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# THE TRANSFORMATION OF KNOWLEDGE PRODUCTION AND THE ACADEMIC COMMUNITY Playing the game and (still) being an academic?

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*This paper\*\* aims to identify and discuss the dominant and competing orders of discourse regarding the transformation of modes of knowledge production in higher education and its relationship with the academic community. It draws upon discourse analysis theory and methodology and on interviews with Portuguese and English higher education key-actors and academics. This work has allowed for the conclusion that Mode-1 features – focused on academic community and disciplinary based knowledge – are (still) central to the academic community and to the production of knowledge in higher education, and that Mode-2 – emphasising application and accountability – has emerged as a possible scenario for higher education. That scenario can be characterised by a decrease in discoveries and originality in scientific work and an increase in (safe) research that is publishable.*

**Keywords:** higher education, research, academic community, Mode-1, Mode-2, transformation of modes of knowledge production

## Introduction

This paper draws upon the results of a study on the interactions between the transformation of modes of knowledge production and the academic community, on the disciplinary, institutional, professional and generational dimensions of teaching, research and service in Portugal and in

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England (Sousa, 2011). The focus is on the discursive construction of the transformations of modes of knowledge production, using discourse analysis as a theoretical and methodological framework. For that purpose, I have combined two very well established traditions of discourse analysis – the Critical Discourse Analysis developed by Norman Fairclough (2001) and the Theory of Discourse provided by Ernesto Laclau and Chantal Mouffe (1985) – in the construction of a model of discourse analysis. In this model, the concept of «order of discourse» is defined as a reservoir of meanings in which discursive battles take place. I intend to answer the following questions about the relation between the transformation of knowledge production and the academic community: «what are the dominant orders of discourse?», «what are the competing orders of discourse?» and «how do they become dominant/competing orders of discourse?».

The paper begins by presenting the theoretical and methodological framework of the research, then the analysis of the discourses about the transformation of knowledge production and the academic community, followed by a discussion of the three major conclusions of the research and the general conclusion of the paper.

When addressing the theme of knowledge production in higher education, I refer mainly to research. If teaching can be seen as a means of producing knowledge, that production is much narrower than it is for research, as it is related mainly to pedagogical knowledge. As the focus is on research, a consequent question might be why one has chosen to study academics and not researchers. In Portugal and in England, academics are the main «handlers» of knowledge in higher education. In contrast, researchers (meaning full-time researchers or those whose main task is research) are widely perceived as those who could not obtain a position in academia, which is still considered the most rewarding and prestigious place to conduct research. An interview technique was utilised to gain access to the discourses of specific actors. The interviews were conducted at two different stages and with two different purposes. In the first stage, I interviewed four key actors in the higher education system, two who are from Portugal and two from England. In the second stage, I interviewed 28 academics from Portugal and England, from different disciplines and professional categories.

## **1. Discourse analysis as a theory and as a methodology**

To simply state that this work is about the «discourse» of knowledge production and the academic community is to reduce this approach to linguistic and rhetorical analysis. Although discourse analysis might be criticised as an approach that «reduces» everything to discourse, the argument is that such a claim might be based on misconceptions about what «discourse» stands for in discourse analysis. Arguing that the meaning of the social world (and not the social world in itself) is achieved and constructed by and through discourse is not «reducing» everything to discourse.

Instead, the argument is that the meaning of the social world is conveyed in discourse and, as such, analysing discourses is a privileged way to gain access to that same meaning. I do not reduce discourse to «text» or «words», I argue that discourse analysis *per se* is a powerful framework for analysing social reality as a whole and not only its linguistic or rhetorical dimension. The theory, methods and instruments used to develop this study are transversal to the entire process and not only to the empirical part. The theoretical and methodological framework is driven by social constructionism and post-structuralism. The focus is on social practices and processes, rather than on products. It is in the context of social constructionism and post-structuralism that the specific tool for the analysis locates. It is important to stress that discourse analysis is assumed as a theory *and* a methodology and that discourse is a process in which the social production of meaning occurs:

We do not see discourse simply as «text», nor just as «langue and parole», but rather as the ensemble of phenomena in and through which social production of meaning takes place. (...) For us discourse is a complex dimension itself anchored in extra-discursive conditions of a given political and economic order. While we do not deny the efficacy of this extra-discursive dimension, what we do maintain is that this extra-discursiveness is effective in and through the discursive, and against a background of multiple discourses which affect the conditions of its production and reception. (Olssen, Codd & O'Neil, 2004: 67-68)

Drawing upon the definitions sustained by the theory of discourse of Ernesto Laclau and Chantal Mouffe, the concepts of *dominant discourses* and *competing discourses* are identified by specific struggles around the fixation of meanings that are consensual and/or contested. A *dominant discourse* can be defined as a temporary fixation and crystallisation of meaning, whereas a *competing discourse* is related to the defiance of that same meaning.

