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# Ineffective Obsessions in Brazilian Academia and Proposals Towards Meritocracy

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Abstract: Albeit its constitutional claim for quality, Brazilian academia has largely been referred to as unmeritocratic and academic hiring is still inward-oriented. Lattes platform, a public curricular information system, reflects elements of this protectionism. This article assesses two 'obsessions' in Brazilian academia: (i) the 'mandatory' Lattes CV, and (ii) the candidates' assessment criteria in public tenders for faculty positions. Several pros and cons (mostly) of the Lattes platform are identified. The following improvements are proposed: (i) evaluations in public tenders based only on candidate's CV, interview, and a sample lecture, (ii) the dismissal of Lattes CV as a mandatory format, and (iii) the use of platforms as Microsoft Academic, Google Scholar, ORCID or ResearcherID for curricular information. With these recommendations, Brazil can move towards a more meritocratic academic hiring system.

Keywords: Academia, Brazil, Faculty Position, Lattes CV, Meritocracy, Public Tender.

#### 1. Introduction

Meritocracy is a system in which individuals make progress and gain the fruits of their own efforts. It uses pre-established criteria to assess people according to their performance, regardless their seniority and social networking. According to Barbosa [1] and Pinheiro [2], Brazil is a flawed meritocracy, since it (i) does not promote a fair assignment of citizens' own labor efforts, and (ii) endangers the entrepreneurial spirit by imposing bureaucracy and inefficient rules. Back in 1996, Barbosa [1] supported the idea that public tenders (i) employ unsuitable assessors and assessment methods, and/or (ii) allow biased results due to personal relations. In '3%', a 2016 Brazilian self-descriptive fictional work, merit can only be measured if one formulates the right maze of tests and administers them to every member of society in the same way [3]. This can be associated with what happens in Brazilian public tenders today, since their definition in the Federal Constitution of 1988 [4], and the case of academia is not excluded. There are meritocratic systems that select the best candidates by their qualifications and/or former performance records in certain tasks. Since academia is a place of innovation and knowledge production, one of its tasks should be the quest for paradigm changes, especially with respect to the traits desired for its employees [5].



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The Brazilian National Council for Scientific and Technological Development (CNPq) launched in 1997 a curricular information system denominated Lattes (CNPq 2018a), in honor to Cesare Lattes, a world-renowned Brazilian physicist [6]. CNPq's aim was to integrate all curricula of people associated to Brazilian scientific communities into a single database, through the so-called 'Lattes Curriculum' (also named Lattes CV in this manuscript) – a national 'standard' for most academics [6].

This article aims to describe, analyze, and propose alternatives for two critical 'obsessions' taking place in Brazilian academia for a long time: (i) the way candidates are assessed in public tenders for faculty positions, and (ii) the mandatory Lattes CV. In the authors' opinion, these two paradigms are seriously jeopardizing Brazil's development and pluralism in science and higher education – two major pillars of any society.

#### 2. Current state of hiring processes in Brazil

#### 2.1. Public tenders for academic positions

A study [5] that investigated the public tender assessment criteria for faculty positions in 59 Brazilian federal Universities concluded that most employ (i) a written exam, (ii) a sample lecture, and (iii) CV evaluation. Some include an extra assessment called 'Memorial', typically for full professor positions, where a research project is orally proposed. Sample lectures, where a shorter lecture is given for a jury in order to assess the didactic skills of the candidate, are always optional and depend on the decision of the administrative department in charge. The written exams cover 1-3 out of 10-20 topics, being only the latter publicly announced prior to the exam [5]. This evaluation is a standardized test, for which the candidate can study to obtain a good grade. The shortcomings of using a standardized test are described in section 3.1.

The final score of each candidate is the weighted sum of the partial scores in each type of assessment (typically on a 0-10 scale), as described in the bottom of Table 1. Siqueira et al. [5] found five distinct assessment criteria (i.e., weight distribution for all types of assessment), which are presented in Table 1 along with three others found in recent public tender calls. In most cases, the knowledge and CV assessments are the most and less weighted, respectively. In most public tenders in academia there is a qualifying phase, i.e. candidates are first classified, typically based on the written and/or oral exams (sometimes the sample lecture also – e.g. [7]), and only those who score higher than a predetermined minimum proceed to the final stage of the selection procedure.

