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Translating Racist Scientific Terms into Arabic: Socio-scientific Engagement

ترجمة المصطلحات العلمية العنصرية: الالتزام السوسيوعلمي

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Abstract: This paper purports to reflect on the dilemma of rendering racially insensitive science terms from an ethical point of view. It is informed by sociologically-oriented insights from the philosophy of science, science communication studies and translation ethics, with particular reference to Newmark's conceptualization thereof. It describes the aim for deracializing scientific terms as an act of social and "scientific" engagement on the part of the translator. A set of examples from English and their translation into Arabic are finally analyzed using concepts from the Discourse Historical Approach. Preliminary findings are then reported, along with suggestions for future research.
Keywords: Translation ethics- engagement- racist terminology- inclusive science communication - Discourse Historical Approach.

الملخص: نروم من خلال هذا البحث دراسة إشكالية ترجمة المصطلحات العلمية العنصرية من الإنجليزية إلى العربية من وجهة نظر أخلاقية. لهذا الغرض، استرشدنا برؤى و نظريات ذات توجه اجتماعي من ميدان فلسفة العلم و دراسات توصيل العلوم و كذا أخلاقيات الترجمة من منظور نيومارك. تصف الباحثة سعي المترجم إلى إيجاد بدائل لهذه المصطلحات بوصفه التزاما اجتماعيا–علميا، إذ إنها لا ترسخ الأحكام النمطية فحسب، بل تعتبر في كثير من الأحيان قاصرة حتى من ناحية الدقة العلمية. لذلك فإن من شأن هذا الالتزام المزدوج أن ينأى بالمحتوى العلمي و لغته عن النبرة الإقصائية، و أن يعزز من مرئية المترجم العلمي الذي لطالما اختُزل دوره في نقل المعلومات و فقط. نحلل ترجمة عدد من المصطلحات العنصرية إلى العربية بالركون إلى مفاهيم من المقاربة التاريخية للخطاب. في الختام تعرض الباحثة نتائج التحليل و ما يفتحه الموضوع من آفاق بحثية.
كلمات مفتاحية: أخلاقيات الترجمة، الالتزام، المصطلحات العنصرية، توصيل العلوم الإدماجي، المقاربة التاريخية لتحليل الخطاب.

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1. Introduction

Research into the translation of science has generally focused on the ideational aspect of science, that is, on striving to achieve semantic accuracy in the TT. This narrowed interest stemmed from the generally held belief that scientific discourse is "neutral and less worthy of attention than literary-related work" (Olohan & Salama-Carr, 2011, p. 179). Perspectives from such sociologically-oriented perspectives from the disciplines of the sociology of science, the history of science, and the philosophy of science are slowly but surely garnering attention amongst translation researchers who are beginning to explore their implications for translators of science and technology. Informed by insights from translation studies, history of science, feminist studies and critical discourse analysis, Sànchez (2011) analyzed the Spanish translation of a gender-biased German scientific article into Spanish, analyzing the paratextual apparatus exploited by a feminist translator to trace her agency and uncover the discursive conflict between the author and the translator. Bennett (2007) compared the historically-constituted features of English and Portuguese academic discourse to show how Portuguese, and all non-English research works, for that matter, have to be remolded and adapted to English scientific and linguistic philosophies through translation to fit in and get published. Bennet had more of a democratizing agenda in terms of discursive conventions; she attacked the hegemonic status of English Academic discourse which has pushed other forms of construing knowledge to the periphery, making them "swallowed up in a process of 'epistemicide'".

Racist words pervade our language, and scientific language is no exception. Many racially charged terms have flown under the radar, probably because of the prevailing idea that science is universal, objective and acultural, which would make the idea of there being racist words in science and technology unthinkable. Some of these terms most probably made their first appearance at a time where scientists were predominantly Europeans contrary to today's diverse environment (Taheri, 2020, p. 153). At this age of racial reckoning though, such terms are being scrutinized and challenged in an attempt to make science inclusive. The recent calls for making science more inclusive have received scant attention from

translation scholars, when translators' role in this enterprise is far from being negligible. This paper attempts to fill this gap; it endeavors to make the case for an inclusive science translation drawing on certain varied perspectives which all have a common thread: social responsibility. This study is framed through the lens of socially responsible philosophy of science and science communication studies as well as Newmark's vision of translation ethics. Such perspectives have been combined so that to lend support to our thesis that science translators can be more than mere transmitters of knowledge, that they can contribute to its democratization by ridding it of its racist undercurrents.

