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Representations on open access as resonances of publishing positionalities in different academic identities in Portugal

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Abstract

The Open Access (OA) model has been gaining momentum in scientific management, on the back of an enthusiasm shared by political decision-makers that positions it as a kind of panacea for the problems of scientific knowledge through the resignification of scientific production. Within this sphere of scientific production – which constitutes the salient components of academic activity and is part of a broader set of epistemological norms, practices and strategies of creation that differentiate each academic identity in the arena of struggle for the monopoly of scientific competence – OA appears as an original contribution to test publishing positionalities in different academic identities. For that purpose, based on the data collected in a survey of 1172 academics from 124 research units in Portugal, it was possible to identify three profiles representing different positionalities of academic identities regarding OA. Within a first profile, comprising the humanities, OA benefits from greater reputation and relevance. A contrasting profile, comprising the exact sciences, represents the academic identity that most neglects OA. An intermediate profile, comprising the natural sciences, medical sciences and agricultural sciences as well as engineering and technology, considers OA to be of moderate importance. However, this profile – like the exact sciences and unlike the humanities – still prefers to publish in closed or hybrid Quartile 1 journals in order to meet the demands of a market of scientific significance focused on normalized (quartile) and non-normalized (impact factor) metrics.

Keywords: open access, scientific fields, academic identities, publishing positionalities, Portugal.

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Representações sobre o acesso aberto como ressonâncias de posicionalidades de publicação em diferentes identidades acadêmicas em Portugal

Resumo

O modelo de Acesso Aberto (AA) vem ganhando força na gestão científica, apoiado por um entusiasmo compartilhado por decisores políticos que o posicionam como uma espécie de panaceia para os problemas do conhecimento científico por meio da ressignificação da produção científica. Dentro dessa esfera de produção científica – que constitui os componentes salientes da atividade acadêmica e faz parte de um conjunto mais amplo de normas epistemológicas, práticas e estratégias de criação que diferenciam cada identidade acadêmica na arena de luta pelo monopólio da competência científica – o AA surge como uma contribuição original para testar posicionalidades editoriais em diferentes identidades acadêmicas. Para esse propósito, com base nos dados coletados em uma pesquisa com 1172 acadêmicos de 124 unidades de pesquisa em Portugal, foi possível identificar três perfis representativos de diferentes posicionalidades de identidades acadêmicas em relação ao AA. Dentro de um primeiro perfil, compreendendo as humanidades, o AA se beneficia de maior reputação e relevância. Um perfil contrastante, compreendendo as ciências exatas, representa a identidade acadêmica que mais negligencia o AA. Um perfil intermediário, compreendendo as ciências naturais, ciências médicas e ciências agrícolas, bem como engenharia e tecnologia, considera o AA como de importância moderada. No entanto, esse perfil – como as ciências exatas e diferentemente das humanidades – ainda prefere publicar em periódicos fechados ou híbridos Quartil 1 para atender às demandas de um mercado de significância científica focado em métricas normalizadas (quartil) e não normalizadas (fator de impacto).

Palavras-chave: acesso aberto, campos científicos, identidades acadêmicas, posicionalidades de publicação, Portugal.

Representaciones sobre el acceso abierto como resonancias de las posiciones editoriales en diferentes identidades académicas en Portugal

Resumen

El modelo de Acceso Abierto (OA) viene ganando fuerza en la gestión científica, a partir de un entusiasmo compartido por los tomadores de decisiones políticas que lo posicionan como una especie de panacea para los problemas del conocimiento científico a través de la resignificación de la producción científica. En esta esfera de la producción científica –que constituye los componentes salientes de la actividad académica y forma parte de un conjunto más amplio de normas epistemológicas, prácticas y estrategias de creación que diferencian cada identidad académica en el ámbito de la lucha por el monopolio de la competencia científica– el OA aparece como una contribución original para probar las posiciones editoriales en diferentes identidades académicas. Para ello, a partir de los datos recogidos en una encuesta a 1172 académicos de 124 unidades de investigación de Portugal, fue posible identificar tres perfiles que representan diferentes posiciones de las identidades académicas en relación con el OA. Dentro de un primer perfil, que comprende las humanidades, el OA se beneficia de una mayor reputación y relevancia. Un perfil contrastante, que comprende las ciencias exactas, representa la identidad académica que más descuida el acceso abierto. Un perfil intermedio, que comprende las ciencias naturales, las ciencias médicas y las ciencias agrícolas, así como la ingeniería y la tecnología, considera que el acceso abierto tiene una importancia moderada. Sin embargo, este perfil, al igual que las ciencias exactas y a diferencia de las humanidades, todavía prefiere publicar en revistas cerradas o híbridas del cuartil 1 para satisfacer las demandas de un mercado de importancia científica centrado en métricas normalizadas (cuartil) y no normalizadas (factor de impacto).

