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Boundary-work that does not work: Social Inequalities and the Non-Performativity of Scientific Boundary-work

ABSTRACT

Although the STS literature on boundary-work recognizes that such work unfolds within a “terrain of uneven advantage” (Gieryn 1999: 35) vis-à-vis gender, race and other inequalities, reflection about that uneven advantage has been strikingly underdeveloped. This article calls for a re-theorizing of boundary-work that engages more actively with feminist, critical race and postcolonial scholarship, and examines more systematically the relation between scientific boundary-work, broader structures of sociopolitical inequality and boundary-workers’ (embodied) positionality. To demonstrate the need for this re-theorization, I analyze ethnographic and interview data on scientific boundary-work in the natural and social sciences in Portugal, showing that scholars’ gender, sexuality, race, ethnicity, and nationality affect the success of their boundary-work. I suggest, therefore, that in unequal societies where credibility is unevenly distributed, the conditions are not in place for some scholars’ boundary-work to work. I draw on Sara Ahmed (and J.L. Austin) to argue that we must conceptualize scientific boundary-work as always potentially performative, but not always successfully so, and explicitly interrogate the actual conditions of performativity. Recognizing the links between inequality, embodiment and non-performativity in scientific boundary-work will enable STS to better understand, and hopefully transform, the relations between contingent struggles over scientificity and entrenched structures of power.

The extensive STS literature on scientific boundary-workⁱ tells us much about the people who do that work every day in meetings, research sites, classrooms, publications, conferences, media, courts. Through the many studies published in this journal, and elsewhere, we learn about boundary-workers’ interests, strategies, assumptions, alliances, disciplinary backgrounds, institutional affiliations, position in professional hierarchies, political stances and even religious beliefs. And yet, these studies rarely give us equally detailed insight into *who* boundary-workers are: their gender, race and ethnicity, age, class, (dis)ability, or sexuality, for example. Those axes of difference and inequality appear in the literature primarily as an additional factor of *some* boundary-work, specific to the experiences of those marked as “others” and relevant only in relation to them, rather than a central, structural and constitutive element of *all* boundary-work.

Wanting to know about boundary-workers’ embodiment and positionality, and

searching the literature for insight on them, is not trite prurient prying. One of the most influential contributions of feminist, Black and postcolonial scholarship on science has been the affirmation that knowledge producers are inescapably embodied creatures, and that in sexist and racist societies this embodiment makes a difference to how others perceive their epistemic and professional capacity. Over the past decades, we have built an impressive and inspiring body of work providing undeniable empirical evidence that credibility and epistemic authority are distributed unevenly, on the basis of “systemically engrained [gendered, racialised,...] structural conceptions about the kinds of people who can reasonably claim [it]” (Code 1991: 233). That research shows there is a clear (albeit not always fully conscious) tendency to imagine and represent the best, most authoritative, knowledge producer as white, western, male and middle-class (Amâncio 2005; Harding 2016; Hess et al. 2016; Hey 2003; Mählck 2013; Søndergaard 2005; Subramaniam et al. 2016). It also demonstrates that this can lead to the side-lining, devaluing, marginalization and exclusion of women, Black scholars and other “others” in everyday scientific interaction, recruitment, promotion and peer-review (Ahmed 2012; Barres 2006; Cech et al. 2017; Fox 2015; Gupta 2007; Hammonds & Subramaniam 2003; Husu 2011; Lamont 2009; Mählck 2001; Moss-Racusin et al. 2012; Rajagopalan et al. 2016).

When viewed against the backdrop of these theoretical interventions and the large corpus of empirical research that corroborates them, the lack of sustained attention in boundary-work literature to positionality—i.e. to gender, race, class and other so-called “identity categories”—is striking. This problematic limitation has not gone unremarked. It is briefly acknowledged, for example, by Thomas Gieryn (1999) in the canonical book in which he sets out his foundational theory of boundary-work. The book does not engage with these issues, and in the very last paragraph of the introduction Gieryn writes, “[s]ome readers will regret the inattention here to issues of identity politics and identity epistemics; struggles for credibility and effects of scientific authority are deeply gendered, for example, and play themselves out increasingly on a multicultural terrain

of uneven advantage. Lots of work ahead” (1999: 35).

And yet, 20 years later there is still much work to be done in integrating into our theorizing of boundary-work a central and systematic consideration of how that work is gendered, racialized, and structured by other axes of social inequality. Some studies do recognize that gender and race, for example, shape boundary-work (e.g. Mallard et al. 2009) or that sexist and racist assumptions or patterns of interaction might disadvantage women and/or Black boundary-workers (e.g. Lamont 2009). However, the bulk of the literature on boundary-work discusses positionality specifically and almost exclusively in relation to women, Black scholars and other “others,” leaving white men, for example, unmarked (as if they do not also “have” gender and race). In this article, I seek to problematize the ways in which social inequalities are framed in STS theorizing of scientific boundary-work, and thus contribute to the important collective project of tackling the “lots of work ahead” (Gieryn 1999: 35).

Linking Boundary-work and Inequality: Aims and Approach

I attempt to contribute to that project by proposing a reconceptualization of boundary-work that draws on feminist, Black and postcolonial insights to place broader socio-political inequalities at the center of attention. Through this exercise, I seek to respond to the important calls made in three recent *ST&HV* special issues for more sustained analysis of the relation between science and gendered, racialized, and geopolitical inequalities (M’charek et al. 2014; Pollock & Subramaniam 2016; Rajão et al. 2014). In their introduction to an issue on the *Promises of Feminist Postcolonial Technosciences*, Pollock and Subramaniam argue that “postcolonial and feminist critiques are urgent for STS” (2016: 957) and they invite us to “bring the fields of feminism, postcolonialism, and technoscience into more enlivened and deeper conversations” (2016: 961). I explore one such conversation, showing that it is a productive avenue through which to theorize the relation between contingent struggles

over epistemic credibility and entrenched structures of inequality. In proposing that we foreground structures of inequality in the study of scientific boundary-work, this article can be seen as part of a broader movement of “reinvigoration of attention to structural inequality in STS” (Hess et al. 2016: 335).