The concept of *order of discourse*, imported from critical discourse analysis of Norman Fairclough, is central to this analysis. An order of discourse is

The way in which actual discourse is determined by underlying conventions of discourse. I regard these conventions as clustering in sets or networks which I call orders of discourse, a term used by Michel Foucault. These conventions and orders of discourse, moreover, embody particular ideologies. (Fairclough, 2001: 23)

## 2. Modes of knowledge production and beyond

The field of higher education research in Europe is usually approached through the study and discussion of reforms<sup>1</sup>. If one focuses on the «transformative» and «changeable» characteristics of higher education, «higher education reform» seems a significant area to study. Higher education

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<sup>1</sup> «Assuming that the quantitative expansion of higher education has been the main propulsion force promoting the strengthening of higher education research, we can say this research field echoed the problems raised by the growth paths of the higher education systems, at least in Western European countries» (Amaral & Magalhães, 2007: 177).

researchers tend to analyse «what», «how» and «why» reforms happen and their inner rationale. In this study, although I do not ignore the relevance and impact of reforms in higher education the focus is on other dynamics of change such as the transformation of knowledge production and its relationship to the academic community. The transformation of knowledge production belongs at the core of academic life and universities, and occupies a central role in higher education. Therefore, this work lies between higher education research and social science studies, more specifically sociology of knowledge.

In this section, I will identify dominant and competing discourses from the literature in the field and from the discourse of political key actors in the area of higher education regarding knowledge production and the academic community.

For research purposes there is an assumed shift from a knowledge society, in which a specific kind of knowledge is «celebrated», to a risk society (Beck, 1998), where there are tensions about what constitutes knowledge and about the distinction between knowledge production for its own sake and knowledge production for economic reasons. Additionally, a business-like framework in higher education is assumed to be a dominant discourse, reflecting the discussion, as Dale (2007) argues, about the instrumentalisation of knowledge and the routinisation of universities. The concepts of «relevance», «utility», «accountability», «social visibility» and «sustainability» are understood as constituting the core of the emergent framework along with the reconfiguration of universities. Hence, I identified the dominant discourse related to the business value of knowledge and its visibility in broader society and the competing discourses of knowledge for its own sake and some precautionary relations between business and broader society.

To further analyse these interactions, Mode-1 and Mode-2 typology was used as theoretical lens (Gibbons *et al.*, 1994). In Mode-1, research and the quest for knowledge *per se* frame knowledge production. Mode-1 is contextualised by the ideal of academic knowledge as a contribution to human emancipation. In Mode-2, the key word is «application». There is a shift from pure and fundamental research to applied science. Mode-1 corresponds to a direct and privileged relationship between academic community and knowledge, while in Mode-2 this relationship is mediated by factors central to application. A Mode-2 university is assumed as involving the reconfiguration of the traditional missions of academics (teaching, research and service) focusing primarily on research, whereas a Mode-1 university is defined regarding the interaction between those three missions. I have assumed Mode-1 and Mode-2 as a reservoir of meanings (or orders of discourse) that go beyond the original Mode-1 and Mode-2 classification made by Gibbons *et al.* (1994). The introduction of the concept of a Mode-2 university, which does not necessarily lie in a Mode-2 order of discourse and can co-exist with Mode-1 knowledge production, is a result of such a procedure. The concept of a Mode-2 university was initially introduced by Nowotny *et al.* (2004). I will use the concept «Mode-2 university» in a different manner than those authors did. Assuming a Mode-2 university as a university focused on research and publications (implying a overvaluation of a specific kind of research) can be more

coherent with the concept of Mode-2 (and the duality between the *Agora* and a business related framework) and its implications for universities. Following the argument of Ziman (1994), I will sustain that a Mode-2 university relies on a focus on research and publications, not on teaching.

The discourse of risk society appears in the literature in competition with knowledge society and linked to a process of the shift from a knowledge society – and its celebration of a specific kind of knowledge – to a risk society – where subversion and new attitudes towards traditional academic roles are emphasised.