Palabras clave: acceso abierto, campos científicos, identidades académicas, posicionamientos editoriales, Portugal.

1 Introduction

According to the definition of the European Commission's Directorate-General for Research and Innovation, Open Access (OA) concerns the "practice of providing online access to scientific information that is free of charge to the user and is reusable" (EU, 2020). The move towards OA is part of an important set of changes that took place across higher education at the beginning of the millennium and impacted the resignification of knowledge production (Vetter; Schemmann, 2021).

In the last decade, OA has created an arena of ideological struggle marked by the dispute between the strong advocates of the model, who see it as a panacea for the problems of scientific knowledge (Antelman, 2004; Wohlrabe; Birkmeier, 2014; McCabe; Snyder, 2015; Martín-Martín *et al.*, 2018; Mirowski, 2018), and a deeply pessimistic, almost rigid group of authors who see OA, above all, as a catalyst for scientific disorders that capture the model for purposes of scientific mercantilism and profit maximization (Jacob, 2011; Beall, 2013a, 2013b, 2015; Nwagwu, 2015; Kurt, 2018; Vetter; Schemmann, 2021).

Furthermore, in an ecosystem of academic publishing that is deeply competitive and marked by the maxim "publish or perish" (Hammett, 2012; Abbott, 2019), there is a great mismatch between the weight that OA journals effectively carry in the market of scientific significance – "The proportion of OA journals is considerably lower among the journals ranked in the Q1 of Scopus" (Demeter *et al.*, 2021, p. 364) – and an academic reward system that is highly bolstered by core journals operating under the hybrid model (cost-free publication for the author but public consultation dependent on the payment of fees) with high metrics (Garfield, 1955, 2006). These core journals are essentially mastery tests for the researchers and a great competitive advantage in a format of academic capitalism (Hakala; Ylijoki, 2001), notably in competitive funding processes or other competitions for career advancement.

It is against this background, with the model gaining momentum in scientific management on the back of European policies for OA such as Plan S, that this survey study seeks to determine whether the representations of researchers on OA could constitute a new model of positionalities in the various academic identities in Portugal. The goal is, therefore, to add substance to the extensive research on scientific fields in order to ascertain whether the transition to OA, from the viewpoint of the representations of the researchers, occurs in a homogenous manner, almost like a kind of acculturation in the scientific fields fostered by scientific management.

The analysis covers 1,172 validated responses to a survey conducted with researchers of 124 research units (RUs) in Portugal, across all scientific fields, and aimed at understanding how researchers look at OA and what is the level of importance of this OA in their publishing strategies.

This study will be of particular benefit to academia and its self-representation. Political decision-makers favourable to OA will also gain an additional work basis for future measures, notably measures of adjustment between OA and its legitimacy in the context of the academic reward system.

2 Theoretical background

2.1 The Sociology of Scientific Knowledge (SSK) as a point of departure

Emerging in the 1970s (Pinch, 2015), for a long time SSK has looked at the comparison between types of knowledge and at the conception of the construction of knowledge in connection with the study of the struggles occurring in the scientific field. It poses "fundamental questions about taken for granted divisions between social versus cognitive, or natural, facts" (Shapin, 1995, p. 289), and it is a good point of departure for studies on the singularities of the various scientific fields, particularly because it lies at the core of one of the moments in history most marked by disputes of scientific authority.