2. Science and Social Reform, Inclusive Science Communication, Inclusive Language

Towards the second half of the 20th century, science came to be studied in sociological terms. This novel orientation was articulated in the emerging discipline of the sociology of science which "is built upon the appreciation of the contingent circumstances affecting the production and evaluation of scientific accounts" (Shapin, 1982, p. 159). As such, sociologists of science not only cast doubt on the determinacy of scientific ideas, but also sought to establish their intricate connection to the temporal and social settings in which they emerged (164). Consequently, science started to be seen as socially constituted. If science is socially constituted, then it seems fair to say that it may sometimes be imbued with cultural and social biases that are reflected in the choice of what is to be researched, and how. The choice of the "what" and how", being culturally-bound, can consequently be tagged as ideological. For example, many colonial scientists were carried away by racial theories through which they sought to establish the difference between the human groups out there, culminating in the creation of racial taxonomies like Blumenbach's taxonomy which relied on outer beauty as a measure, and ranked the Caucasian race first on account of the fact that Caucasians were white, which he assumed to be the primitive colour of humans, and that whites can 'degenerate' into brown while dark people cannot become white (Baker, 2006, pp. 45-46). This was in synch with the colonial and euro-centric worldview that prevailed in Europe back then. Thus, race was biologized and used to lend a veneer of legitimacy to racism and colonialism.

Sociologically-minded philosopher of science Kourani (2003) argues that "all too frequently science has been a generator and perpetuator of inequality" (1) making the case for a socially responsible philosophy of science, arguing against theories naturalizing domination by constructing a dominant- subordinate duality and thereby justifying gender and other forms of inequities. For her, science should be a catalyst for scientific and social reform and a means for furthering progressive values.

This thesis has been recently taken up by some researchers working in the area of science communication, which is developing new insights to accommodate the changing socio-cultural developments. This is reflected in 'inclusive science communication', a growing trend which, according to Dawson (2022) "understands the complexity of socio-political and cultural histories of power, of structural inequalities and whose forms of knowledge, whose practices, whose communities have and have not been valued and seeks to transform these patterns" (7). In other words, inclusive science communication contemplates the social injustices reflected in science and promotes an empowering atmosphere that gives voice to marginalized groups and their ways of making science and engaging them in its production and communication. That said, inclusive science condemns, inter alia, the marginalization of the scientific potential of women and speaks against their biased representation in science as described in Sánchez above (2011) and calls for more openness towards non-English, Euro-centric ways of construing knowledge, thus countering the kind of 'epistemicide' vehemently criticized by Benett (2007) above.

To infuse principles of equity and inclusion into science, Schiebinger (2022) cited several strategic practices undertaken by universities and governments, which he mapped onto 3 categories (1) Fixing the numbers: of underrepresented groups enrolled in science classes, (2) fixing the institutions: by making structural reforms within research organizations to create equal career opportunities and (3) fixing the knowledge: by incorporating diversity analysis into basic and applied research throughout its phases, which, according to (Martí, 2022, p. 43) will have the double effect of contributing to the democratization of

knowledge and generating better results which would, in turn, bolster social cohesion.