#### 2.2. Use of the Lattes CV platform

'Lattes is like an idol, thus requiring to be fed everyday' [10], perfectly and partially reflects the prevalent environment in Brazilian public universities. 'Perfectly' because Lattes CV has become almost an obsession for important sectors within academia (including private institutions) – e.g., it's a key element in selection processes for research funding or academic positions, and most public tenders for faculty positions recommend or require its use. 'Partially' because there is a reasonable number of full-time professors that



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have a stable career and do not show any interest in upgrading it. Dias et al. [11] published a histogram of the number of Lattes CVs, among 4.156.635 (one per person) published by April 5th 2015, last updated on each date in 1997-2015, as shown in Figure 1. It is shown that roughly 60% and 40% of the curricula were not updated during the last 1.25 and 2.25 years, respectively, which reveals that either (i) the scientific productivity of those professionals is low, and/or (ii) Lattes CV is not effective enough to be the first choice for the vast majority of those users.

<b>Table 1.</b> Weight distribution for distinct pul	ublic tender assessment criteria.
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Type of Assessment	Written Exam (WE)	Oral Exam (OE)	Sample Class (SC)	CV	Memorial (M)
What is Evaluated ?	Know	vledge	Didactics	Qualifications + Pro/Academic Experience + Scientific Performance	Research Proposal
I [ <u>5</u> ]	0.3	-	0.4	0.1	0.2
<b>II</b> [ <u>5</u> ]	0.4	-	0.2	0.2	0.2
<b>III</b> [ <u>5</u> ]	0.3	-	0.3	0.2	0.2
<b>IV</b> [ <u>5</u> ]	0.5	-	0.3	0.2	-
<b>V</b> [ <u>5</u> ]	0.3	-	0.3	0.4	-
<b>VI</b> [ <u>8</u> ]	0.2	-	0.4	only PhD degree required	0.4
<b>VII</b> [ <u>9</u> ]	0.4	-	0.3	0.1	0.2
VIII [7]	0.4	0.4	0.2	0.1	-

#### Final Score (FS) for each candidate in a public tender

 $FS = W_{WE} S_{WE} + W_{OE} S_{OE} + W_{SC} S_{SC} + W_{CV} S_{CV} + W_M S_M$ 

 $W_i$  = score weight for assessment type i

 $S_i$  = score obtained in assessment type i

#### 3. Analysis of current procedures

# 3.1. 'Brazilian' public tenders for faculty positions

According to Fontainha [12], the individual success or failure in public tenders depends on attendees' capacity to adapt to the type of assessment employed. For the case of the hiring procedures in Brazil, the success of a candidate depends on how well he/she performs on (written and oral) standardized tests. Fontainha et al. [13] showed that public tenders are used to select people who are neither (i) the most experienced nor (ii) the most qualified. Indeed, this reality is not surprising when one realizes the dimension of the editorial and digital markets involved in the preparation of public tender candidates, as described next. Besides, Downie [14] noted that the fact that the exams are in Portuguese is also a major barrier to hiring international faculty.



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## # updated CVs

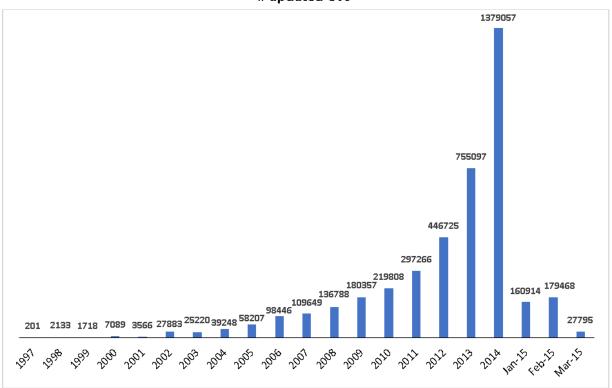


Figure 1. Number of Lattes CVs among 4.156.635 (published by 5/4/2015), last updated on each indicated date.