The approach I develop here is also inspired by several different calls for change in boundary-work scholarship. One is Kinchy and Kleinman’s (2003) call for the recognition that boundary-work is “flexibl[e] (...) [and] contingent (...). [but] also shaped by the already constructed social world,” i.e. “shaped by historically resonant discourses (...); patterns of organization across the scientific community” (2003: 891) and, I would add, by broader axes of inequality, namely of gender, race, or class. I am also persuaded by Riesch’s (2010) argument that articulating the concept of boundary-work with concepts developed within other disciplines “can offer a fresh perspective” (2010: 470). Thirdly, I want to explore what might happen if we take on Herzig’s (2004) challenge to increase “the traffic between discussions of performanc[e in STS] and the treatments of performance and performativity elaborated by feminist, queer, or critical race theorists” (2004: 128), problematizing the dominant STS “presumption of scientific activity as inherently productive” (2004: 128).

This article also seeks to respond to the call recently made in *ST&HV* to “proactively promot[e]” the development of STS research on the social sciences and humanities (SSH) (Dayé 2014: 879). Indeed, it is not common for STS to focus on the SSH as an object of study.ⁱⁱ Many STS colleagues might, and do, question whether such forms of knowledge production fall within the remit of a field concerned with the study of the practices and products of *science*.ⁱⁱⁱ Several scholars have lamented STS’ ongoing “reluctan[ce] (...) to studying SSH” (Dayé 2014: 887). They have argued that the dominant equation in STS of science with the natural and technosciences, and lab-based research, limits our understanding of contemporary knowledge production and reinforces a problematic hierarchical demarcation of “soft” and “hard” sciences (Beaulieu 2010; Červinková et al. 2007; Mair et al. 2013). Whelan describes this as in itself an instance of boundary-work:

Physics is the apex of the natural sciences; studies of physics represent the apex of STS. Feminists who study the soft sciences are, by extension, relatively unskilled labourers doing inconsequential namby-pamby work. Here we have an extraordinary piece of boundary-work (...), erect[ing] a boundary between “good” science studies and “political” feminist work (2001: 557).

Like Subramaniam, I argue that “[r]ather than casting the humanities and the sciences (...) as binary oppositional practices, work and theories that stress the similarities, commonalities, and resonances may be a productive avenue for future collaboration” (2009: 968). I explore these resonances here by applying STS theories of scientific boundary-work to an analysis of boundary-work within (and beyond) the SSH, producing insights that—as I will demonstrate—raise important questions for more traditional STS debates about boundary-work in the so-called “hard” sciences.

To achieve these aims, I analyze data from studies with Portuguese academics in the sciences and SSH, and particularly an ethnography of the boundary-work of Portuguese SSH scholars in women’s, gender and feminist studies (WGFS).^{iv} I begin the article by explaining how Gieryn’s theory of boundary-work can be articulated with insights from feminist, Black and postcolonial scholarship. The following section contextualizes the data, and explains the methods used. I then turn to a discussion of the empirical material, exploring how scientists’ embodiment and positionality vis-à-vis broader structures of inequality shape their experiences of boundary-work. I end by showing how we might use feminist and Black, postcolonial and critical race scholarship, particularly Sara Ahmed’s (2004) theorization of *non-performativity*, to better recognize the non-performativity produced by gender, race and other inequalities. I argue this will not only enhance our understanding of boundary-work, but also allow us to better fight enduring inequalities in science internationally.

Boundary-work and Inequality: the Missing Links

Gieryn’s (1995; 1999) “cartographical” theorization of negotiations of the boundaries of scientificity helped formalize and animate the study of scientific boundary-work, making it an identifiable and influential area of STS research. According to Gieryn, “[t]he

adjudication of competing truths and rival realities is, often enough, accomplished in and through provisional settlements of the boundaries of science” (1999: 2). He highlights the variability and inconsistency of definitions of scientificity, noting that “from episode to episode (...) few enduring or transcendent properties of science necessarily appear on any map (or in the same place)” (1999: 5). Hence, he argues that the boundaries of science “are shaped (...) by the local contingencies of the moment: the adversaries then and there, the stakes, the (...) audiences” (1999: 5). He calls, therefore, for an examination of scientificity as a contingent product of ongoing, discursive processes of boundary-work, i.e. exercises in demarcating where the boundaries of science lie, which unfold as part of attempts to position a given claim or field within or outside those boundaries. He does point out, nevertheless, that

the “epistemic authority of science” exists only in its local and episodic enactment (...) but this all happens within structural contexts of available resources, historical precedents, and routinized expectations that enable and constrain the *contents* of a map and its perceived utility or accuracy in the eyes of users (1999: 12, my emphasis).

The large corpus of research that emerged in response to, and drawing on, these ideas is testament to the extraordinary potential of his theorization of boundary-work for an analysis of the contingent and dynamic nature of struggles over scientific credibility. However, there are things this theory is not equipped to do. The protagonists of Gieryn’s accounts of boundary-work are mostly white western men in positions of relative authority—scientists, intellectuals, religious leaders, senators, scientific and educational policy-makers, members of school administrations. In his case studies, the differential between the “players,” “contestants,” “agents” (as he calls them) in terms of opportunities to achieve credibility as authoritative commentators on scientificity is usually relatively small (although it changes and sometimes increases precisely as a result of boundary-work). They appear largely as unmarked individuals, differentiated mainly or only by their interests, place in professional hierarchies and/or access to professional resources. As the quote above shows, Gieryn does recognize that “structural contexts” enable and constrain boundary-work, but he (and others using his work) tends

to focus on how structural contexts shape the *content* of a map, rather than the *people* drawing it.