From the literature in the field and key actors' interviews, it seems that the specific kind of research that seems to be most valued in the academy (and that academics are pressed to produce) is related to the *Agora* – where society speaks back to science (Nowotny *et al.*, 2004) –, Mode-2 and the marketisation of knowledge in the context of a knowledge society. Mode-1 and the value of knowledge for its own sake as contextualised in a risk society emerge as competing discourses. Mode-1 and Mode-2 were assumed as two coexisting discourses, following the argument of Nowotny *et al.* (2004) in the context of co-evolution, contextualisation/social robustness and complexification. These discursive struggles seem to impact the kind of university at which society aims. Mode-2 universities seem to be rising, along with Mode-2 discursive prevalence. The main «handlers» of research are «knowledgeable people» rather than the «academic community».

The emphasis is on «visible», «valuable» and «useful» knowledge. This links to the crisis of the concept of the academic community, as well as the tension between CUDOS (Communalism, Universalism, Disinterestedness, Organised Scepticism) and PLACE (Proprietary, Local, Authoritarian, Commissioned and Expert) ethos (Ziman, 2000). The concentration on research is assumed to be contradictory to the lack of attention to «researchers» as opposed, for instance, to «lecturers».

These kinds of dominant and competing discourses can be found both in Portugal and in England, although they differ in length. In Portugal, teaching, research and service are formally and informally linked and all Professors are expected to conduct research and to teach. There is no ranking of research. In England, by contrast, research is politically assumed to be a priority for higher education and academics. The rankings of research «outputs» are very well known. Issues such as visibility to society and business have entered the realm of English academic life in a way that, at least until now, has not happened with Portuguese academic life. However, this does not mean that the Portuguese context is «free» from Mode-2 discourses, as new regulations regarding competition and assessment are currently being implemented in Portugal. This is a sign of the hegemony of Mode-2 discourses in Portugal as well. The main difference between the two countries is that in the English case, Mode-2 acts as a new discourse, and it is assimilated and naturalised as a common discourse. In Portugal, Mode-2 (still) emerges as a foreign discourse, assumed to be a current but (still) unfamiliar discourse.

The identification of dominant and competing discourses from theoretical and political sources and the process of operationalising the analysis of complex issues (as is the case for the transformation of knowledge production and the academic community) tends to produce dualities and

oppositions that may be less fruitful than a more nuanced perspective could be. Dual typologies, however, are blurred in the second part of the research work, in which I analyse the discourses of particular academics. In the following sections it will be approached the discourse analysis based on the 28 interviews with academics from Portugal and England.

### 3. Mapping out discourses on knowledge production and academic community

The process of mapping out discourses on knowledge production and the academic community is based upon a discussion on the articulations identified in the analysis within Mode-1, Mode-2 university, Mode-2, knowledge society, Mode-1 university and teaching-intensive university (meaning, a university mainly focused on teaching). These orders of discourse assume dominant and/or competing contours that are central in the discussion of the relationships between academic community and the transformation of knowledge production. The way that each discourse moves can clarify its «place» and if it is «winning» or «losing» in the struggle against the fixation of a given meaning in knowledge production and the academic community.

If discussing what is happening *within* each order of discourse seems crucial, it is also relevant to focus on the articulations *between* orders of discourse. A new discourse can emerge when a concept that is usually assumed to be «strange» or «foreign» by a given order of discourse is observed from one point forward as «natural» and belonging to that very order of discourse. A fair example is the case of the importance and value of relevance and utility in higher education. These discourses are presently assumed as a characteristic of the knowledge that «should» be produced by academics, being as (or more) important as other discourses that have been constructing the concept of academic (such as those related to the CUDOS ethos). The import of such discourses into, and by, higher education will be discussed through discourse analysis. In this discussion, the emphasises will be on which characteristics have allowed specific discourses to become fixed (or not) in a given context or order of discourse.