Some researchers are starting to investigate ways of achieving inclusion in science communication on the linguistic plane; these may be included under the rubric of "fixing the language", as it were. On a macro-level, (Màrquez & Porras, 2020) for instance suggested, inter alia, that English scientific journals translate their articles or abstracts to make them accessible to non-English linguistic communities, and recommended that scientists and mass media design their contents in culturally-relevant ways (52-53). On a micro-level, some researchers have focused on words and terms that may be seen as non-inclusive and offensive to certain groups. Herbers (2007) discussed some racist terms in the entomological literature such as 'negro ant' and 'slave-making ant, arguing that using human-derived features or practices as metaphors for describing animal behaviors does not only trigger erroneous misconceptions, but also maintains social inequities and damages the scientific institution which is purportedly culturally bounded. While acknowledging that scientists use such racially charged terms with no malicious intent, Herbers states that they may strike students and public audiences as racist and render enrolling in the sciences uninviting for students belonging to the groups targeted by them. Khan (2021) observed that racist terms are being increasingly used even in the most internationally reputable journals, calling scientists to rethink such insensitive terminological practices and to act to prevent them from being passed on to the next generation of scientists.

3. Features of Racially-loaded Terms in Science: Preliminary Observations

Racist terms which have been discussed as hot spots are generally the result of the encounter of the natural and social worlds through a process of metaphorization, that is, when scientists draw on the social domain to describe scientific or technical concepts. Based on our observations of the terms that have been most problematized, these can, by and large, be:

3.1 Location-based terms: that is, words coined after names of places such as the Spanish Flue, the Middle Eastern Respiratory Syndrome..etc. Terms formed

this way create and perpetuate harmful stereotypes about the geographical area in question and, by extension, the people living therein.

3.2 Analogies from culture- specific practices: borrowing words describing certain habits some cultures are most known for to scientifically describe some phenomena or behaviors, especially 'animal' behaviors.

3.3 Race-preferential words: these may be words or features that are often associated with identity markers such as skin color, with the features generally perceived and presented as good used for rather positive concepts and those presented as less good with negative ones.

3.4 Slavery-related words.

4. Ethics of translation

Translation ethics are mostly seen along professional lines; as codes of good practice for translators to abide by as exemplified by Chesterman's (2001) four models, whereby an ethical translator is supposed to be an (honest) representative, a service provider, a (cross-cultural) communicator and a norm-conforming actor (139-141). The view of ethics in translation studies as subsumed under the umbrella of pre-defined norms allowing an impartial carryover of texts to the target audience has been criticized as narrow for failing to consider personal ethics for example, which are "founded on loyalty towards the translator's own system of beliefs" (Kruger & Crots, 2014, p. 149)

A wide conception of ethics assigns the translator an activist role as theorized and vindicated by Tymoczco (2000), Baker and Chesterman (2008) and Venuti (1998) among others. Advocators of engagement in translation refuse to perceive translators as "unthinking cogs in the wheel of an established social system" but rather as "reflective and ethically responsible citizens" (Baker 2011, 284, as cited in Krueger & Crots 2014, 152) who are supposed to make change. According to Tymoczko (2000), committed translators achieve such change by intervening with the narrative contained in texts by means of sublimated textualized methods or direct action (41).

4.1. Newmark's Universal ethics

> I take it as axiomatic […] that mature people have similar values of right and wrong, and of good and bad; and that we live in different villages, but in the same contracting world; that universals exist, particularly on the moral plane, but they are often obscured, and the translator has to uncover them.
>
> (Newmark, 2007, pp. 111-112)

Newmark is of the opinion that there are universals as far as ethics are concerned. Translators, in this view, are supposed to be socially responsible to promote and defend universally shared values that go beyond the individual or professional levels such as freedom, justice, equity and truth. Newmark (2009) advocates such conception of ethics using the UN Declaration of Human Rights as the ethical benchmark against which ethically problematic parts are identified and ethical translational behavior is accordingly acted out. While traditional notions of truth in the translation literature conjure up the age-old concept of fidelity- whereby the translated text is expected to mirror the original- Newmark (1995), delves deeper into it, viewing it as a multi-layered concept which he categorizes into types, of which two are particularly relevant to science translators caught up in ethically problematic situations, namely factual and moral truths. Factual truth, in a nutshell, concerns how representative the original text is of the true state of things, the translator here is duty-bound to redress any inaccuracies or misstatements in the OT itself through intratextual or extratextual intervention because, for him, "translators are the potential guardians..of the objective and universal truth" (49). The other type is "moral", which he describes as being "non-subjective, non-cultural, non-relativist, but universal"(50). The translator here is expected to intervene where prejudiced language which undermines moral truths, as identified and upheld by such international covenants as the UN human rights declaration, is used. This applies, among other linguistic biases, to racist language.

