see 3) may help identify the main trends: one that



further Portuguese as a language of academic visibility and another that encourages the use of English as an international language of science.

### 3. Methodological Procedure

Data for this paper consists of articles written in Portuguese and in English by authors based in Portugal in specific disciplinary areas. Choosing disciplinary areas to focus on is never easy (cf. other studies with the same problem [35], pp. 17–18). It is an author's prerogative to claim allegiance to a particular disciplinary area, but these areas, being constantly reformulated, have no clear or permanently defined boundaries ([30], p. 90). However, any analysis should start by separating two major areas, Social Sciences and Humanities (SSH) vs. Sciences (S), since the number of available journals is very different, and many criteria may apply across these areas. This paper is based on the authors' insider knowledge of the communities of practice in SSH, namely in linguistics and in information and library science.

Several databases provide information on research article publishing in these areas. A tentative analysis of two major databases, Scopus and Web of Science (WoS), proved to be impossible due to incompatibility of divisions between disciplinary areas across either database. For instance, Scopus has a "Language and Linguistics" area, whereas WoS has only "Linguistics". The category "Pharmacology and Pharmacy" exists in WoS, but corresponds to a Scopus area with six entries: Pharmaceutical Science, Pharmacology, Pharmacology (Medical), Pharmacology (Nursing), Pharmacology, and, finally, Toxicology, Pharmaceutical (Miscellaneous) and Pharmacy.

Between the two, the WoS has also been preferred by other authors (see, for instance, [28]). The decisive factor was that WoS is widely available through the online scientific library B-on (<https://www.b-on.pt/>) at all Portuguese higher education institutions and FCT-affiliated research units located in Portugal: this means that WoS data are much more accessible to Portuguese researchers than Scopus data. Moreover, WoS data partially intersects with Scopus databases. It is also true that Scopus is affiliated to Elsevier, a major editorial group, whereas the WoS asserts its independence. Therefore, WoS is considered more important for Portuguese authors and institutions, despite having fewer indexed publications than Scopus. This limitation is also relevant for the present paper because some disparities are not due to the authors' linguistic choices, but to the number of indexed publications available (see Section 4).

A bibliometric analysis is not completely reliable, since disciplinary areas may be treated according to different criteria within the same database. Over time, several criteria have been reformulated, especially if they draw on transdisciplinary subjects. Bearing this in mind, the present paper examined the following indexes to retrieve data from the WoS Core Collection, namely: Social Sciences Citation Index (SSCI), Arts and Humanities Citation Index (AHCI), and Science Citation Index Extended (SCIE). This procedure ensured more comprehensive information on peer-reviewed, internationally evaluated and indexed research articles with impact factor. 'Research article' was chosen as a search item since it is the academic genre *par excellence* ([53], p. 69): as in other countries, researchers in Portugal are evaluated mainly through the impact and visibility of their published and indexed articles. Besides this, even though chapters and monographs remain one of the main research publication genres in SSH, their weight in research evaluation has been decreasing, due to the influence of natural science models [17].

In order to retrieve data for each disciplinary area, an "Advanced Search" was performed on Portuguese and English-written articles in the three indexes mentioned above (SCIE, SSCI and AHCI), through online access provided by the University of Coimbra server in March 2018. The selection used the WoS labels CU = Portugal with field label WC = Linguistics, as well as Boolean operator AND. The same procedure was repeated for Information Science & Library Science and Pharmacology & Pharmacy. The search on the WoS platform therefore appeared as: (CU = Portugal AND WC = Linguistics) AND LANGUAGE: (Portuguese) AND DOCUMENT TYPES: (Article) Indexes = SCI-EXPANDED, SSCI, A & HCI Timespan = 1998–2007.