Many studies have searched for the ontological link between knowledge-*savoir* and knowledge-*connaissance* in an arena of struggle between scientific fields and have sparked enormous belligerence among those same fields, turning the study of scientific fields and academic disciplines into a locus of research that is both far from being recent and far from being fully realized. This is what happened with the SSK of Merton (1973) and its evidence that "science is both people doing things together (social) and a body of claims about the world (cognitive)" (Merton, 2010, p. 122); the 'Strong Program' of David Bloor (1973, 1976/1991), influenced by the sociology of knowledge of the 20s and 30s (Kaiser, 1998), in particular by Mannheim's thesis on the impossibility of human thought appearing and operating in a social and historical vacuum (Mannheim, 1936/1991; Coombs, 1966); the 'Experimenter's regress' of Collins (1985/1992), where the experimental practice revolves around the relations between facts and instruments; or the 'Science-in-the-making' of Latour as a point of entry for understanding science instead of trying to legitimize the stable reality of ready-made science (Latour, 1987, p. 4).

2.2 Science Wars

"While my method was *satirical*, *my motivation* is *utterly serious"*

(Sokal, 1996b, p. 63).

In this arena of ideological struggle in the scientific field, the decade of the 1990s was particularly belligerent in terms of intellectual exchanges, which became known by the epithet 'Science Wars'. The height of the 'Science Wars' came in the form of a fake article published by the physicist Sokal in the journal *Social Text*, in 1996, titled "Transgressing the boundaries: Toward a transformative hermeneutics of quantum gravity" (Sokal, 1996a). This parody of science studies and academic hoax called into question the intellectual and scientific rigour of a publication focused on postmodern studies, even though the system of peer review was not yet established at the time.

In the 'Science Wars', the scientific realism of figures such as Paul Gross, Norman Levitt, and Martin Lewis (1997) – in addition to the aforementioned Alan Sokal (1996a, 1996b) –, with their defence of objectivity, the scientific method, empiricism and scientific knowledge, vehemently opposed postmodernism and the iconoclastic approaches of the SSK (Latour, 1987), which Sokal (1996b) described as epistemic relativism. Merton (1973) would define this arena of struggle as the opposition between science as an institution and science as an emerging cultural space.

This was a decade in which scientists and academics studying scientific culture were tired of having to tolerate each other. The former argued that "sociologists, historians and literary critics were ludicrously ignorant of science, making all kinds of nonsensical pronouncements [while] the other side dismissed these charges as naive, ill informed and self-serving" (Mermin, 2008, p. 276).

This belligerence has remained historically present in the form of SSK practitioners who are still proud of their craft and in the rejection of SSK mainly by natural scientists or ex-natural scientists claiming to be spokespeople for science (Collins, 1985/1992). The Sokal affair, perhaps the greatest academic hoax of all time, has endured as a seminal clash between different scientific fields, lingering in different ways, such as the authority and monopoly of scientific competence.

2.3 The scientific field

Within the framework of these disputes, which later culminated in the intellectual and scientific exchanges of the 'Science Wars', Bourdieu (1983) introduced the term 'scientific field' as a proposal aimed at understanding the systems of relations between practices geared towards the acquisition of scientific authority in the arena of struggle between scientific fields.

For Bourdieu (1983), the scientific field was a system of objective relations between acquired positions and the locus of a competitive struggle,

where what is at stake is precisely the monopoly of scientific authority and the monopoly of scientific competence.

In other words, the scientific field as a locus of political and ideological struggle for scientific authority and domination becomes a particular type of social capital that defines, at each moment, a social hierarchy of scientific subfields and their specificities. This is the basis of notions such as 'small academic worlds' (Clark, 1987) and 'academic tribes' (Becher, 1989), which are structured around various disciplines that differ in the cognitive nature of the knowledge they deal with and which are reflected in the ideas of hard-soft and pure-applied knowledges (Clark, 1987; Becher, 1989) or in the subsequent reconfiguration of Henkel's (2000) concept of 'academic identities'.

2.4 Academic identities

The idea underlying the concept of academic identities or academic cultures and disciplines is that of a set of norms, attitudes, conceptualizations and practices accepted by a disciplinary community that establishes the boundaries of the 'small academic worlds' (Clark, 1987; Sukovic, 2017). It is an idea of individuals who are in a community of equals" (Henkel, 2000) and who do not exist in dissociation from the other academic environments. In the field of political and ideological struggle for domination over scientific authority, they negotiate their cultures, traditions and expectations within an ecosystem that does not constitute a coherent entity, in the sense of being homogenized (Clark, 1987; Becher, 1989; Hakala; Ylijoki, 2001; Sukovic, 2017).