Many public tender-oriented markets in Brazil have shown an increasing growth in the last years. De Araújo [4] highlights the following editorial references, among many available: (i) 'How to pass exams and public tenders' [15] (more than 200.000 copies sold), (ii) 'How to study for public tenders' [16], and (iii) 'Manual for public tender attendees: the path of common people' [17]. On the social media side, there is an interactive online platform [18] to help in the preparation of public tenders, gathering more than 100.000 members. The major digital market consists of YouTube videos and channels – Figures 2-3 illustrate the registered 'popularity' on August 12th 2018 ('concurso público Brasil' is Portuguese for 'public tender Brazil', and 'como passar em concurso público' is Portuguese for 'how to be approved in a public tender'). Figure 2 shows that five videos on the topic have more than 1 million views, and Figure 3 shows that out of 33 channels dedicated to the topic of passing public tenders, two have more than 700.000 subscribers.



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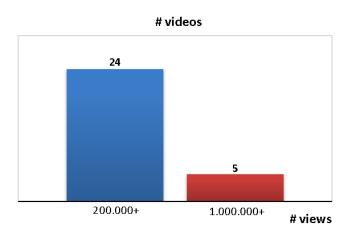
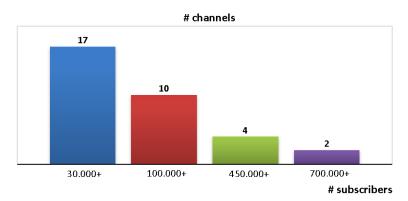


Figure 2. YouTube video search results on August 12th 2018 for 'concurso público Brasil' (public tender Brazil).

As mentioned before, the hiring decisions are heavily influenced by the written/oral exam grades of the candidate. Since the CV does not drive the hiring procedures (or only in a very limited amount of cases, see Table 1), candidates with poor CVs (e.g., poor scientific performance) do not have much less chances to be hired as professors as their outperforming counterparts. Studies suggest that public tenders in Brazil assess candidate's research skills in a very superficial way [5]. This lack of proven research qualities can be quite a hindrance, since a full-time professor's teaching load is around 20 h/week (Ziker measured it to be on average 24.5 h/week [19]); i.e. roughly half of the working load should be assigned to research activities. Authors like Morin [20], Serres [21], and Demo [22] have mentioned for almost half a century that it is good practice that any teacher should be able to identify current research within their teaching. In other words, teaching without research results in courses with obsolete contents [5].



**Figure 3.** YouTube channel search results on August 12<sup>th</sup> 2018 for 'como passar em concurso público' (how to be approved in a public tender).



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#### 3.2. Lattes CV features

Several types of ineffective features found in Lattes CV are described next. 'Missing features' concerns essential information not possible to include or not mandatory when making the curriculum. 'Useless or Unappealing features' are aspects included in the platform that are perceived as such in terms of CV effectiveness for academic job applications. 'Inefficient features' are software issues that make the creation or updating of a Lattes CV a cumbersome task. Lastly, 'Erroneous Portuguese-English translation' contains several examples of how poorly the platform translates to English. Ultimately, a great (yet only) feature of Lattes CV is discussed. These analyses are carried out by evaluating randomly selected curricula on the Lattes platform.

#### 3.2.1. Missing features

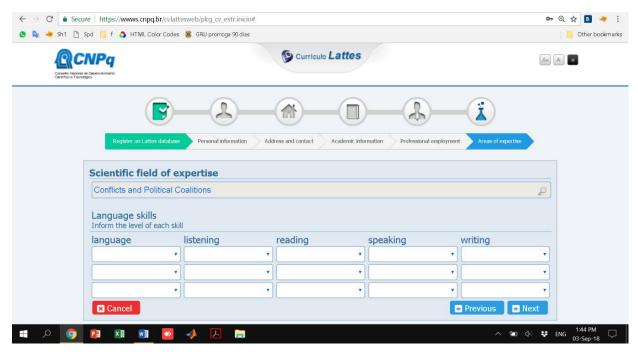
A key missing feature of any Lattes CV, worth highlighting in first place, is the lack of contact information such as (i) email address, (ii) phone number, or (iii) personal website(s), which is something negatively unique in the world – a CV without direct contact details. The only contacts sometimes provided are the home or institutional postal addresses, which are not relevant nowadays. This feature evidences the inward-oriented nature of Brazilian academia, as it was classified a decade ago [23].