For several reasons, data selection covers a 20-year period (long enough to detect any major changes), divided into two decades: 1998–2007 and 2008–2017. Firstly, 1998 is the first year after the foundation of the Portuguese FCT government agency as we know it today (see Section 2.3) and 2017 is the last year when data are available. Secondly, the division into two decades not only provides a balanced temporal basis, but also shows the impact on research publications due to major structural changes within the FCT in 2007 (see Section 2.3). There may be a cause-effect link between these changes and different authors' attitudes towards knowledge production and dissemination after 2008. Moreover, in 2007, the European Commission started to explicitly promote multilingualism policies amongst its state members through specific recommendations [54]. These policies and the subsequent availability of funds for international publication encouraged Portuguese researchers to expand their usual forums, although some disciplinary areas may have taken longer to catch up with the trend. This means that any impact that the foundation of the FCT in 1997 and the new policies in 2007 may have had on research article publishing should be visible in WoS data from 1998, and from 2008 onwards.

Within the three disciplinary areas, two from the “soft” sciences and one from the “hard” sciences, all WoS-indexed research articles written in Portuguese and in English by Portugal-based authors have been counted over the 20-year period and in the two decades respectively (1998–2007 and 2008–2017). Articles were counted when at least one of the authors was affiliated to a Portuguese research institution. Analysis and discussion takes into account the following categories: (i) number of articles published in English and in Portuguese (see 4.1); (ii) number of journals available for each disciplinary area in Portugal, according to JCR (Journal Citation Report) information (see 4.2). Category (ii) presents some constraints, since data from the JCR is available from the late 90's to the present. IS & LS and P & P journals are indexed since 1997, whereas data on L journals is only available after 2000. As a consequence, data from category (ii) about journals is comprised of all disciplinary areas indexed by WoS. The latest edition of the JCR dates from 2016, since data for 2017 will be only available in 2018. Although these dates do not exactly match the two decades of category (i), they do provide a subsidiary explanation for its figures, since they point to market constraints in research article publishing (see 4.2).

It is worth bearing in mind that the data provide evidence of certain trends that help support our perspective on the choices made within disciplinary communities of scientific practice in Portugal and in Portuguese. Nevertheless, data retrieved from the three disciplinary areas are in no way representative of all SSH or S areas: rather, they are a first sample of what may become future research work. Even if this caveat limits the validity of the conclusions to a certain extent (see Section 5), the criteria used to analyze these samples may apply to other disciplinary areas.

## 4. Analysis and Discussion of Results

### 4.1. Distribution of Articles over a 20-Year Period (1998–2017)

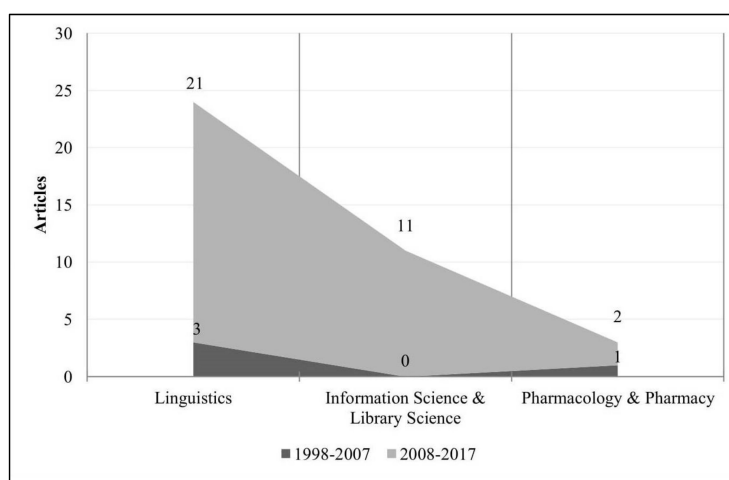
As can be seen from Table 1, research article publishing shows a substantial rise in the three disciplinary areas since 1998.