His theorization of boundary-work, as he himself recognizes, lacks engagement with the ways in which “struggles for credibility (...) are deeply gendered” and racialized (1999: 35). Therefore, it is not well equipped to examine relations between boundary-work and socio-political inequality. To tackle that relation, Gieryn’s notion of boundary-work as (primarily) open and episodic needs to be reframed, to more explicitly recognize how broader structures of power produce predictable patterns of “uneven advantage” (Gieryn 1999: 35) that go beyond the merely contingent and episodic.

Rethinking boundary-work in this way requires putting STS analyses of scientific boundary-work into conversation with feminist, postcolonial and Black scholarship. It requires foregrounding the recognition that in unequal societies “it matters who is speaking and where and why, and (...) such mattering bears directly on the possibility of knowledge claims (...), descriptions of ‘reality’ achieving acknowledgment, going through” (Code 1995: x). It requires mapping how the “legitimation of knowledge-claims is intimately tied to networks of domination and exclusion” (Lennon & Whitford 1994: 1). Feminist, postcolonial and Black scholars have shown that those “networks of domination and exclusion” often lead to the devaluing of knowledge claims made by women, by those who are not white or western, and by many “others” (Bhambra 2014; Collins 1990; Connell 2007; Hammonds & Subramaniam 2003; Kilomba 2007; Mohanty 1988; Rajagopalan et al. 2016). In a piece examining how “the idea of what [is] scholarship or science is intrinsically linked with power and racial authority” (2007: §3), Grada Kilomba writes:

our [Black scholars’] voices—through a system of racism—have been systematically disqualified as valid knowledge. (...) As a scholar (...) I am commonly told that my work on everyday racism is very interesting, but not really scientific, a remark which illustrates this colonial hierarchy in which Black scholars reside: “You have a very subjective perspective,” “very personal,” “very emotional,” “very specific,” “Are these objective facts?.” Within such masterful descriptions, the discourses and perspectives of Black scholars remain always at the margins—as

deviating, while white discourses occupy the centre. When they speak [it] is scientific, when we speak [it] is unscientific (2007: §5-7).

If, as Kilomba and others have shown, past and present structures of inequality are such that some people's speaking is scientific, and others' is unscientific, then a theory of boundary-work must explicitly consider the positionality of those speaking. To examine how positionality might make a difference, I will now analyze experiences of boundary-work in Portuguese academia.

Data and Methods

My analysis uses empirical data from two sets of research projects conducted in Portugal. The bulk of the data comes from my own ethnography of boundary-work in the SSH over the epistemic status^v of women's, gender, feminist studies (WGFS) (Pereira 2013, 2014, 2015, 2016, 2017), a study which I describe in more detail below. Additional data is drawn from feminist and postcolonial research by Thais França and Beatriz Padilla, examining (through interviews) the experiences of migrant women scientists in the sciences and the SSH (França 2016; França & Padilla 2013, 2017). Their study of those experiences is part of França and Padilla's broader research on scientific migration, for which they interviewed (in 2014) a total of 80 foreign scientists working in Portugal—34 women and 46 men—across a range of science and SSH disciplines, in several public and private universities throughout the country.

Negotiation over the boundaries of scientificity does not just unfold within the so called "hard" sciences; such boundary-work is also frequent within the SSH, often with much at stake.^{vi} My ethnographic work (Pereira 2017) analyzes this SSH boundary-work in relation to an area of the SSH where boundary-work is particularly intense: the field of women's, gender, feminist studies (WGFS).^{vii} In many countries and institutions, WGFS is more or less regularly marginalized on the basis that the knowledge it produces is not "proper" scholarly knowledge. WGFS is accused of being too "preoccupied with practical matters," "too subjective," "overly emotional," "value-laden," "merely political"

(Code 1995: 192), claims which Code argues reflect the stereotyping of women “as irrational, subjective, incapable of abstract thought” (1995: 192). This has been shown to constrain the development of WGFS research and teaching, and negatively impact WGFS scholars’ and students’ job prospects and career progression, access to funding and publishing opportunities, self-confidence and well-being (Lamont 2009; Pereira 2017). This means that WGFS scholars have to actively and regularly engage in boundary-work, “produc[ing] maps [of science] to place their claims [and the field of WGFS as a whole] in a territory of legitimacy” (Gieryn 1999: 14), as I show in detail elsewhere (Pereira 2017).

This boundary-work over the epistemic status of WGFS has been extremely intense and dynamic in Portugal in the past 15 years, making Portugal an excellent site in which to ethnographically study SSH boundary-work. WGFS research and teaching emerged relatively late in Portugal, but since the turn of the century its institutionalization has become consolidated, against a backdrop of national and international transformations in science and higher education (HE).^{viii} Until the early 2000s, the repudiation of WGFS in the Portuguese SSH was pervasive, public and sometimes verbally or institutionally violent. However, contemporary epistemic climates are different; it is now less acceptable to openly dismiss WGFS as scientifically worthless (Pereira 2015). Several factors prompted this change, including increased contact between Portuguese and foreign academics (Pereira 2014). The key factor, however, was the realization that WGFS could yield income—through student fees, research funding or publication ratings—at a time in which that income was desperately needed, due to HE cutbacks and changes in scientific policy (Pereira 2015; 2017). The recognition that WGFS had *financial* value dissuaded many non-WGFS scholars and university administrations from publicly questioning its *epistemic* value. As I argue elsewhere (Pereira 2015), this change powerfully illustrates how the “conflation of epistemic efficacy with pecuniary profitability” (Mirowski & Sent 2008: 673) in many contemporary universities directly and radically transforms established scientific boundaries and patterns of boundary-

work. This growing public acceptance of WGFS coexists, nevertheless, with a systematic denigration of WGFS in the form of corridor talk, in Downey et al.'s sense: "the unsaid, but frequently said anyway (though not to everyone)" (1997: 245) (Pereira 2012, 2015, 2017).