When registering in the Lattes CV database [24], the 'Areas of expertise' section does not allow the user to select more than one scientific field of expertise, as shown in Figure 4. This improvement would be quite important, both to curriculum quality and to filter researchers when seeking new scientific collaborations. Multidisciplinarity is a requirement from an increasingly complex academic and technical panorama.

When opening existing Lattes CVs online, some have no English version attached, which means it is not mandatory and this feature attests once again the inward-oriented nature of Brazilian academia. The reader is referred to two random examples where there is [25] and there isn't [26] an English version available, respectively (see upper right corner options on each CV). Furthermore, comparing these two randomly selected profiles, another issue becomes evident: the profile picture is not obligatory. It's not a significant issue, since employer and candidates always meet before hiring, but a curriculum displaying a headshot is a common practice in Latin America that allows attesting authenticity.

Some journal publications on Lattes CV do not exhibit either the Digital Object Identifier (DOI)'s hyperlink, issue number or even the title, thus meaning this information is not mandatory. This lacking information seems unacceptable, since (i) the title is crucial to identify the topic of the paper without leaving the platform, whereas (ii) the DOI's hyperlink allows a direct (either to purchase or to download) online access to the full-text manuscript on the journal's website. An example of this situation was randomly found [27] and is illustrated in Figure 5, where references 6 and 12 do not have any of the aforementioned information – though the metadata is fully available on the journals' websites as shown in Figure 6 and Figure 7 [28,29], respectively. Examples that should be followed are the reborn Microsoft Academic, and Google Scholar, where either (i) references are automatically found and included in one's profile (including a hyperlink to the article's official website), or (ii) a hyperlink is automatically created when a reference is manually added to an author's profile.





**Figure 4.** Lattes CV registration [24]: only one field of expertise allowed.

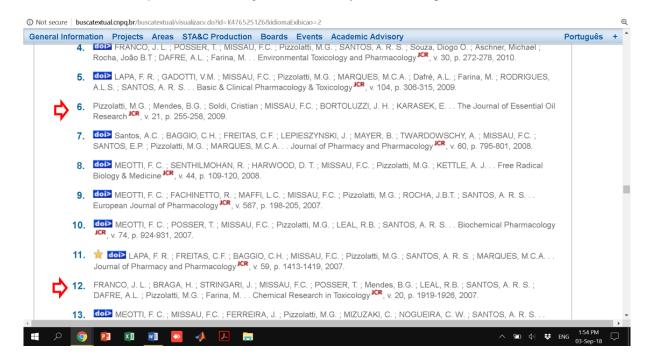


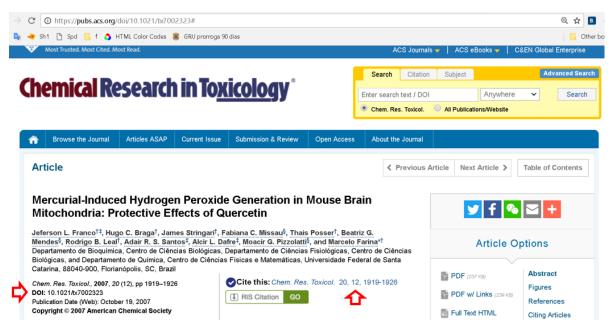


Figure 5. Examples [27] of incomplete references (red arrows before entries numbers 6 and 12) in a Lattes CV.



**Figure 6.** DOI, title, and issue information for paper 6 [28] in Figure 5.





**Figure 7.** DOI, title, and issue information for paper 12 [29] in Figure 5.

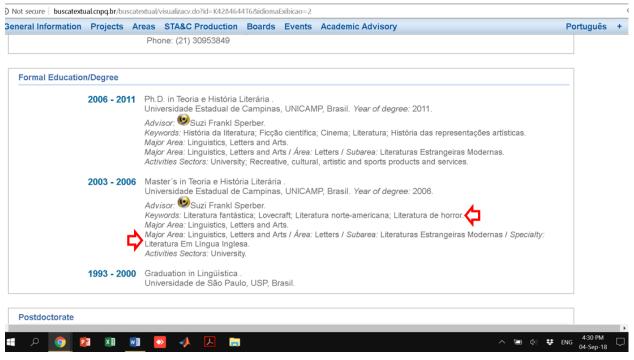


Figure 8. Example [31] of useless features: Major area, Area, Sub-Area, Specialty.