**Table 1.** Web of Science indexed research articles (1998–2017).

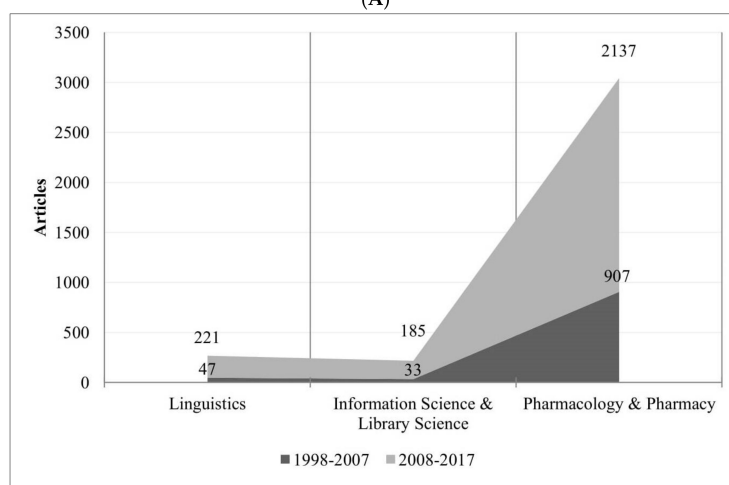
Disciplinary Areas	Portuguese		English		Total
	1998–2007	2008–2017	1998–2007	2008–2017	
Years					1998–2017
Linguistics	3	21	47	221	292
Information Science & Library Science	0	11	33	185	229
Pharmacology & Pharmacy	1	2	907	2137	3047

Despite the overall rise of publications in the three research areas, there are evident differences in the amount of publications for each decade and within each community of practice. In L, which belongs to the SSH area, out of 292 research article, 24 were published in Portuguese in a 20-year period, whereas 268 articles were published in English in the same period. In IS & LS, there are only 11 articles in Portuguese and 218 in English out of a total of 229. Differences within SSH are probably due to the fact that IS & LS is a relatively new disciplinary area, only emerging in the last decade. The overall tendency towards publishing in English is even more evident in P & P, since only 3 in a total of 3047 research articles published were written in Portuguese during the 20 years under analysis. This indicates that individual authors, as they opt to claim their membership of the respective disciplinary communities of practice, are bound to follow the general trends of those communities. Therefore, individual language choices are less important than collective membership (see Section 2.1). The substantial increase in the number of research articles (2–10 times) also points to the fact that the criteria of visibility, implicit in science marketization, have become largely accepted by authors based in Portugal (see Sections 2.2 and 4.2).

The same data, i.e., the number of articles published in Portuguese and in English in all the areas (L, IS & LS and P & P), are presented in the following comparative Figure 1A,B. They indicate several subtle differences between the two decades (1998–2007 and 2008–2017):



(A)



(B)

**Figure 1.** (A) Articles published in Portuguese (comparison between the two periods). (B) Articles published in English (comparison between the two periods).



Figures for Linguistics articles in English are almost 5 times higher than for Portuguese ones between 2008 and 2017. However, figures for Portuguese articles are 7 times higher in the same decade. In IS & LS, the number of articles in English is also over 5 times higher in the second decade. The figures show that the rise in the number of research articles written in Portuguese is much more significant, compared to the fact that no such articles were attested in the previous decade. As for P & P, the increase in English language articles is significant, since their number more than doubles in the second decade. The rise in the number of Portuguese language articles is insignificant, because publishing in English has clearly become a well-established practice in the P & P community.

Figure 1A,B show a major shift in research article publishing towards a preference for English among research communities in Portugal. This has several explanations. Firstly, the data for Portugal reflects the main trend in global academia sustained by the current greater visibility of publications in English (see Section 1) and by the marketization strategies for science implemented by major publishing houses (see Section 2.3). Secondly, Open Access publishing has become widely available from 2008 on and has been strongly encouraged since then by funding agencies and Portuguese research policies. This has also pushed research dissemination towards English, because open-access research articles in English are available to wider audiences and thus allow for more visibility (see Section 2.1).