To determine whether a discourse is dominant and/or competing, one should consider, along with the frequency that a specific discourse is mentioned by the interviewees, the way that this same discourse is mentioned. It is important to consider its *coherence* – when the discourse forms a whole and is somehow united – and its *differentiation* – when the discourse presents distinguishable and sometimes contradictory features. The level of crystallisation of a specific discourse depends on these two processes. Mode-1, for instance, emerges as a coherent and crystallised order of discourse (as it presents characteristics that are similar, such as the importance of peer review and discipline), whereas the Mode-2 order of discourse is more differentiated (assuming a wider spectrum of contradictory discourses, such as the importance to society of the knowledge produced and the transformation of that same knowledge into business value). If one can sustains

a straightforward connection between the process of coherence and crystallisation of discourses, the more coherent a discourse is, the more crystallised it will be; the same cannot be said regarding differentiation. The process of differentiation – as it happens with Mode-2 – can be interpreted in two ways, originating from two different scenarios. It can be viewed as an unstable terrain of intensive discursive struggles that will weaken and dissolve the discourses, causing, in the end, its banishment. However, it also can be interpreted as a fertile terrain, as some distinguishable features can encounter other discourses that give new meaning (and coherence) to their elements.

### ***3.1. Articulations within orders of discourse***

What are the dominant discourses that are presented without competition and, consequently, have reached a stage of crystallisation and fixation? What are the discourses that are in conflict? What are the competing discourses that tend to contribute to the instability of dominant discourses? Finally, and most importantly, how do discourses become dominant and/or competing?

On the basis of the literature and the interviews conducted, I have established six orders of discourse:

- Mode-1
- Mode-1 university
- Mode-2
- Mode-2 university
- Knowledge society
- Teaching-intensive university

These orders of discourse have different expressions, whether one is referring to the literature on knowledge production and the academic community or the discourse of the academics interviewed. Mode-1 and Mode-2, for instance, are similarly expressed in the two fields, but the same does not happen with Mode-1 university and Mode-2 university because these two orders of discourse emerge as more crystallised in the discourse of academics than in the discursive constructions made in the literature. The opposite occurs with the knowledge society order of discourse, which is much more developed in the literature than in the discourse of academics. The teaching-intensive university order of discourse emerged only in the discourse of the academics interviewed, and I did not initially consider it as an order of discourse in the literature. This was because I assumed knowledge production to be associated with research rather than with teaching.

If a dominant and crystallised discourse is a discourse that is largely coherent and has no competing discourses, this means that both Mode-1 and Mode-2 university are dominant orders of dis-

course. The fact that some of the most distinctive discourses (like those discussing curiosity-driven research or impact) are dominant, with no competing discourses, contributes to the crystallisation of Mode-1 and Mode-2 university.

Mode-2 and knowledge society, on the other hand, are examples of differentiation; they present distinguishable and contradictory features. Along with the fact that some of the most distinctive discourses associated with these orders of discourse (like the discourse on interaction with society and business or the importance of networking) have no competing discourses it seems to indicate that a crystallisation process may occur. We could be witnessing the rise of a dominant discourse emphasising Mode-2 and knowledge society, with the latter assumed more as a risk society than a knowledge society.

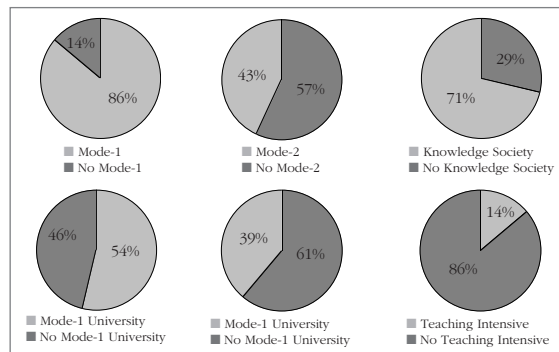
Mode-1 university and teaching-intensive university are the most fragile orders of discourse as they embrace discourses that are in competition. This tension might prevent the crystallisation of these orders of discourse and keep them from becoming dominant.

Although the focus is on the qualities of discourses, some of their quantitative characteristics are also worthy of attention because they reinforce what I have argued up to this point.

If one considers the number of interviews in which the various discourses are present, one will recognise that the dominant orders of discourse therein are Mode-1 and then Mode-2 university (Figure 1). Mode-2 and Mode-1 university are in a similar positions; they are equally dominant, but not as much as the two previously mentioned orders of discourse. The knowledge society and teaching-intensive university orders of discourse appear in even fewer interviews, and there is a substantial difference between the levels of relevance in each of those two orders of discourse. Although the knowledge society order of discourse is not frequently invoked, it is dominant because of the process of differentiation of dominant discourses that are closer to a risk society discourse.

FIGURE 1

**Frequency of orders of discourse in the discourse of academics interviewed<sup>2</sup>**



<sup>2</sup> By 'no order of discourse' I mean the frequency of interviewees who do not mentioned that order of discourse. By no mean this signify that such order of discourse was refused or denied by the interviewees.