These academic identities – which, for some authors (Elchardus; Spruyt, 2009) take the form of subcultures with singular attitudinal socio-political profiles – consolidate complex systems of knowledge accumulation (Živković, 2021) and different epistemic strategies of creation. They shape and construct the subject matter of their research while also differing epistemologically from other academic identities in areas such as the aims, typical modes of

action and interaction, publication patterns, and core values and beliefs (Becher, 1981, 1989; Ylijoki, 2000; Abbott, 2001).

In this context, the process of construction of academic identity can be described either in terms of internalization of values, aspirations, meaning and value, language, theories and knowledges, or in terms of individuation with strong institutional and functional continuities (Henkel, 2000) that determine a researcher positionality that may be defined as the relational and contextual situating of one's identity in the academic world (Collins; McNulty, 2020). These positionalities and identities were described by Henkel (2000) at the beginning of the millennium as always being determined by their disciplinary birthplace.

2.5 Scientific authorities, academic identities, scientific output and individual dimension

The reference point for the direction of an academic identity is always the community, which is the largest audience to which researchers in a particular scientific field address their results (Hakala, Ylijoki, 2001). In that sense, the extent of the results, mainly in the form of academic publications, becomes a fundamental norm (Henkel, 2000; Hakala; Ylijoki, 2001; Taylor, 2001) in the consolidation of those academic identities. At the same time, it provides a response for what Latour and Woolgar (1987) defined as the quest for credit in science, which is linked to a dimension of power within that field of activity, whether it is an article, an argument or simple data.

In this respect, Mollo (2021) notes that this scientific output enables the relationship between academic identities and addressees of knowledge (community) and thus constitutes the salient components of academic activity for each individuality, the so-called individual dimension that contributes to the positions of prestige defined by Bourdieu (1984).

It is an output that consolidates the differential and distinctive value of academic identity, a particular kind of social capital that consists of making a name for oneself, a name that is known and recognized, a name that brands

the author and pulls him or her out of anonymity. This is what Bourdieu (1983) defined as the concept of visibility in academia and, according to Henkel (2000) and Taylor (2001), what represents the dominant perspectives and directions of each scientific discipline as well as its knowledge base.

In this context, each academic identity is characterized by different forms of publication. In physics, for example, the most prestigious way of announcing one's findings was the short letter format (Becher, 1981); in history, books and monographies were the most prestigious formats (Becher, 1981), as is the case in the arts and humanities (Zhu, 2017); in sociology, the most valued format is the article in an academic journal (Becher, 1981), which is also the case in the medical and natural sciences (Zhu, 2017). For Becher (1981), these characteristics associated with a vast array of practices were sometimes more noticeable than the epistemological distinctions themselves, which underscores the extremely important role of these dynamics in the consolidation of different academic identities.

However, even though these characteristics are factors of differentiation between academic identities and scientific fields, it is impossible to analyse each identity or field based on static formulas, or essential ingredients. If that were possible, the task of reproducing knowledge about academic identities in the form of the 'small academic worlds' and 'academic tribes' mentioned above would have been concluded long ago (Becher, 1981).

In fact, subsequent studies have shown that the theories on academic identity might require recurring modification in contemporary environments, though this does not mean abandoning the ones that precede them (Henkel, 2005).

2.6 OA as an inducer of distinctive characteristics in academic identities?

As a facilitator of change in academic and scientific output practices, OA could and should be discussed here, not least because of the originality of its implication in this area of study. This is a phenomenon that is not

only impactful, by way of the transition imposed by higher education institutions in the resignification of the sphere of scientific output that constitutes the salient component of academic activity (Mollo, 2021), but also a possible inducer of distinctive characteristics in scientific fields and academic identities with a bearing on that individual dimension that plays a decisive role in the awarding of prestige and credit in academia (Latour; Woolgar, 1987; Bourdieu, 1984).

There is, indeed, a dearth of studies that establish this connection between the meaning of OA as a phenomenon with an impact on the ecosystem of scientific output and the various scientific fields and academic identities and disciplines.

A notable contribution comes from Zhu (2017), with regard to OA market supply and market demand. The author discovered, by validating 1829 responses to a survey conducted with researchers based in the United Kingdom, that, in terms of their number, OA journals are well-developed in medical and life sciences compared with other disciplines, such as the humanities, in which the offer of OA journals is smaller. This study makes an important contribution by providing evidence of significant differences among academic disciplines in what concerns their relationship with OA, even though it does not consider the issue of OA in the context of its relationship with the market of academic significance and of its importance for the definition of the publishing strategies of researchers.