The comparison between S and SSH data shows that the shift towards English is evidently much more manifest and stable in S than in SSH. A well-established S community of practice such as P & P has steadily followed a central tendency towards publishing in English since 1998 and probably even before then, borrowing article formats and ways of communicating research from hegemonic models. On the other hand, SSH communities of practice appear to be more resilient towards preserving Portuguese as a scientific language. The overall ratio for publishing in Portuguese vs. English is higher among academic authors in L and IS & LS. Even though the absolute number of Portuguese research articles is comparatively smaller than English articles, the rise in the number of publications is clearly steeper in Portuguese in the second decade, in SSH and especially in L. The prominence of linguistics articles in Portuguese may be due to the specificity of the L community of practice, where most research objects are related to Portuguese-speaking scholars.

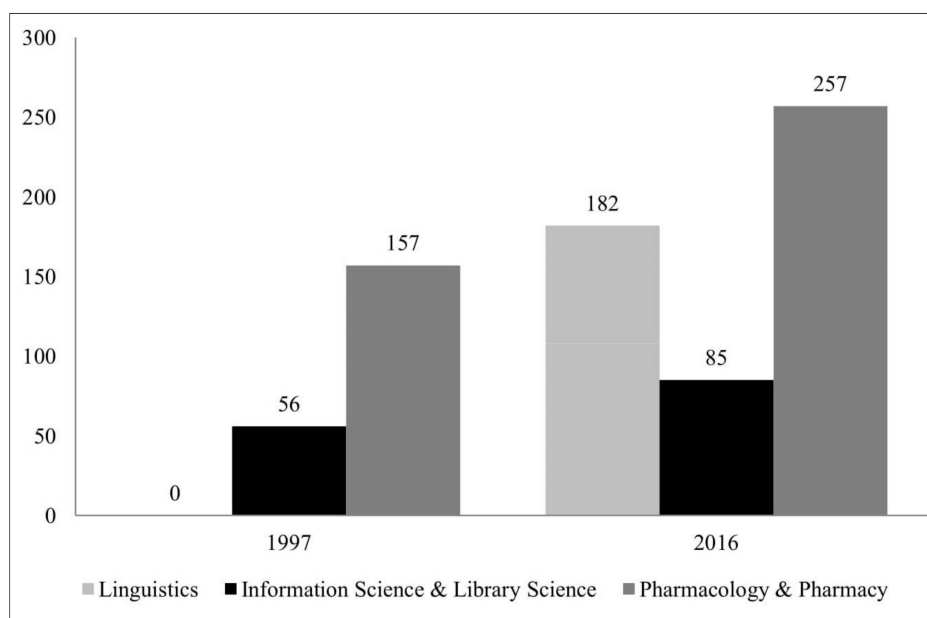
The preference for publishing in Portuguese may reflect the idea that communities of practice in SSH incorporate language into their epistemological models as constitutive of knowledge (see Section 1). SSH communities also tend to keep to distinctive writing models, sustained by multiple layers of historicity (see Sections 1 and 2.2). Choosing Portuguese as a language in which the research article is written implies a “Portuguese” way of building knowledge according to the Romance rhetorical traditions (see Section 2.3). At the same time, Portuguese as a language for knowledge dissemination indicates a position towards language choice from the semiperiphery likely taken by researchers in SSH (see Section 2.1). It remains to be seen if this dissenting position will foster linguistic diversity into the currently overwhelmingly monolingual territory of international research publishing.

Finally, the pluricentricity of the Portuguese language, together with the propensity of SSH to communicate research findings in Portuguese, calls for a return to the question posed in the introduction: Are there prestigious and valued spaces available for publishing research in Portuguese? The search for an answer demanded widening the scope of analysis of WoS data in indexed research articles, as it is presented in the next section.