To analyze this ongoing, but changing, boundary-work, I conducted ethnographic fieldwork over 10 months in 2008-2009, with additional follow-up fieldwork in 2015-16, in several Portuguese universities. This included participant observation in over 50 academic events (conferences, undergraduate and postgraduate classes, PhD vivas, meetings, etc.); 36 in-depth interviews with WGFS and non-WGFS scholars, students and funding body representatives (plus follow-up interviews in 2015-16 with 12 of the original 2008-09 participants); and archival research. Elsewhere, I have written at length about these methods and fieldwork experiences, and the challenges of conducting ethnographies of the SSH (Pereira 2013, 2017). Indeed, the specific features of the SSH pose particularly difficult challenges for ethnographies, and especially ethnographic studies of boundary-work. As Beaulieu writes, "entering a bustling lab is a very different proposition from installing oneself in the study of a lone scholar, as I experienced in a recent ethnographic [STS] project on a group of women's studies scholars" (2010: 456). As she argues, different tools and approaches are required to "study these fields in which research practices are not concentrated in lab-like spaces" (Beaulieu 2010: 456). SSH scholars' boundary-work is isolated, dispersed and often difficult to observe in person and in real time. I did manage to observe many instances of "live" boundary-work, which I analyze elsewhere (Pereira 2017). In this article, however, I use WGFS scholars' descriptions of specific instances of past boundary-work to identify the factors that—in their view—affected the extent to which they were seen as credible arbiters of scientificity.

Inequality and Scientists' Experiences of Boundary-Work

In an analysis of how scientists assess arguments, Latour and Woolgar observed that

“*who* had made a claim was as important as the claim itself” (1986 [1979]: 164, original emphasis). Latour and Woolgar were mainly focusing on how presumptions of credibility were influenced by views about a scientist’s “social strategy or their psychological make-up” (1986 [1979]: 163). And yet, these are not the only, or even the main, dimensions that matter to *who* a scientist is (or who they are perceived to be); one’s embodied position vis-à-vis axes of social difference and inequality is key. We know, for example, that women scientists’ work is often not recognized (and rewarded) as much as that of their male colleagues (see Amâncio 2005; Reis et al. 2001 for evidence of this in Portugal). Therefore, it is crucial to go beyond the more “disembodied” characteristics originally highlighted by Latour and Woolgar, and consider other elements of the embodied identity and positionality of those making claims.

Gender is, of course, an important axis. Echoing the existing research, many women and men interviewed for my ethnography of boundary-work noted that there are gender inequalities in distributions of credibility in Portugal. According to them, gender affects the extent to which an academic is likely to be believed when they argue that WGFS can produce proper scientific knowledge. Women (and non-binary) academics dominate the field in most contexts, but WGFS scholars who are men seem to be recognized as more credible by those outside the field. As one male WGFS scholar explained,

I’m a man and have a relatively mainstream performance of masculinity, and I think that’s made all the difference. (...) When I became interested in gender, and tried to work on it and include it in teaching, (...) the fact I’m a man clearly helped immensely, because it means that things I said were seen to have more authority, like I’m somehow less biased and more credible. (...) This made my trajectory much easier, it meant that institutionalizing the study of gender in my department ended up being relatively easy for me, and easier than it was for women colleagues working elsewhere.

Note that what seems important here is not just the perceived *sex* of the individual, but also how they *perform gender*. Boundary-work was easier for this academic not only because he is a man, but also because he has a “relatively mainstream performance of masculinity”; the scenario would likely be different for a man who does not. Evidence for this can be found in this excerpt from an interview with a woman WGFS scholar.

We were organizing a [conference] panel about women and gender, and I suggested inviting x [gay male scholar]. The coordinator [a non-WGFS male scholar] immediately said “no, no, if you’re going to invite a man, it must be a real man.” I just couldn’t believe it.

Not all men, it seems, are “real” enough men to be considered credible; it is, thus, crucial to consider how gender intersects with other axes of difference and inequality. A particularly key intersection in boundary-work over WGFS is the intersection between gender and *sexuality*.^{ix} Sexism and homophobia seem to interact with each other in demarcating who counts as credible. One junior scholar^x spoke of a “double” dismissal of women and gay men who work in WGFS.

In Portuguese academia, (...) areas of study (...) with many women tend to be seen as having less value, (...) and the study of gender is connoted with women, and also gay men. (...) In academia there’s active discrimination against women and also lots of homophobia. (...) So, if being a woman or gay already leads to being more frequently dismissed, and if on top of that you study something connoted with women, then there’s a double understanding of what you say as not [scientifically] interesting or worthy of attention.

This intersection means that the (actual or imagined) fact of not being heterosexual can compromise one’s perceived credibility as a SSH boundary-worker attempting to frame WGFS as a worthy field of study. Many of the women academics I interviewed have male partners, several of whom are also academics and in some situations working in the same department, discipline or university. Six participants explained that the fact that they (or others) were married, and married to men, made a significant difference to the success of their boundary-work over WGFS, because it made it harder for colleagues to openly dismiss their boundary-work as the musings of “sexually frustrated women” or “the rants of lesbians,” to use interviewees’ words. But even women known to be heterosexual—like the two interviewees quoted below—had to actively and regularly manage their boundary-work in relation to an ever-present “spectre” of lesbianism, framed by their non-WGFS colleagues as very negative.

These senior colleagues and I were working together and had to publicly present research findings. (...) All the gender and sexuality findings were left to me to present. We were [planning the presentation] and one says to me, it wasn’t a joke, he was perfectly serious, “make sure you’re careful about your appearance that day,

what you wear and look like, because people may think you're a lesbian and not take you seriously."