The study by Severin *et al*. (2018), on the other hand, concludes that the adoption of OA by different academic identities and disciplines is strongly influenced by the historically rooted publishing practices of different scientific fields. This leads the authors to assume that the academic identities' adoption of and compatibility with OA is a natural continuation of the publishing cultures in certain disciplines. In some of these disciplines, the implementation of OA faces enormous barriers and will always depend on significant changes in research cultures. According to these authors, the fields that were the quickest to adopt OA as a mode of publishing include the social sciences, the natural sciences and what they call technical sciences,

whereas the medical sciences were substantially slower initially, taking longer to keep up with the pace of that transition to OA.

Eger *et al*. (2021) reached a similar conclusion regarding OA's different levels of importance for different academic identities and fields when they argued that OA enjoys a higher reputation in disciplines such as biology (natural sciences) and a lower one in disciplines such as economy (social sciences).

3 Materials and methods

In order to address the subject matter of the study, a survey was conducted with researchers attached to Portuguese research units. Its aim was to understand how researchers look at OA and what is the level of importance of this OA in their publishing strategies. This survey is the largest of its kind to examine the scholarly publishing practices of Portuguese academics.

3.1 Sampling

The collection of the contact details of the researcher and the creation of the corresponding contact list took place over a period of approximately 3 months (26 January 2022 to 6 May 2022) and resulted in a database composed of 8118 researchers, either Portuguese or foreign, distributed by the 124 Portuguese research units analysed. The principle of representativeness of the various scientific fields was favoured to the maximum extent possible. Some research centres covered by the periodic evaluation process of the FCT (Portuguese National Funding Agency for Science, Research and Technology) were not included, because they did not provide the contact details of their researchers.

No record could be found of the exact number of researchers (integrated, associated, assistant, etc.) attached to research units in Portugal, but the universe of integrated researchers is of around 19,000 researchers, according to the data produced by the FCT's most recent evaluation.

The survey was created in Qualtrics and conducted by email, between 3 July and 10 August 2022, with around 450 emails sent daily, with an effective response rate of 14.4%.

Survey results show that 55.9% of the respondents are female, 43.4% are male and 0.7% replied "other". The average age of respondents is 45.7 years. 79.5% have a doctoral degree, 18.9% have a master's degree and 1.5% have an undergraduate degree (*licenciatura*). SPSS statistical software was used to analyse the collated data, in accordance with both descriptive and multiple correspondence analysis (MCA/HOMALS).

The categorization of the different scientific fields followed the criteria in use by the FCT. The percentage of respondents by scientific field is presented below:

- Exact sciences (physics, mathematics, chemistry, etc.) – 10.0% of the respondents
- Natural sciences (biology, environment, etc.) – 27.2% of the respondents
- Engineering and technology (civil engineering, electronics, etc.) – 11.4% of the respondents
- Medical sciences – 9.6% of the respondents
- Agricultural sciences – 3.9% of the respondents
- Humanities (arts, philosophy, literature, etc.) – 14.3% of the respondents
- Social sciences (sociology, psychology, law, etc.) – 23.6% of the respondents

3.2 Ethical issues

Ethical issues were resolved by obtaining informed consent, mentioning, among other aspects, that the survey would be fully anonymous and voluntary, no reply would be considered right or wrong and the collected data would produce a resource to be used by the research centre to which the author of this article belongs.

3.3 Conflict of interests

No researchers from the same research unit as the author of the study took part in it, in compliance with a principle of incompatibility related to the fact that they were all aware of his positions, ideas and studies, which could lead to replies being given by affinity.

3.4 Research problems

Firstly, it should be noted that web-based surveys, such as the one on which this study is based, were found to have much lower response rates when compared to post surveys for the same kind of study (Zhu, 2017), even though, in this case, the response rate is at 14.4%, well above that of similar studies, such as the one by Zhu (2017).

Secondly, certain limits to the diversity of the sample should be pointed out. The research centres rated as weak often did not provide the names of their researchers, or, if they did, they failed to indicate their email addresses, which makes it difficult to include in the sample the researchers attached to those research centres. Failure to provide email addresses is also prevalent among RUs with rudimentary websites, missing basic information regarding the organizational chart or the size of the teams. The fact that the information about many of the research teams was out of date also resulted in a large number of messages being returned to the sender, as the researchers were no longer associated with the research centres, in which case no recent and updated contact details were provided.