As such, translation, for Newmark, is a socially responsible act, whereby the translator is responsible for making interlingual communication bias-free and therefore, inclusive. This type of engagement applies to situations where translators are faced with ethically suspect scientific content or terms, it overlaps

with inclusive science communication perspectives as far as the values of social responsibility, equality and inclusivity are concerned.

Pym (2000, 2012 as stated in Kruger and Crots 2014, 151) opposes any authorial intervention on the part of the translator. A science translator though, by deracializing terms, won't misrepresent the propositional content of the ST, he/she would just efface certain negative connotations which are not functional in scientific texts as opposed to literary or religious texts. This goes to prove that the different ethical positionings endorsed by translation theorists are not necessarily antithetical to each other - in science translation at least-; by taking universal and inclusive science communication as ethical references, the translator is not necessarily breaching the professional part of translation ethics.

5. A Dual Engagement

The subtle racism found in scientific discourse is a reflection of power asymmetries between groups and cultures. A translator who subscribes to Newmark's ideal of truth and who is aware of the developments in science communication studies which nowadays stress inclusivity would feel ethically responsible to neutralize any racist terms or names in scientific works either through textual (finding race-neutral equivalents) or paratextual intervention (through extratextual glosses and prefaces for readers, peer translators and lexicographers to reflect upon). In this way, the translator is being socially engaged in that he/she is acting proactively to avert any uneasiness or face-threat on the part of the receiving audience.

Ethics in translation involves not 'how' to translate only, but also 'what' to translate. Science translators, in addition to social commitment, are also expected to shoulder another type of responsibility, one which is towards science. The latter is here understood to refer to commitment to transmit only true science by refraining from rendering pseudo-scientific content and properly dealing with their resultant pseudoscientific terms, as well as any terms that grew out of or perpetuate certain cultural biases. This type of scientific commitment on the part of the translator is particularly important at this juncture of history where the internet makes misinformation thrive, especially if it is related to health

emergencies and newly identified pandemics, this somewhat utilitarian vision is echoed elsewhere:

> It can be argued that most translators undertake the work they do because they believe the texts they produce will benefit humanity or impact positively upon the receptor culture in ways that are broadly ideological. This is true equally of literary translators who select texts to translate, translators of technical manuals, and Bible translators.
>
> (Tymoczco, 2000, pp. 25-26)

It is noteworthy that these two levels are not separate forms of commitment; committing oneself to produce a socially acceptable translation of a scientific work only enhances the objectivity of the scientific content under translation. By the same token, committing oneself to the rigidity of the scientific work being translated entails discouraging any linguistic manifestations of social biases and may consequently be seen as a form of social engagement, too. An ethically behaving translator would turn down requests to render, say, a racist pseudo-scientific book like the "Bell Curve" to mass audiences not only because it is bogus science, but also because it triggers uncalled-for stereotypes. Similarly, racially insensitive terms such as country-based names of COVID-19 variants, apart from being socially unfriendly, are mostly misnomers as it is hard to tell if a certain variant really originated in country X or was transmitted via foreign visitors (Abdool Karim, De Olivera, & Loots, 2021). A translator, by opting for "Alpha variant" instead of the "Indian variant", is being committed on the two fronts.

An engaged science translator, therefore, is not that who is often assumed to be a "mere technical support, a linguistic mirror with no special influence on the contents, outlook and effect of the published text" (Aixelà, 2004, p. para 8) by deracializing scientific and technical terms, he/she is actually boosting the acceptability and outreach of published works amongst science audiences that are growing evermore heterogeneous. Such a view of the translation of science and technology will prove that science translators are not mere tough-minded technical experts whose main concern is factual accuracy, but social individuals who are well aware of social inequalities and the social impact of science and language. Above all, with such discursive resistance, 21st century science translators' role is redefined and their visibility is enhanced.