You can't imagine the comments I hear at the University! I've been asked by colleagues, in a jokey way, if I'm a lesbian, although they know perfectly well I'm married [to a man].

For some of these women, managing that spectre of lesbianism in their boundary-work required explicitly emphasizing their heterosexuality and distancing themselves from homo- or bi-sexuality through their claims, interactions and appearance. As a result, they ended up reproducing the heteronormativity, heterosexism and homophobia of Portuguese science, either explicitly or implicitly... and for many of them, regrettably.

Age also had an impact on the extent to which one's boundary-work is recognized as credible, but this impact takes different forms. Younger interviewees noted that their age caused obstacles when engaging in boundary-work over WGFS, because it led more senior colleagues to perceive them as less knowledgeable, serious, rigorous and authoritative knowledge producers. As one told me, "they see my commitment to gender and feminism as a phase, a folly of youth, something I will eventually grow out of when I learn how to do science properly." At the same time, older WGFS scholars told me that they regularly invited junior scholars to speak at public events or purposefully highlighted, in their own boundary-work, the high numbers of junior scholars working in WGFS. This was because they felt that junior scholars' presence helped to legitimate WGFS as a topical, fresh, innovative field, an up-and-coming discipline at the vanguard of up-to-date, "modern" (Pereira 2014) knowledge production. They noted that this boundary-work strategy dissuaded colleagues from dismissing WGFS as "outdated knowledge past its expiry date," in the words of one interviewee.

No participants explicitly addressed the impact of *race, ethnicity, class, (dis)ability* or *gender identity* on the success of their boundary-work. As with Portuguese WGFS and Portuguese academia as a whole, my group of interviewees—to the best of my knowledge all, or almost all, white, middle-class, cisgender and apparently abled—is relatively homogeneous. Interviewees did not mention their positionality vis-à-vis those axes and—

—much to my regret— I did not explicitly ask about them as part of my interviews.^{xi} There is no doubt that structural inequalities relating to race, ethnicity, class, gender identity and (dis)ability shape access to, and experiences of, academic careers in Portugal (Fontes et al. 2014; Machado et al. 1995; Maeso & Araújo 2014). Therefore, that silence says more about the invisibility of these inequalities to those—including me—who are privileged vis-à-vis them (Ahmed 2007), than it does about their actual influence on experiences of boundary-work.

Whiteness, in particular, has been identified as a form of privilege that it is especially difficult to make visible and problematize in Portugal, namely within academia, an extremely white-dominated sector of Portuguese society (Henriques 2018; Maeso & Araújo 2014; Mata & Henriques 2017; Reiter 2008). Part of that difficulty arises from the (erroneous) national belief—popularized by the authoritarian *Estado Novo* (1933-1974) regime—that Portuguese colonialism, and Portuguese culture, are somehow “less racist” than other European counterparts (Henriques 2018). It also arises in part from the country’s complicated relationship—historically and in the present—with categories of race and ethnicity, and the category of whiteness itself. Portugal had the longest-lived modern European empire, spanning five centuries and continents, but the country was considered by other colonial powers “as primitive and savage” (Santos 1994: 133),^{xii} as too close to colonized populations, “half-breeds who generate yet more half-breeds” (Vale de Almeida 2008: 5). Then, and now, the white Portuguese who compose the majority of the country’s population are still often seen internationally as “non-white” (Reiter 2008) or “not quite white” (Vale de Almeida 2008), especially in regions/countries with large Portuguese immigrant communities. Elsewhere (Pereira 2014, 2017), I discuss how this ongoing national preoccupation with, and investment in, proving the country’s “modernity,” “Europeanness” and, implicitly, its whiteness shape everyday academic life and boundary-work in Portugal.

To analyze how *race* and *ethnicity* affect the success of boundary-work, it is helpful to examine the links between my study and research conducted by Thais França and

Beatriz Padilla with migrant women scientists in Portugal (França 2016; França & Padilla 2013, 2017). Drawing on their excellent research is instructive not just because França and Padilla explicitly focus on race and ethnicity in Portuguese academia, but also because they interviewed academics from the natural and technosciences, as well as the SSH. Their data demonstrate that so-called “identity categories” affect perceptions of a scientist’s credibility in many fields, and not just those fields, like WGFS, which are more explicitly identity-related. França and Padilla’s research identified “inequalities between women scientists in the dynamics of legitimation of their knowledge, depending on their country of origin and race” (França 2016: 234). They quote a Black scientist from Cape Verde who explains that others’ perception of her intelligence and credibility depends on what she is producing scientific knowledge about; she is taken more seriously when making knowledge claims “about what a Cape-Verdean woman is expected to study: Africa” (França & Padilla 2017). Many of França and Padilla’s Brazilian interviewees report encountering among Portuguese academics an implicit or explicit belief that Brazilian scientists are less intelligent or hard-working, and therefore less credible (França & Padilla 2013). One Brazilian woman scientist described this—supposedly complimentary—reaction from a colleague to one of her research breakthroughs:

You’ve been a pleasant surprise. I didn’t know Brazilian women could work with the quality and commitment you’ve shown. From now on, I’ll look at Brazilian women differently thanks to you (França & Padilla 2017).

Some of França and Padilla’s most powerful insights emerge from the juxtaposition of experiences of immigrant women scientists from different countries and different racial and ethnic backgrounds. In recent years, Portuguese science and HE policy has pushed for more extensive and intensive internationalization, and thus foreign scientists have become especially valuable and welcome (França 2016; França & Padilla 2013; Pereira 2017). But not all foreign scientists, it seems, are created equal. França and Padilla’s white western interviewees perceive their nationality and ethnicity as enabling, and even directly advantageous, in their everyday scientific (boundary-)work. Consider, for example, these statements made, respectively, by a white French chemist and a white

Belgian political scientist (França & Padilla 2017):

I think the fact I'm French and had been working in the US really helped my integration here. (...) It gave me higher status.