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### 3.2.2. Useless or Unappealing features

Lattes CV does not impose word limits in some sections and fields, which may lead to curricula overloaded with information and unappealing from the recruiters' point of view. A random example can be found in reference [30].

Examples of useless platform features, for instance in the 'Formal education/Degree' section, are fields like (see random example in Figure 8, [31]): (i) Major Area (e.g., 'Linguistics, Letters and Arts'), (ii) Area (e.g., 'Letters'), (iii) Sub-Area (e.g., 'Literaturas Estrangeiras Modernas' – without English translation), and (iv) Specialty (e.g., 'Literatura em Língua Inglesa' – without English translation). Although not mandatory, the inclusion of those fields in the software is not beneficial, since there is a 'keywords' field that serves that purpose.

Lastly, some useless CV sections should be excluded or shortened, such as (e.g. [25]): (i) expanded abstracts and abstracts published in conference proceedings (considering most assessment criteria such abstracts are not relevant; only full conference papers or presentations are valued), (ii) participation in examination boards (since no scientific performance is involved in such decision processes), and (iii) academic advisory (relevant, although the information provided should not exceed the number and type of supervised works – e.g., in a small graph).

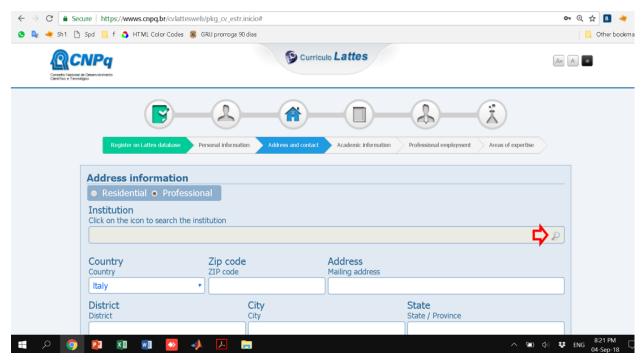


Figure 9. Inefficient feature of Lattes CV's registration platform [24]: selecting the institution (step 1).



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#### 3.2.3. Inefficient features

An inefficient characteristic of Lattes CV is related to the 'Address and Contact' section of the registration platform [24]. Like the 'Areas of expertise' section in the same URL, there's no drop-down list with possible choices while typing in the professional institution, as illustrated in Figure 9 and Figure 10. Instead, one must (i) click on the search icon on the right (Figure 9), and then (ii) type in the institution's partial or full name and press 'search' (Figure 10). As shown in Figure 11, all institutions in the database having the entered name are then listed (and only one can be selected). However, if the target institution is not in the database, it can be added by clicking on 'click here' on the bottom-right side in Figure 11. The possibility of registering a new institution with no restrictions makes it quite messy and might lead to people actually belonging to the same institution, being associated to distinct ones in the database. Finally, say that one would pick an institution from the Netherlands (Figure 12), when returning to the previous window (Figure 13) one observes that the institutional country is not automatically set, even though any institution created or selected from the database is always associated to a specific country.

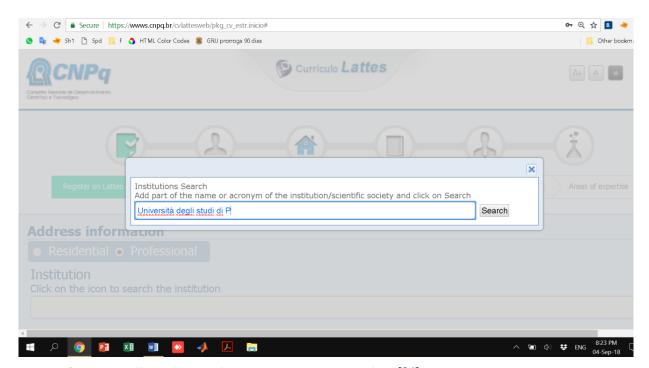


Figure 10. Inefficient feature of Lattes CV's registration platform [24]: selecting the institution (step 2).