#### 4.2. Distribution of Journals over a 20-Year Period

The undeniable rise in English-written articles mentioned in Section 4.1. seems to indicate a preference for English. However, WoS figures can be partially deceptive. WoS provides data on research articles published in *indexed journals*. As explained earlier (see Section 3), WoS data on 1997 indexed journals reports the situation a year later, in 1998; on 2007 in 2008, and on 2016 in 2017 (data on 2017 articles will be available in 2018). This means that the last year available in WoS is 2016. Although these dates do not apparently match the two decades in analysis, their data, in fact, report on the same period. Furthermore, these data provide a subsidiary explanation by pointing out the

existing constraints on the market for research articles. Scholars and researchers may also prefer to publish their research in one language or another due to the availability of indexed journals in their scientific area in either of those languages. Depending on the number of journals available, the volume of research articles in each language will be different within each disciplinary area (see Figure 2 for the total number of indexed journals in both English and Portuguese in the analyzed scientific areas).



**Figure 2.** Web of Science (WoS) indexed journals in 1997 and 2016 (by category in both languages).

Figure 2 shows that in 1997 there were no indexed journals in linguistics within the WoS, either in English or in Portuguese. In information science and library science, however, there are 56 journals in 1997, the same number in 2007, and 85 in 2016. By 2007, L has 55 indexed journals available, and the number rises to 182 in 2016. Pharmacy & Pharmacology has over 100 indexed journals in both languages available since 1997, and their number continually grows: to 205 indexed journals in 2007, and to 257 in 2016. It is clear that, given the lower number of indexed journals in SSH, disciplinary areas such as L and IS & LS provide less publishing opportunities than P & P. This is bound to reflect in a lower number of research articles within those disciplinary areas. As a consequence, any author's choice between English or Portuguese as a language for academic publication is in fact much more conditioned by the availability of publication forums in either language: it is not an independent authorial choice. The social dimension of voice is constrained not by the research communities, but by the communities of practice in the realm of publication, which will often follow marketization criteria (see Section 2).

Nevertheless, since Portuguese is a pluricentric language, alternative Portuguese forums are constructed over the years. Over recent decades, much research has been developed in collaboration between Portugal and Brazil, so scholars and researchers affiliated to Portuguese institutions can use the opportunity to publish in Portuguese outside Europe. Figure 3 presents data on the total number of WoS indexed journals in Portugal and in Brazil for all scientific areas (not just the areas under analysis):

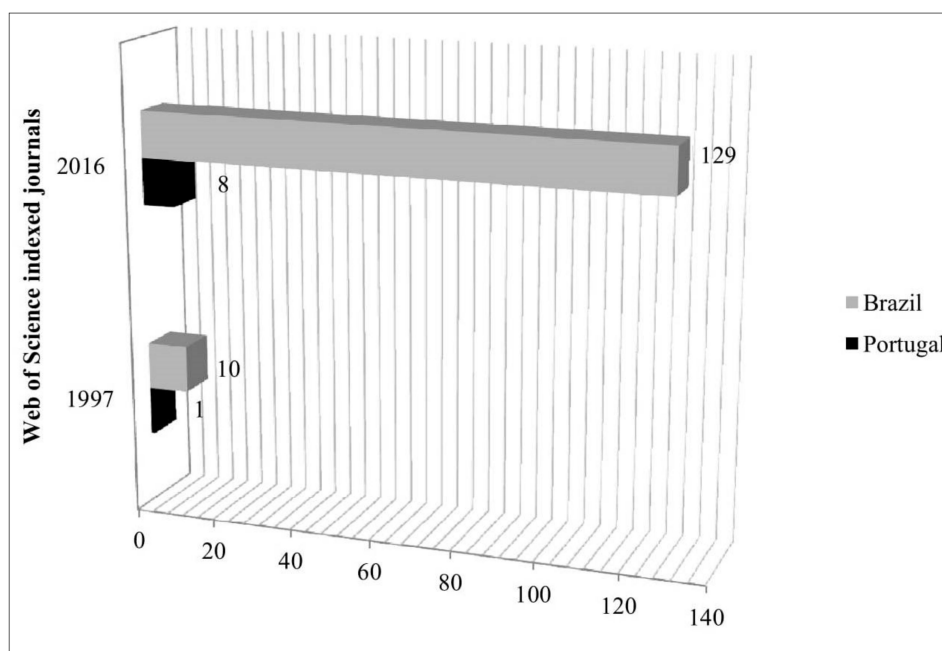


Figure 3. Portuguese- and Brazilian-based indexed journals (1997 vs. 2016).