Not being Portuguese was a point in my favour, because they want to attract foreign scientists. It was an advantage. I helped boost the institution's internationalization indicators.

These experiences stand in sharp contrast, for example, to the situation of Brazilian interviewees who make explicit efforts every day to downplay their "foreignness" (França 2016) or to the challenges faced by a white Romanian scientist working in a faculty of science and technology:

She [research team leader] said I was worthless and couldn't be trusted. (...) I think this was connected to the fact I wasn't Portuguese, because she's not used to being challenged, especially by someone from another country (França 2016; França & Padilla 2017).

Comparing these different experiences shows that the impact of *race* and *ethnicity* on scientific boundary-work is mediated by *nationality*. It is clear, for example, that not all whiteness has the same value in Portuguese universities; to be Romanian is not equivalent to being French, for example. Portuguese academia affords considerable institutional weight and symbolic status to North America and Western Europe (particularly the US and the UK). These regions are framed in much discourse and policy as the more "advanced" models to follow and as the referent to which to orientate oneself; publication in English-language journals, for instance, is considered one of the highest, and most valuable, forms of scientific achievement (Pereira 2014, 2017). This means that those regions often function in Portugal as truth-spots (Gieryn 2002), i.e. places that lend credibility and epistemic value to claims.^{xiii} Individuals from, or somehow connected to, such regions, are often themselves seen to embody those regions' higher epistemic status. As a result, their knowledge claims and boundary-work may be more easily recognized as true and legitimate. The uneven epistemic status associated with nationality in an unequal global academic order directly affects individual scientists' everyday experiences and career opportunities, as França and Padilla demonstrate

(2013, 2017), and it also makes a real difference to the success of boundary-work, as I observed (Pereira 2014, 2017).^{xiv}

The scholars I interviewed were very aware of the potential epistemically disqualifying effect of different aspects of their positionality. They attempted to prevent, mitigate or off-set it by trying to be “exemplary” scientists in every possible dimension, and particularly vis-à-vis their productivity. In Portugal, as in many other countries, the increasing marketization of science and HE from the early 2000s led to the reconceptualization of academic activity as work that must aim to achieve the highest possible levels of productivity and profitability, and whose quality can be assessed on the basis of the number of products produced (whether that be articles, patents or successful—or satisfied—students) and income generated (Pereira 2017). In this new environment, many WGFS scholars discovered that being productive made their boundary-work more effective. If their WGFS work contributed to institutional ratings and revenue, WGFS was more likely to get recognized as proper scientific knowledge (Pereira 2015, 2017). This creates a paradoxical situation whereby WGFS’ survival and expansion demands (over-)compliance with systems of academic evaluation that many WGFS scholars consider profoundly problematic, and which require them to maintain levels of productivity that generate significant stress, compromise their health and undermine their work (Pereira 2015, 2016, 2017).

This celebration of a very narrow, metricized and monetized productivity is, of course, deeply gendered. It requires a rate and type of work that is incompatible, for example, with the caring, emotional and administrative labor that women are disproportionately saddled with in and out of the academy (Lynch 2010; Pereira 2017; Wånggren, et al. 2017). But even when WGFS scholars manage—against those odds—to fulfil these unrealistic productivity requirements, they are not in the clear. Managing to consistently and unequivocally perform very well does not guarantee protection from gendered, racialized and other inequalities, as this male WGFS scholar explains:

Some gender scholars have been forced (...) to take up the typical strategy of showing they can do things according to institutional rules. So they dress well, they're very careful, (...) they produce lots, try to legitimate the work through hegemonic parameters of legitimation, (...) etc. While all along (...) not knowing that [behind their backs] their colleagues (...) say their research (...) is silly and worthless, not serious social science. (...) It's just "sociology for girls."

As this last quote shows, academic position and performance— aspects of boundary-workers' profiles that the boundary-work literature has examined more systematically—do play a significant role in shaping boundary-work experiences. However, the force of entrenched socio-political epistemic hierarchies is such that being a woman (or not being "a real man"), or working on so-called "feminine" topics, or being Black, or from a particular country, can partly override the credibility supposedly afforded by high professional rank or performance. A theory of boundary-work that does not explicitly recognize this is, therefore, limited and limiting.

Theorizing the relationship between inequality and non-performativity in boundary-work

How do we make sense of the data above, which, although partly shaped by the specificities of Portuguese academia, resonates with the findings of research from across the world? And, crucially, how do we incorporate in our conceptualization of boundary-work an explicit consideration of the issues raised by the data? There is, I argue, one especially productive avenue through which to do so: explicitly interrogating the *performativity* of boundary-work.

Performativity is key to the theorizing of boundary-work; indeed, at the center of the notion of scientific boundary-work is the constructivist idea that it is performative. Gieryn (1995; 1999) and others argue that scientificity is not an essential and stable property of claims, methods or disciplines, ontologically separating them from the non-scientific; it is, rather, an achievement constituted in and through local, ritualized enactments. But to what extent, and in what conditions, is boundary-work actually performative? Asking this question is crucial, and answering it is easier if we turn to

feminist and critical race scholarship. According to Herzig,

feminist theorists have long taken up the kinds of ontological and epistemological questions at the centre of recent discussions of performance in science studies, [but] few scholars attending to science have made adequate use of this existing scholarship. As a result, an emerging emphasis on performativity in science studies needlessly reproduces several issues already carefully identified and discussed by other critics (2004: 128).

One such “needlessly reproduced issue” within STS boundary-work research is, I want to argue, the lack of recognition of how social and political context constrains performativity. According to Rose, it is necessary “[t]o locate (...) science in context (...) [to] giv[e us] (...) the possibility of developing a sharper sense of what might or might not be achieved within specific (...) circumstances” (1994: 53). In the particular case of boundary-work research, this requires asking how context shapes “what might or might not be [performatively] achieved.”