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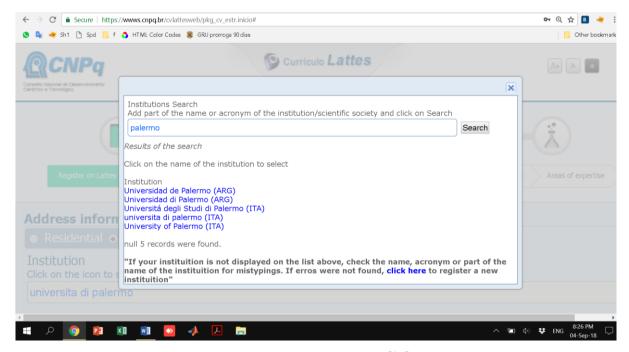


Figure 11. Inefficient feature of Lattes CV's registration platform [24]: selecting the institution (step 3).

#### 3.2.4. Erroneous Portuguese-English translation

This section illustrates, through a few examples, how erroneous or unsuitable the Portuguese-English translation of the platform is. Lack of research and technical lexicon is obvious, even though Lattes CV is mostly designed for researchers. Most cases presented herein were found while registering a new CV [24]. Nevertheless, so that the reader understands how general this issue might be, note that 'abstract' in the randomly selected profile referenced in [25] is translated as 'summary'. In Figure 14, 'Structural Mechanics' is referred to as 'Mecanic of the Structures' and 'Metal Structures' as 'Metalic Structures'. In Figure 15, 'Transport Phenomena' is designated as 'Phenomena of Transport', 'Gas Dynamics' as 'Dynamics of the Gases', 'Fluid Mechanics' as 'Mechanic of Fluids', 'Heat Transfer' as 'Transference of Heat', and 'Numerical Methods' as 'Numeric Methods'.



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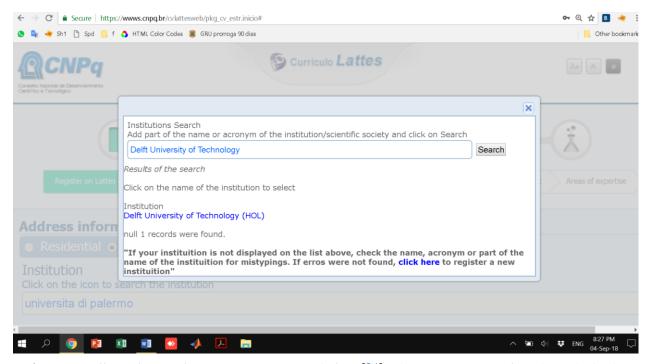
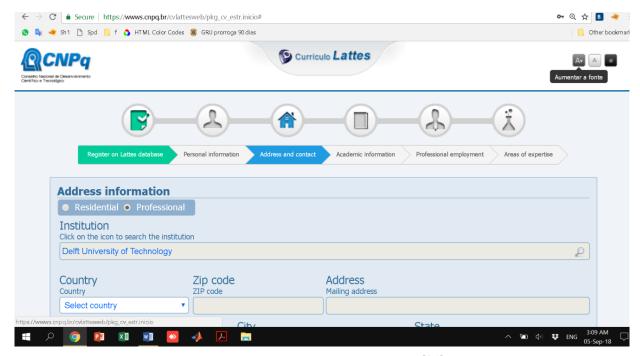


Figure 12. Inefficient feature of Lattes CV's registration platform [24]: selecting an institution from the Netherlands.

#### 3.2.5 A great (yet only) feature of Lattes CV

A very important feature in Lattes platform, although inexistent in the English version, as found when comparing the Portuguese and English versions of a randomly selected profile [25], is the indication per journal publication of the number of citations from the Web of Science (WoS), Scopus, and Scielo databases (i.e., given by 'articles indexed' there).