6. Methodology

Our analysis will draw on the Discourse Historical Approach which will be partially used to situate our samples in the historical context in which they appeared or to which they relate either closely or remotely.

The Discourse-Historical Approach, like critical discourse analysis, pertains to critical discourse studies which aim at uncovering how language is used to reflect or contest unequal power relationships. DHA proponents "make practical claims of emancipation and criticize power abuse, injustice and social discrimination". (Reisigl, 2017)

What sets the DHA apart is that it incorporates all relevant background information into the analysis and interpretation of the text (Wodak, 2011, p. 359). Henceforth, important concepts in the DHA include intertextuality through which the analyst associates the text to other past or present texts and analyses how elements from old contexts are relocated or "recontextualized" into new contexts to gain new meanings; and interdicursivity which links the topics found in a discourse with topics or subtopics found in other discourses (Reisigl & Wodak, 2017, p. 90).

The DHA takes into account four 4 levels that make up context, namely 1) the immediate co-text and co-discourse, 2) the intertextual and interdiscursive relationships between utterances, texts, genres and discourses, 3) the extralinguistic social variables and institutional frames of a specific 'context of situation' and 4) the broader socio-political and historical context. (93)

This approach assumes that discourses portray the Self or in-groups positively whereas the Other or out-groups are portrayed negatively (Wodak, 2011). In order to unveil the positive presentation of in-groups and negative presentation of out-groups, five discursive strategies are analysed:

1) The names given to persons, objects, phenomena, events, processes and actions in the discourse under analysis (nomination).

2) The features attributed to them (predication).

3) The arguments used in the discourse (argumentation)

4) The perspective underlying these nominations, features and arguments (perspectivisation).

5) The mitigation or intensification of the said utterances (Reisigl & Wodak, 2017, pp. 93-94)

These aspects are significantly useful for a systematic analysis of racially-charged 'pseudo' scientific discourse in general. However, since we will be analyzing scientific terms and names independently, we will be confined to the first and fifth aspect, which, in our context, has specifically to do with how science-related objects, phenomena, actions and processes are nominally referred to, indicating whether they have mitigated or intensified racist undertones (which is fairly subjective). We also take interest in the fourth level of context, particularly, the broader socio-historical context which racist scientific terms are embedded in or related to so as to infer how they were recontextualized from social to scientific use to get new scientific, yet equally suggestive meanings.

7. Analysis

This study is product-oriented. The translation into Arabic of a set of terms from the domains of zoology, engineering, medicine and botany will be discursively analysed. The translations are found in dictionaries (mainly, the online dictionary *Almaany*), and Arabic websites and news outlets (such as Al Djazeera) and the Arab Wikipedia. We will proceed as follows:

1. Introducing the racially insensitive terms;
2. Situating them in the grand scheme of racial and colonial discourse to unravel their racial underpinnings (the socio-political and historical context);
3. Comparing the original terms to their translated counterparts;
4. Introducing racially sensitive alternatives proposed by scientists, if any.

7.1. Zoology

Example 1:

Slave making ant: نملة استعبادية/مسترقة (slave making ant)

The slavery metaphor in the entomological literature emerged in the 1800s when slave trade was at its height (Taylor & Dewsbury, 2018, p. 3). Like other racialised terms, this one reflected the dominant colonial discourses and served to naturalize and legitimate human and insect behaviors that reflect power relations in the natural and social worlds (Robinson, 2010); I.e. it implied that the practice

of slavery is natural to humans and insects alike. This term, then, seems to normalize a racist practice historically committed against out-groups. The term is calqued in the Arabic translation offered by Almaany, reproducing the same racist undertone. Apart from it being reminiscent of a dark and turbulent period in history:

> Ants depart from human slave owners in much of their behavior. They neither breed nor auction off their captives. Newly fertilized parasite queens must invade and takeover an established host nest in order to secure the workforce needed to tend their eggs; this invasion behavior has no counterpart in human slavery. The metaphor is, at best, imperfect.
>
> (Herbers, 2007, p. 105)

It turns out that some racist terms can be semantically deficient and unrepresentative of the true state of things; Herbers suggests to use 'pirate ants' *النملة القرصانة* and to replace "slaves" with captives. This goes to prove our case that social engagement and scientific engagement go hand in hand in the context of science discourse translation.