Data from Figure 3 highlights the scarcity of Portuguese language indexed journals based in Portugal, in contrast with a larger number in Brazil. In fact, within two decades, there have been 10 to 16 times more indexed journals issued in Brazil than in Portugal. It should also be noted that Portuguese-based indexed journals do accept publications in other languages apart from Portuguese, such as French, Spanish and English. Portuguese authors who wish to publish in Portuguese can thus find more space for language choice, provided they publish outside Portugal. The real choice that authors face is not between publishing in Brazil rather than in Portugal, or writing research articles in English rather than in Portuguese. The WoS data indicates that scientific authors affiliated to institutions in Portugal are forced to publish outside Portugal or to write in English in order to get published in indexed journals, i.e., to get international recognition for their research. As stated above, this outcome may foster a *de facto* language policy of research publication (see Section 1).

## 5. Conclusions

According to the results discussed in the previous sections, publishing in English or in Portuguese is a choice that is relatively free, but also constrained. On the one hand, a larger symbolic space allowed from within a semiperipheral location may foster creation of alternative epistemologies. This is clearly seen through data retrieved from the Web of Science on Linguistics and on Information Science & Library Science. According to the results (see Section 4.1), Portuguese-affiliated authors continue to publish in Portuguese, especially in Social Sciences and the Humanities communities of practice. On the other hand, language choice, authorial voice and knowledge dissemination practices are constrained by sociocultural contexts which are situated in multilayered historical moments. This is especially manifest in the Web of Science data on research article publishing in Pharmacology and Pharmacy. Among members of this community of practice—and probably in other Sciences communities—English language is the preferred, while Portuguese is disregarded as language for knowledge dissemination. Over the following decades, it would be interesting to see whether the gap between Social Sciences and Humanities on the one hand and Sciences communities' practices on the other will be growing even wider, as well as whether Portuguese language will gradually disappear from the future degree courses and research training in “hard sciences” in Portugal. Further research on language choice in *national* journals is needed in order to assert this point.

It is true that central models include both scientific areas, where natural sciences serve as model for Social Sciences and Humanities, with effects not only on language choice, but also on academic publishing practices in general and on the structure of research articles in particular. In other words, a major tendency to publish more in English than in Portuguese thus reflects the implicit scientific policies of the English-speaking symbolic center. Moreover, in the international realm of publishing industries, marketization of scientific culture leads not only to the current preference for a mainstream lingua franca such as English and for its academic writing models, but also to eventual reformulations of ways of research construction, favoring easy-to-sell commodities.

Nevertheless, a comparison between Portuguese-written and English-written articles during a 20-year period divided in two decades (1998–2007 and 2008–2017) shows a rise in *both* languages within the Social Sciences and Humanities. Overall figures are substantially higher in English, but *relative* figures indicate the comparatively higher rise in Portuguese articles in the second decade. This is very significant, since the available publishing forums clearly tend to favor English language journals. According to the Web of Science data, the percentage of Portuguese indexed Portuguese language journals in Portugal is extremely low, especially when compared to such journals in Brazil (see 4.2). The fact that, despite these constraints, some Portuguese authors seek to retain their Portuguese voices may point to spaces of resilience and contestation of some hegemonic practices, which are made open by the power-ridden tensions between the different layers of historicity (cf. [6,9,40]). The choice of publishing in Portuguese may also be seen as a semiperipheral stance for alternative models of disseminating and constructing scientific knowledge in the disciplines studied.

If such is indeed the case, international research article publishing allows for other symbolic places. It remains to be seen through further research if the future will become conflated under a monolingual banner or will be steered towards plurilingual diversity.

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