When she asked these questions in relation to the performativity of claims of/to anti-racism made in academics’ writing and universities’ “diversity documents,” Sara Ahmed (2004, 2012) argued that such anti-racist claims are “‘unhappy performatives’ i.e. utterances that would ‘do something’ if the right conditions had been met, but which do not do that thing, as the conditions have not been met” (2004: §50). Ahmed encourages us to be wary of conceptualizations of performativity that “‘forge[t] how performativity depends upon the repetition of conventions and prior acts of authorization” (2004: §51). Such acts and conventions include the uneven distribution of “epistemic authority” (as Gieryn (1999) would call it), on the basis of entrenched sexist, racist, colonialist, heteronormative, classist and other assumptions about who is “reasonable” and “objective” enough to produce scientific knowledge. Ahmed suggests that we have been too quick to assume that performative claims actually operate performatively and calls for more attention to the question of whether the conditions are always in place to allow some “sayings” to be able to “do” what they “say” (2004: §54). Ahmed’s call is a valuable starting point for rethinking STS assumptions about boundary-work, because it helps understand how scientific performativity might work in an unequal world.

To flesh out the STS implications of Ahmed's call, it is helpful to (re)turn to an author that inspired Ahmed's own reflection: philosopher of language J.L. Austin. In his lecture series *How to do Things with Words*, Austin (1975) argues that performativity is not a property of a claim but an act only accomplished if conditions are favorable. Devoting a whole lecture to theorizing performativity failures, Austin identifies six conditions "necessary for the smooth or 'happy' functioning of a performative" (1975: 14). The second is that "the particular persons and circumstances (...) must be appropriate for the invocation of the particular procedure invoked" (1975: 15). Austin is thinking primarily of issues of professional status or procedural authority: "say, we are not in a position to do the act because (...) it is the purser and not the captain who is conducting the ceremony" (1975: 16). But this condition can, and should, be used also to consider broader power inequalities. If existing structural inequalities produce uneven distributions of credibility, then some "particular persons" will likely be considered more "appropriate" than others. There is always a risk, then, that boundary claims made by certain kinds of scholars will be dismissed as performatives not made by "appropriate persons," thus breaking one condition "necessary for the smooth or 'happy' functioning of a performative" (Austin 1975: 15).

In light of this, we can say—adapting Ahmed's (2004) words—that in an unequal world the conditions are not always in place for some scholars' boundary-work to succeed in doing what it says, no matter how well managed that boundary-work is. Gieryn mentions briefly that "the best-drawn maps (...) sometimes fail to secure credibility for one's claims" (1999: 24), and he is right. But some of this "failure" of boundary-work is not random or occasional; it is an *integral, structural* and *constitutive* part of boundary-work in societies structured by "epistemic injustice" (Fricker 2007) and "epistemic oppression" (Dotson 2014). Explicitly recognizing the structural nature of that potential "failure" of boundary-work is crucial.

One must be cautious, however, to not conceptualize in an overly circular and deterministic way the relation between social inequalities and (non-)performativity in

scientific boundary-work. It is “impossible to decide before the fact which specificities and practices will be salient in any epistemic tale” (Code 1995: 158), or which positionalities will become significant in any particular interaction (Moser 2006). Epistemic (micro)climates are contextual and diverse; academic negotiations are not just epistemic, but also professional, financial, personal, etc.; structural and fortuitous influences interact in often unpredictable ways (Lamont 2009; Pereira 2017; Søndergaard 2005); and the intersections between different axes of a scholar’s positionality (in broader structures of inequality, in institutions, in contingent groups) are rarely straightforward. That is one reason why boundary-work can be such hard work... and why we must more clearly and skilfully situate concrete instances of boundary-work within the complex relations of power which develop through them.

The unequal (non-)workings of boundary-work: concluding remarks

A curious disconnect lies at the heart of STS. On the one hand, there is a strong and generalized awareness in STS that inequalities based on gender, race, nationality and other intersecting categories are part and parcel of everyday scientific life. Indeed, one peer reviewer for this paper noted that “[n]obody would disagree that identity characteristics (...) could be of consequence” in everyday negotiations of scientific authority. Such is the consensus around this claim that identifying concrete examples of situations where those “identity characteristics” are “of consequence” is not considered particularly original. Another peer reviewer asked whether my data had anything new to offer, because it is made up of “some very familiar kinds of statements and anecdotes about discrimination (...) [O]ne can hear such statements and anecdotes coming out of academic work anywhere in Europe or North America.” These statements are so familiar internationally, this colleague argued, that they do not really require restating—we have already heard these stories and so there is little more to be said about them.

And yet, as pervasive, familiar, evident and uncontested as these inequalities may be in daily scientific work, they are not a central element of most mainstream STS theories

about how science works. Many of those theories are, fortunately, very open and amenable to consideration of inequality. However, most do not *require*, or *depend* on, that consideration; it is supposedly possible to explain their objects coherently without having to explicitly engage with the racialized, gendered, colonial and unequal power dynamics of science. Inequality emerges as an extra dimension that may be added to the theory later—the “lots of work ahead” —or a specific issue to be considered in particular cases, or even an external interference in the processes the theory seeks to explain. Exploration of structural scientific inequalities is, in many STS theories, a welcome add-on, sub-topic or spin-off, but it is not a foundation or *sine qua non*. Interestingly, and maybe surprisingly, versions of this disconnect can be identified even within strands of STS scholarship that are ostensibly driven by an engagement with inequalities. Subramaniam and Hammonds argue that historically there are “few connections made between the theoretical frameworks in feminist science studies and the literature on women in the sciences” (Subramaniam 2009: 954), “as though we could not put the minds and abstract analytic critiques together with the bodies of the women who liv[e] in the institution” (Hammonds & Subramaniam 2003: 926).