Example 2:

Harem: حريم (harem)

Zoologist Zimmerman introduced the metaphor of Harem and defined it as "a system in which every adult male attempts to secure for himself as many females as possible" (Bharj & Hegarty, 2015, pp. 257-258). Against this backdrop, this metaphor contains a mitigated overtone of racism as it "draws on a colonial image of the Middle East social systems" .(259); that is, it reflects a euro-centric view of Arabs and their way of life. Therefore, the term seems to reflect a haughty attitude towards others, in this case Middle-easterners; it unconsciously presents middle eastern behaviors and practices as alien, abnormal and animal-like, thereby reflecting a different and inferior Other (albeit polygamy is not exclusively and Arab/ Muslim thing). The translated name on Almaany is basically the same in both languages; so apparently, the Arab lexicographers did not contemplate the evident stereotypical bias implied. The implicit racist tone is therefore maintained. This term is sometimes translated into *مجموعة إناث* (a group of females). This seems more acceptable and bias-free.

Example 3

Noosing: *شنق –يحتبل– أوقع في شرك/أنشوطة* (hanging hang-noose-ensnare)

In herpetology, 'noosing' is a term that is used to describe the process of catching lizards by means of nooses. Noosing has a huge symbolism in the American context. For Black Americans, it is associated with the lynching historically experienced by Blacks who were accused of rape under the vaguest of suspicions, or dared to escape slavery or defy subordination and rise from the gutter (Oriola & Adeyanju, 2009, p. 91). The term therefore brings to mind such topics as segregation, subordination, slavery and torture. It constitutes a mitigated form of racism in that it implies a certain normalization of inhuman behaviors and racially-motivated cruelties usually committed against Others. Almaany offers more than one rendition, including the more generic "hanging" which is more neutral and bears no racist overtones. 'يحتبل' which is the most accurate equivalent and أوقع في شرك/أنشوطة or 'ensnare'. At any rate, while the original term may be perceived as offensive by black Americans, the three equivalents above have no negative connotation whatsoever for the Arab readership; the implicit racist undertone is almost absent. Yet, when translating the term into English, translators should opt for more unbiased alternatives such as "lasoing" as proposed by McGee (Cahan, 2020).

7.2. Medicine

Example 1

Mongolism: *المغولانية/ المغولية* (mongolism)

It is reported that Down, discoverer of the syndrome, coined this term when he categorized patients, or 'idiots' as they were called then, and observed that certain patients shared a common feature, that they all resembled the people of Mongolia, Hence the name of the syndrome (mongolism or mongolian idiocy). Down's narrative is reflective of the colonial scientific discourses on race which characterized his time as he drew on Blumenbach's racial classification of humans and his concept of degeneration, whereby the syndrome made Caucasians 'degenerate' into a lower race; the Monglian one (Tong, 2021). In

1965, Mongolia officially complained and asked the WHO to change the term (Ramsay, 2014). Before that, a group of scientists wrote a letter to the 'Lancet' asking that the term be removed due to its racist and misleading connotations; the term was therefore changed into 'Down Syndrome' some years later (Rodríguez-Hernández & Montoya, 2011). Besides its association with pseudo-scientific ideas which gave impetus to white supremacy and colonialism, the term basically denigrates out-groups. It presents Mongols as an inferior Other for their supposedly inherent bodily and cognitive deficiency as it equates their features with an anomaly from a haughty euro-centric perspective. "Mongol" has become rather archaic, and generates much fewer hits on search engines compared to the racially- neutral 'Down syndrome'. Yet it is unfortunate to find that it is still being used with the new one interchangeably to define the syndrome both in English and Arabic. Almaany dictionary arabized the term into Arabic when there is already an entry for 'Down syndrome'. Similarly, as of November 2019, the official bilingual site of the Saudi Ministry of Health defined Down syndrome and added other names, including Trisomy 21 and 'Mongolism' which was calqued into: المغولانية. The latter is probably still in use as a simplifier, because it is more intelligible for laypeople. Well-intentioned as that might seem, it is preferable to let go of this archaic offensive term which has gained even more offensive undertones as it is used in some Arab and non Arab countries as a derogatory slur.