**Figure 13.** Inefficient feature of Lattes CV's registration platform [24]: editable country field.



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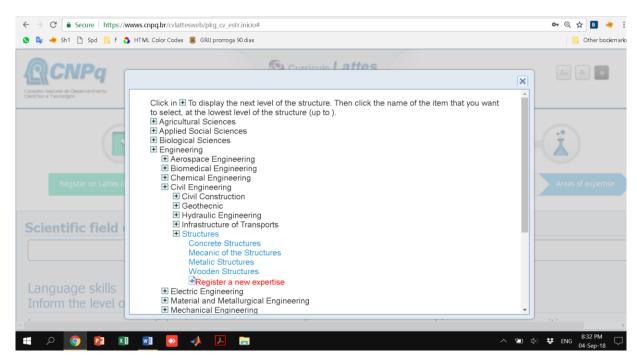


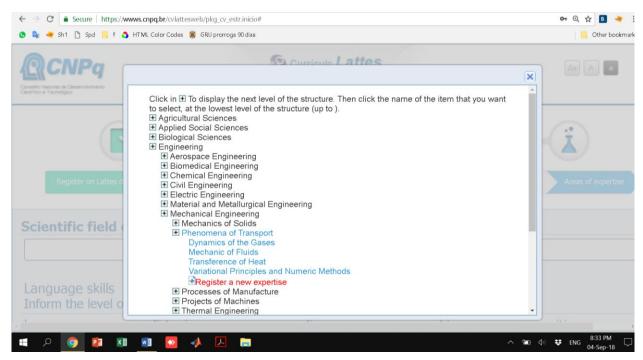
Figure 14. Wrong translations in Lattes CV's section 'Areas of expertise' [24], within 'Structures'.

# 4. Suggestions towards meritocracy

The authors of this manuscript consider the current assessment method of a candidate's knowledge in public tenders highly questionable. The examination suggests disbelief of the candidates' qualifications, experience and skills included in their CVs, all fully proven by institutional certificates, letters of recommendation, and publication metrics. Furthermore, many candidates are graduated from the same institution where they are applying, meaning that even former students' evaluation is not valid to attest their knowledge for the future job. Perhaps the written or oral exams are a way to reduce the considerable number of candidates applying for so few open faculty positions.



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**Figure 15.** Wrong translations in Lattes CV's section 'Areas of expertise' [24], within 'Phenomena of Transport'.

The authors' proposal for a suitable selection process in any public tender in academia, is the assessment of three elements: (i) full CV, (ii) interview, and (iii) 15 min sample lecture on a given subject (candidate's choice or faculty choice, depending on the teaching goals). Literature on recruiting processes in organizations has highlighted that the interview is one of the most effective instruments used [32], being its adoption in academia recommended by Bohlander et al. [33]. A two-tier process, in which first a preselection of suitable candidates is made based on the CV, and then suitable candidates are invited for the interview and sample lecture, is recommended. For the interview, it is recommended to start with a short presentation of the candidate's previous experience and major achievements, followed by a discussion on his/her teaching and research goals. The interview should be taken by a balanced and diverse (with gender and racial diversity where possible) committee, which includes a student, a junior faculty member, a senior faculty member, and an exterior committee member.

A much easier, rational, and meritocratic way of filtering candidates, promoting equal opportunities, is proposed herein and is fully based on CV evaluation. A weighted formula should still be adopted (see Table 1) to evaluate the CV of a candidate. The weighted formula should include elements such as (i) grade average in specific graduation courses, (ii) grade average in specific postgraduate courses, (iii) final PhD classification, (iv) scientific performance (e.g., based on citation indexes proposed by Abambres and Arab [34]), and (v) professional experience. When a position attracts candidates graduated from different



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countries/institutions, comparing grade averages can be mitigated by the local grading practices, unless (i) all grade systems are converted to a single one before averaging (based on institutional reputation), or (ii) other relative metrics are employed. The PhD classification can be used when the candidate graduates with a grade associated with the PhD degree. Moreover, the institution where the candidate graduated from can be evaluated for this classification. The professional experience evaluates the work experience of the candidate only. The teaching skills of the candidate will be evaluated separately in the sample lecture. Other elements that can be evaluated and added to the weighted formula, depending on the position, are: scholarships, prizes and other recognitions, service appointments (e.g., technical committees), and involvement with professional organizations (or their associated student chapters). The weight to be assigned to each of the categories used to evaluate the candidate's CV can be tailored to the academic position he/she is applying for. These procedures are recommended to have a better evaluation of the research performance of a candidate, since the new hire will dedicate roughly 50% of his/her time to research, as discussed in 3.1. Note that, for a faculty member to dedicate this amount of time to research, it is necessary that administrative tasks be taken by administrative employees. Whereas globally the trend is to reduce support staff and give more administrative tasks to professors, the authors' opinion is that sufficient administrative staff results in a more effective academia.