Additionally, the higher a centre's rating is, the more researchers that centre has, which means that there is an underrepresentation of researchers from RUs rated as very good or good or weak and an overrepresentation of researchers associated with RUs rated as excellent. This limitation is amplified by the fact that over 60% of the research centres assessed by the FCT have been rated as excellent or very good (Firmino, 2019).

There is also an overrepresentation of contact details of integrated researchers with a doctoral degree, who have their own webpages and

brief CVs, and an underrepresentation of contact details and more general information regarding researchers who are in the early stages of their academic career, who generally have shorter-term arrangements characterized by a kind of transhumance between research units and short-term vacancies for the placement of researchers for very specific tasks.

Furthermore, it is worth noting that the natural sciences are somewhat overrepresented, which is a result of many of the researchers attached to institutes linked to medical or engineering boards having replied that they carry out their main research in the area of natural sciences. This finding stems from the monitoring of the results obtained on those days in which emails were sent to researchers attached to medical or engineering RUs.

4. Results

4.1 Descriptive statistics

Almost all the respondents are familiarized with the meaning of OA for articles in academic and scientific journals (98.3% or n=1152).

To the question "How important is OA?" the vast majority of researchers familiarized with the meaning of OA (n=1152) replied that they consider the phenomenon to be of moderate or great importance (81%). Only 17.6% of the respondents did not consider it important, and 1.3% didn't know or did not reply to this question.

To introduce the subject matter of the study, the following question was asked: "If you have to choose, what is most important to you? To publish in a closed or hybrid Quartile 1 journal, or to publish in an OA journal (regardless of quartile/impact factor)?" In this respect, even though the vast majority of the respondents considers OA to be of moderate or great importance, 69.1% would prefer to publish in a closed or hybrid Quartile 1 journal instead of publishing in an OA journal, regardless of quartile/impact factor (24.6%).

Among those who indicated that they preferred to publish in closed or hybrid Quartile 1 journals because of their impact, 36.1% occasionally opt for gold open access (GOA), 21.4% always opt for GOA and 34.7% stated that they did not opt for that route. In this respect, the respondents dedicated to natural sciences are among those who least opt for GOA, unlike those whose research is focused on medical sciences, the humanities and social sciences, who tend to pay more often for this route of GOA.

One of the issues most associated with the discussion of OA and the publishing ecosystem in general is indexing. In accordance with the data obtained from the survey for the questions "How many academic/scientific articles have you published throughout your research career so far?", "How many are indexed in Scopus?" and "How many are indexed in Web of Science (WoS)?", the vast majority of the respondents (67.7%) declared that they had published more than 10 articles throughout their career, even though that percentage decreased for the number of articles indexed in Scopus (50.5%) and WoS (47.4%), which are those with the greatest weight in the academic reward system in Portugal, whether in scientific employment competitions or in competitive funding of projects.

The respondents who conduct research on social sciences and particularly on the humanities are among those who least publish articles in journals indexed in Scopus and WoS, whereas the respondents dedicated to the exact sciences are those who most often declare having 10 articles or more published in journals indexed in Scopus and WoS.

4.2 Multiple correspondence analysis / Homals

In light of the main descriptive statistics noted above and in order to reply to the initial question for this article, a multiple correspondence analysis (MCA-HOMALS) was chosen for the purpose of assessing whether profiles based on researchers' representations on OA could be drawn for the scientific fields and identities involved in the study. Therefore, the qualitative input data – categories and objects – will be submitted to a process of transformation by estimating optimal quantifications.

Since a "mega" table with multiple correspondence between the categories of all the variables selected here would be impossible to read, the choice was made to read that multidimensional space by way of its graphical representation, with the goal of analysing the interdependence of all the categories of the variables chosen for this purpose and to simultaneously project those categories onto a cartesian space.

This idea entailed analysing categories that are close to each other and may assume different configurations; categories that are opposite each other and may provide an understanding of different relationships between the groups/profiles identified; and categories that are closer to the origin and correspond to an intermediate profile.