In this article, I brought together abstract theories of science and the embodied experience of scientists, in order to put an explicit consideration of inequality firmly at the center of mainstream STS theorizing of scientific boundary-work. I proposed a reframing that treats all boundary-workers’ embodiment and position in systems of inequality as a structural dimension of the scientific boundary-work they do. I argue that embodiment and positionality must be considered in all boundary-work research, because they are constitutive elements of all boundary-work, rather than just a wrench thrown into the normal (boundary-)work by those “other” scholars who are not western, white, male, straight, cisgender, able-bodied...

My proposed reframing of boundary-work hinges on a foregrounding of the non-performativity of boundary-work. Noting that boundary-work does not always work is certainly not new or radical—if boundary-work was guaranteed to work, there would be

no point researching it! An awareness of the non-performativity of some or much boundary-work is an integral part of Gieryn's conceptualization (see, for example, 1999: 13-14) and much of the subsequent STS scholarship on it. What is missing is a more explicit awareness of the *socio-political foundations* of some of that non-performativity, or, in other words, the relationship between the "success" of boundary-work, broader social inequalities, and the embodied positionality of boundary-workers. Like Hess et al., I "see a need for a deeper appreciation [in STS] of the ways in which the politics of fact construction (...) both shape and are shaped by the more enduring structures of local, national and global inequality" (2016: 320). These structures create specific patterns of non-performativity that any study of boundary-work must recognize, because they shape in profound, systematic and detrimental ways both the lives of scientists and the content of scientific knowledge. Leaving this patterned non-performativity unnamed and undertheorized is not an option, because it conceals the socio-political inequalities at the root of all science, and hence limits and depoliticizes the study of boundary-work. Placing inequality at the center of our theorizing will strengthen our understanding of scientific boundary-work. Hopefully, it will also help disrupt the epistemic "terrain of uneven advantage" (Gieryn 1999: 35), where "[w]hen [some] speak [it] is scientific, and when [others'] speak [it] is unscientific" (Kilomba 2007: §7).

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ⁱ *Boundary-work* is a term used within and outside STS to describe the laborious and ongoing processes of demarcation, negotiation and disruption of the boundaries between science and non-science, and between different fields of knowledge.

ⁱⁱ For interesting examples published in *ST&HV*, see Pontille (2003), Stöckelová (2012), Mallard, et al. (2009) and Dayé (2014).

ⁱⁱⁱ Consider, for example, the feedback I received from one STS colleague after presenting this paper in an STS context: “I’m not sure this is a paper for [an STS] audience. It deals with boundary-work and that’s definitely an STS topic but its main object is social science research in gender studies, which traditionally falls outside the scope of STS.” This is an ironic example of precisely the kind of social scientific boundary-work that my ethnography examines, and which – as many authors argue – STS must more explicitly recognize and critically reflect on, not least because it constrains STS knowledge and the range of literature that STS scholars engage with.

^{iv} The boundaries of WGFS are, of course, contingent, fuzzy, porous and themselves also objects of boundary-work. Choices made about, and meanings given to, the field’s name are also contested and play out differently across countries (Hemmings 2006). Whilst I acknowledge the importance of these debates, I do not have space to engage with them here, and thus use this umbrella term to refer to the field. I do not presume overlaps, equivalences or necessary articulations between *women*, *gender* and *feminism*, nor demarcate *a priori* what is WGFS and who is a WGFS scholar; instead, I draw on participants’ own (sometimes shifting) self-categorization. For a more detailed discussion, see Pereira (2017).

^v I use this concept to refer to the degree to which, and conditions in which, a knowledge claim, or body of claims, is recognized as fulfilling the requisite criteria to be considered credible and relevant scholarly knowledge, however those criteria are defined.

^{vi} When referring to scientific boundary-work in the SSH, I use the term “science” in its broader sense, i.e. to refer to scholarly forms of knowledge production, including those in the SSH. This use reflects the common usage of the term in Portugal and most of continental Europe (e.g. the German term *Wissenschaft*).

^{vii} I recognize that many WGFS scholars consider that WGFS is also rooted in the “hard” sciences and not just the SSH. I describe it here as an SSH field because in Portugal and many other countries WGFS has had a more limited, albeit growing, influence outside the SSH.

^{viii} For English-language overviews of the history of the institutionalization of WGFS in Portugal, see Ramalho (2009) and Pereira (2017).

^{ix} I did not ask interviewees about their sexuality. Several male participants identify as gay and mentioned this spontaneously. No women interviewees identified themselves explicitly or indirectly as non-heterosexual.

^x “Senior scholar” refers to scholars who at the time of fieldwork held full-time, paid academic positions and had completed their PhDs more than five years previously. “Junior scholar” designates scholars who did not hold full-time, paid academic positions and/or did not have PhDs or had held a PhD for less than five years.

^{xi} I very rarely asked directly in interviews whether a particular feature had made a difference in boundary-work. I encouraged interviewees to speak about their experiences of negotiating the status of WGFS, and asked them to identify the factors that had shaped those negotiations.

^{xii} Quotations from sources not originally in English have been translated by me.

^{xiii} Gieryn’s analysis focuses on laboratories and fieldwork sites, though I would argue that the notion can be applied also to countries/regions.

^{xiv} Portuguese WGFS scholars regularly and strategically invite North American and Northern European academics, or invoke North American and Northern European academic institutions, as a way of legitimating their own local WGFS scholarship, events and initiatives. Interviewees explained that this is an especially effective boundary-work strategy because when those guest scholars claim that WGFS is relevant and

important, they are taken more seriously than local scholars making identical claims, because they represent a location perceived to be more scientific. See Pereira (2014; 2017) for a detailed discussion of this boundary-work strategy, and the key role it has played in advancing the institutionalization of WGFS in Portugal.