7.3. Computer engineering

Example 1

White list /black list: القائمة السوداء -القائمة البيضاء (white list/black list)

'Black list' on websites tends to refer to something that is automatically denied, while white list is used to indicate that something is allowed or accessible. According to the Online Etymology Dictionary, the word 'blacklist' first made its appearance at the outset of the 17th century to denote a "list of persons who have incurred suspicion" with the adjective 'black' indicating "disgrace, censure, punishment". The word then emerged at a time where European-endorsed transatlantic slave trade of Africans was commonplace (Houghton & Houghton,

2018) and thus is reflective of the colonial and racist mindset that prevailed at the time where black people were looked down and blackness was associated with negative meanings. The increasing use of 'whitelist' makes the good-bad duality all the more glaring. The term constructs blackness as inherently bad and indicative of such negative meanings as rejection and even danger, contrary to 'white list' which associates whiteness with positive meanings such as acceptance and safety. The stark opposition implies a negative view of different Others and a positive view of Self. The terms are calqued by Almaany, reproducing the same suggestive dichotomy. Some people are suggesting replacing the two terms with 'allowlist and block list', while others suggested "green list and red list. These latter would be more palatable in Arabic: القائمة الخضراء/ القائمة البيضاء.

Example 2

Master and slave: التابع و المتبوع (the follower and the one followed/leader)

Master and slave are used among computer engineers to refer to "types of storages, circuits, databases or codes, in which the slave type is subservient to the master" (Khan, 2021). Eglash (2007) posits that in engineering, the master and slave metaphor was not particularly coined by racists, but was used as some sort of a "techno-social" metaphor for lay people, yet, he adds that the first occurrences of the term did describe a control relationship, which does not preclude the possibility of there being a sub-conscious metaphor at work. The reference to slavery in this 'techno-social' metaphor is very blatant here and would strike anyone as offensive and misplaced, let alone for those whose ancestors experienced its evils. No wonder that in 2004, it was named by the Global Language Monitor as the most politically incorrect term of the year. The terms somehow equate the Self with power, superiority and mastership and relegate the Other to the rank of the subservient slave, thus instantiating unequal power relationships between people. The Arabic equivalents التابع و المتبوع literally translate into " follower and the one followed or 'leader and follower'. The Arabic renditions are mainly found in most bilingual dictionaries and the Arabic Wikipedia and seem to bear no racist nuance, they even happen to correspond to

the politically correct terms 'leader and follower' which were proposed by some scientists as politically correct alternatives alongside 'primary' and 'secondary'.

Example 3

Quantum supremacy*: التفوق الكمومي* (quantum superiority)

The term 'quantum supremacy' is used to refer to computers that perform extremely complex calculations, which would take thousands of years if made by normal computers, in a matter of seconds. After Google reported that it achieved quantum supremacy, Nature received a correspondence calling for scientists to use "quantum advantage" instead of "quantum supremacy" on the ground that it has "overtones of violence, neocolonialism and racism through its association with 'white supremacy" (Palacios-Berraquero, Mueck, & Persaud, 2019, p. 213). With the association of the suggestive word 'supremacy' with a positive meaning, the term seems to reflect a positive portrayal of whites and, by implicature, as a negative, or at least less positive view of non-whites. This unprecedented breakthrough was reported on the same year by Arab news outlets such as Aljazeera under the term attafawuq al kumumi, which roughly translates into quantum excellence or superiority. Although the English word is tainted with overtones of racial superiority as it collocates a lot with the adjective 'white' and harkens back to racist ideologies, it is observed that the Arabic equivalent isn't that racially charged; it has no association with whites, nor does it evoke racist ideologies; therefore, I believe, there is no need to substitute it. Yet, when translating it into English, translators would better choose the politically correct term "quantum advantage".