The representational variables used were those best suited to the subject matter of the study, notably:

Dimension 1 – OA and Publishing Strategies: Cronbach's alpha of 0.800, inertia[1] of 0.556.

a. How important is OA?
b. If you have to choose, what is most important to you? To publish in a closed or hybrid Quartile 1 journal, or to publish in an OA journal (regardless of quartile/impact factor)?
c. When preferentially choosing journals with a higher impact factor/Q1, of a hybrid or closed nature, do you opt for GOA, allowing anyone to consult your article once it is published?

Dimension 2 (variables treated as ordinal qualitative) – Salient components of academic activity: Cronbach's alpha of 0.651 and inertia of 0.418.

a. How many articles of your own are indexed in Scopus?
b. How many articles of your own are indexed in WoS?

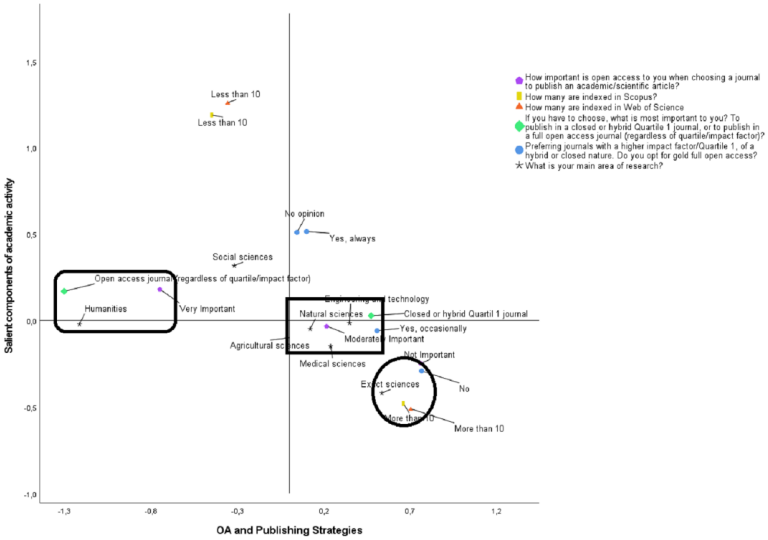
As a supplementary variable, the following variable was used: What is your main area of research?

[1] Inertia quantifies the variance explained by each dimension.

Analysis of the interdependence between the variables led to the idea of three response profiles.

1. Profile 1: composed of the category "humanities" (main area of research), which shares the multidimensional space with the category "prefer to publish in an OA journal (regardless of quartile/ impact factor)" and "very important" as the level of importance attributed to OA.
2. Profile 2, intermediate: composed of the categories "natural sciences", "medical sciences", "agricultural sciences" and "engineering and technology" (main areas of research), which share the multidimensional space with the category "prefer to publish in a closed or hybrid quartile 1 journal", and the categories "moderately important" as the level of importance attributed to OA and "yes, occasionally" as the option for GOA every time an article is published in a closed or hybrid Quartile 1 journal.
3. Profile 3: composed of the category "exact sciences" (main area of research), which shares the multidimensional space with the categories "more than 10 articles indexed in Scopus", "more than 10 articles indexed in WoS", "not important" as the level of importance attributed to OA and "no, never" as the option for GOA, with possible proximity to the category prefer "to publish in a closed or hybrid quartile 1 journal", not least because of the characteristics of the profile.

Figure 1. Multiple correspondence analysis



5 Concluding discussion

This article began with an incursion into the arena of ideological struggle in the scientific field and of the historical dispute over the monopoly of scientific authority and competence, which reached their peak in the 1990s, with scientific realism opposing what it called epistemic relativism and postmodernism responding to that attack, which it accused of being naïve, ill-informed and self-serving (Mermin, 2008, 276).

With the various academic disciplines, cultures and identities constituting the so-called 'small academic worlds' (Clark, 1987) structured by sets of norms, attitudes, conceptualizations and practices as loci of political and ideological struggle for scientific authority and domination (Bourdieu, 1983), the realm of scientific output that enables the transfer of knowledge to society constitutes the world of the salient components of academic activity that is structured in a singular way in different disciplinary fields (Becher, 1981; Zhu, 2017).

In this respect, the phenomenon of OA, supported by its strongest advocates, including political decision-makers who force a transition to OA in the landscape of scientific publishing, appears as a subject of study that adds to the debate within the field of study concerned with academic identities and cultures. This field, when taken in connection with the phenomenon of OA, does not yet produce a significant theoretical background, especially when the focus of the work is on hearing the academic community in order to understand how OA appears as a resonance of the publishing cultures in some disciplines (Severin *et al.*, 2018).