#### 5. Discussion

The analysis in 3.2 describes the shortcomings of Lattes CV platform. In the authors' opinion, Lattes CV should not be imposed as a mandatory CV format in job or funding applications, and most of its features need to be improved to allow its effective use, as described and illustrated in the previously presented analysis. In order to overcome a crucial drawback, the authors recommend the automatic creation and updating of each CV based on information taken from far more effective, popular and renowned platforms such as Microsoft Academic, Google Scholar, ORCID, or ResearcherID. The authors consider that an effective CV should be as short as possible, and easy to read and compare (the same holds for the platform where the CV is built).

The feature of showing the number of citations mentioned in 3.2.5 could be introduced into these aforementioned existing platforms (e.g., Microsoft Academic, Google Scholar, Science Open, ResearchGate, ResearcherID), either explicitly, and/or implicitly by providing citation indexes per author based on the proposal of Abambres and Arab [34], i.e. weighting the authorship order/credit in each publication, as well as the source (WoS, Scopus, or 'others') of each citation. The advantage of this approach is that it provides a combination of different indexing databases, whereas the current Lattes CV metrics separate the different indexing databases.

For the analysis presented in this paper, the authors requested the permission of CNPq to use screenshots of the Lattes platform and a few stored CVs. Unfortunately, receiving a reply to this request turned out to be rather complicated. Of the 4 contact emails found through the portal, 3 bounced back after writing an email to these accounts on October 15th (1 email address) and 17th of 2018 (3 addresses found on the website). Moreover, CNPq's Twitter account is not responsive when addressed (contacted on October



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17th and 18th 2018). Finally, from the single email account that is in operation, the authors were suggested to place the request through the online system e-Ouv. Placing this request (October 19th 2018) has not led to any reply yet. These complex procedures show that the operation of Lattes platform could be improved for queries such as the one described in this paragraph. Given the lack of responsiveness from CNPq, the authors opted not to show the landing pages of the CVs randomly selected for justification purposes, but (i) to provide the links to those profiles in the references, and (ii) to show (and cite) screenshots of the general pages for illustrative purposes. The permission for doing so is tacitly assumed by the lack of responsiveness described.

Based on the investigation carried out and authors' professional experiences, it's no surprise that the Brazilian academic market is still found to be inward-oriented, despite the stronger links with foreign academia. A limited number of foreign students and professionals (especially from outside Latin America) [14] are found in Brazilian academia, and Brazilian scientists still [35] publish a significant amount of work in national journals, which sometimes are only available in Portuguese. By limiting its capacity of attracting foreign talent, Brazilian academia fails not only to take advantage of the best possible candidates, either national or international, but also to promote diversity and pluralism.

#### 6. Conclusions

This paper described two major ineffective Brazilian obsessions in academia – the pseudo-meritocratic public tender, and the Lattes CV. Alternatives to replace or improve these two paradigms were proposed, being the most important:

- (i) Assessment of public tender attendees for faculty positions based on CV, interview, and short sample lecture.
- (ii) Waive Lattes CV as mandatory in job or funding applications, and use a regular CV instead.
- (iii) Allow Lattes CV to automatically be created or updated based on information taken from far more effective, popular, and renowned platforms such as Microsoft Academic, Google Scholar, ORCID or ResearcherID.

Although the lack of research funding in Brazil is clearly the hot topic in the social and news media, this is clearly not the only solution its academia needs to globally thrive. The authors hope to have given a relevant contribution for Brazil to prosper academically and scientifically in the near future.

**Author Contributions:** Conceptualization and first-draft writing: MA; Validation: EL; All other contributions: equally distributed among all authors (AS's contribution was given before April 1st, 2018).

Conflicts of Interest: The authors declare no conflict of interest.



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