7.4. Botany

Example1:

Erythrina caffra : *حمرية جنوب إفريقية* (south African red plant)

Botany might be the domain most infested with racist terminology, particularly common flora names. Yet, racism has sneaked unnoticed to even some purely scientific botanical names as well. Erythrina caffra is a name of a plant that

grows in South Africa. The word caffra is the latinized form of the Arabic Kaffir, meaning infidel or disbeliever. It is also named after the place in which it grows: Kaffraria, 'the land of the unbelievers', which was used in the past to designate the southeastern part of South Africa that is now the Eastern Cape. The plant was named by a Suedish botanist during the colonialist era (Voigt, 2006).

The epithet kaffir, in the South- African context, has seemingly lost its religious origins and started to be used to refer pejoratively to Black South Africans. The word is forbidden today by law in the country (Baderoon, n.d).

The word then is associated with colonialism and apartheid in the mind of South Africans. It was recontextualized from the social to the scientific sphere to gain a new meaning. Although the racist undertone is hardly perceived due to the latinization of the word which gives it a seemingly scientific aura, it still betrays a certain negative view of out-groups based on physical and ethnic differences and thus reflects the dominant colonial mindset whereby the Other is misrepresented through offensive labels and epithets. This name is translated on the Arabic Wikipedia to حمرية جنوب إفريقية, which back-translates to: 'South African red plant'. The negative connotation is therefore neutralized because the Arabic epithet refers to the country in which the plant grows and thus betrays no racist nuances whatsoever.

8. Conclusions and Recommendations for Future Research

This paper set to address the issue of racist terminology in science from a translational point of view. These terms are mainly scientific metaphors which came about as a result of the encounter of the social and scientific realms, and which necessarily encode the worldview and prejudices of those who coined them. It has been observed that such terms and names may either be derived from names of geographical areas (eg. mongolism), based on analogies from culture specific practices (eg. Harem), imply preference of historically powerful groups through associating them with positive meanings and vice versa (eg. white list/black list, quantum supremacy), or words which harken back to the times of slavery (eg. slave/master- slave-making ant). Overall, such terms may be directly or indirectly associated with colonialist and euro-centric discourses whereby out-groups are perceived as inferior and less worthy of respect. In particular, we

argued that such terms reflect negative views of out-groups and their behaviours and practices, and seem to normalize the dominant-subordinate dichotomy.

Translation-wise, our analysis revealed that some racially insensitive terms and names were neutralized in Arabic, while others carried the same racial undertones as the originals. Other terms, such as 'quantum supremacy' were calqued into Arabic but didn't carry any racist connotation, which begs the question of whether all racist science terms are perceived as such by all linguistic communities. Regrettably, we also noted that some racist terms can be misappropriated into common parlance as disparaging or derogatory slurs (eg: mongol). This points to the need to learn from history and abstain from attributing diseases and viruses to nationalities or geographical areas (the Chinese Virus, the Indian virus…etc). On a good note, this term (mongolism) goes to prove that 'deracialization' of scientific terms is a feasible undertaking, but that their complete eradication may take years of advocacy and action, institutional intervention and support from the media through popularizing politically correct alternatives and nipping in the bud any emerging racist ones. Most importantly, that would require socially responsible translators who are willing to strive to find equivalents that are devoid of racial biases.

Our data consisted of a limited number of terms, leaving us with the impression that we have only scratched the surface. This underscores the need for further research. Indeed, this piece of research offers a wealth of possibilities for future endeavours; more effort towards assembling a conclusive list of all racially insensitive scientific terms and common names would be a good start. Our narrative that racist terms are mostly racially-induced doesn't necessarily accommodate all insensitive names such as some recent geographically based ones like COVID-19 variants (the British variant..). Such terms must have caught on because they roll off tongues better than the purely technical ones and thus may be treated from a socio-terminological or other theoretical frameworks. It should be noted that some racist terms can be transdisciplinary (see Khan, 2021), therefore, more in-depth research is needed to reconcile political correctness and scientific correctness in their rendition. Finally, exploring areas of cooperation between translators, science communication researchers, lexicographers and policy makers would immensely facilitate the task of deracializing science once and for all.

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