Indeed, the positionalities of the various academic identities regarding OA are clear in this comprehensive study carried out in Portugal. Even though the vast majority of the respondents considered OA, whose foundational principle is the democratization of knowledge, to be of great or moderate importance, there is also a majority that would not hesitate to opt for a Q1 journal, whether closed or hybrid, instead of an OA journal, for reasons pertaining mainly to a mismatch between the weight of OA journals and the market of scientific significance in Portugal, a fact that could be of interest to political decision-makers favourable to OA. It is well-known that this market of scientific significance is precisely what consolidates the prominent positions in a landscape of academic reward highly focused on normalized (quartile) and non-normalized metrics (impact factors), which, for that reason, remain extremely desirable for researchers.

This piece of information, in fact, makes it possible to conclude that OA, as the new zeitgeist of scientific management and academic management, is far from being a kind of new acculturation among the scientific fields as regards publishing formats.

Therefore, and going into greater detail, based on the data collected through a survey conducted with the researchers of 124 research units in Portugal, it is possible to conclude there are three positionalities in the academic fields and identities regarding OA. The social sciences (sociology, psychology, law, etc.) have the most ambiguous stance, perhaps because they aggregate the 'small academic worlds' mentioned above, which in

themselves can contain a considerable disparity of identity, in terms that cannot be dissected in this article. Nevertheless, it is possible to assume, based on the MCA/HOMALS that was performed, that the social sciences would occupy a multidimensional space contiguous with that shown by profile 1, in which the humanities are included.

Thus, to begin with, there are two contrasting academic identities characterized by opposite positions in the multidimensional space extracted from the MCA/HOMALS.

The first profile, comprising the humanities (arts, philosophy, literature, etc.), is the one closest to a model consistent with the idea of an effective transition to OA and the one more distant from the current landscape of scientific significance – which is firmly rooted in the high metrics of core journals with a hybrid subscription model. Indeed, the respondents in this profile expressed the idea that it would be preferable, more important and more advantageous to publish in OA access journals than in closed or hybrid Quartile 1 journals. These data include a curious detail: it is in the field of the humanities that the offer of OA journals is smaller (Zhu, 2017).

The third profile, the profile of the exact sciences (physics, mathematics, chemistry, etc), has opposite characteristics. This profile – more marked by the so-called salient components of academic activity aligned with the market of scientific significance, since it is composed of the researchers who declared to have indexed the most articles in the databases of Scopus and WoS – is the profile that tends most to neglect the value of OA, to the extent that it occupies the same multidimensional space as the categories of a lower importance attributed to OA and of the refusal of the GOA route when opting for closed or hybrid Quartile 1 journals in the publication formats.

Lastly, there is an intermediate profile, comprising the natural sciences (biology, environment, etc), engineering and technology (civil engineering, electronics, etc), the medical sciences and the agricultural sciences. The researchers in this profile tend to consider OA to be of moderate importance, even though, similarly to those in profile 3, they still prefer to publish in closed or hybrid Quartile 1 journals in order to meet the demands of a

market of academic reward closely connected with the landscape of scientific significance in terms of their medium (journals with higher metrics). As mentioned by Demeter *et al.* (2021), this scientific significance tends to be more distant from the reality of OA journals.

Hence, the representations on OA on the part of the researchers attached to different research units and different academic identities in Portugal are the natural extension of heterogenous publishing cultures (Severin *et al.*, 2018) in the scientific/academic ecosystem in Portugal. OA thus appears as an indicator of differentiation that is original and very useful for the study of scientific identities, cultures and fields, even at a time of intense discussion over the transition to OA as a phenomenon that resignifies the production and dissemination of scientific knowledge.

At the end of the day, if we wanted to position these results in the light of the intellectual exchanges founded by the "Science Wars" – while already projecting clues for future investigations –, we could assume that: for soft-applied knowledges, it can be above all a question of interacting in a democratized academic ecosystem, preferring OA publication models that favor free consultation for the user; while for the hard-pure knowledges, the competitive struggles marked by the need to publish in highly reputable, competitive and selective journals characterized by higher metrics, substantiate a less prominent position attributed to OA for reasons related to its maladjustment to the market of scientific significance.

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