### *3.1.1. Mode-1 as a dominant order of discourse*

Mode-1 emerges in the discourse of the interviewees as the major context within which the issues related to knowledge production are handled:

You definitely sense that there are tribes in academia, people who work in the same areas, people who go around the world attending conferences and meeting the same people. So, it is part of that tribal thing, and that is actually extended beyond the UK; it happens around the world. (...)

[And I think it happens around] a discipline. Definitely. (...) Most of the time people just work in their own tribe, with their own people. (I1 – Lecturer at an English university, Computer Science)

The CUDOS ethos is clearly present in their discourse: they identify important features such as academic freedom, disciplinary tribes, Mode-1 knowledge, the peer review process, basic science, curiosity-driven research, individual work, academic community and research within a university. These discourses present a high level of coherence and help to strengthen the Mode-1 order of discourse among academics.

### *3.1.2. The emergence of a Mode-2 university*

Along with the prevalence of Mode-1 order of discourse, one can identify the emergence of Mode-2 university order of discourse in the discourse of the interviewees. If, in the literature on the subject and in political discourse, Mode-2 seems to be a dominant order of discourse, data seem to indicate that Mode-2 dominates over the Mode-1 and Mode-2 university orders of discourse in a more diffuse manner. This interaction reinforces the tension between the modes of knowledge production that I have previously presented as coexisting with varying degrees of prevalence. On the basis of the literature in the field, I suggested the predominance of a Mode-2 broader context, in which dominant discourses could belong to the realm of Mode-1. However, Mode-1 predominates as the main order of discourse as the Mode-2 order of discourse enters the realm of higher education through the university.

Mode-2 university suggests that as universities reposition their missions, the discourses support the emphasis on research and the overvaluation of publications. These discourses are pending a quick crystallisation. Ultimately, if an academic does not do research or/and does not publish, s/he does not exist in the academy.

The specialisation of academic work seems to be another dominant discourse related to the concept of segregating research, teaching and service. The argument is that an academic must do what is in his/her «niche» and not perform all three functions. Focus on «impact» and «empirical research» are also dominant discourses. Mode-2 university, like Mode-1, is more coherent; all the discourses seem to be contributing to the construction of a university centred on research, where the main task is publication: «Publishing! That is what the game is about!» (I5 – Lecturer at an English university, Biology).

### 3.1.3. *The discourse about a Mode-1 university*

Mode-1 university is one of the most fragile discourses used by the interviewees. This discourse is not coherent or differentiated and exists in permanent tension with competing discourses, such as those that overvalue research and publications. As a result, the discourse may not become fixed and may remain subordinate.

Mode-1 university emerges when teaching, research and service are linked together in universities and in academic life. The dominant discourses within Mode-1 university are linked to the importance of the interaction between teaching, research and service and the concept of the academic: «The three functions [teaching, research and service] interact throughout the year. I wouldn't pick just one. Not at this moment. My research activity is important for my training, and it influences my teaching» (I20 – Associate Professor at a Portuguese university, Biology).

### 3.1.4. *Mode-2 order of discourse: the buzzwords of the time we live in*

Though the orders of discourse regarding Mode-1 and Mode-2 university are coherent, the same is not true of Mode-2. The Mode-2 order of discourse has many distinguishable features that are sometimes contradictory. Mode-2 moves between different discourses, including the contribution of science to the emancipation of society and the overvaluation of the production of profitable knowledge. Most of the time, these discourses do not overlap. Mode-2 encompasses discourses related to the importance of usefulness to society, interdisciplinarity, the pressures of external relations, collective work, assessment, interaction between society and business, funding driven research, relevance and impact, Mode-2 knowledge, referees and the individualisation of academic work. I expected that Mode-2, rather than Mode-1, would be dominant in the discourse of the interviewees. This did not happen due to the high level of differentiation that characterises Mode-2 discourse; it was not fixed at the time of the interviews, but it may become more so in the future: «There is a greater awareness about the connections between society and business» (I18 – Full Professor at a Portuguese university, Biology).

In the future, the level of differentiation may decrease and some crystallisation of selected and hegemonic discourses may occur. The argument is that even though Mode-2 *per se* does not emerge as «the» dominant discourse in the interviews, the fact that this discourse presents such an extraordinary level of differentiation allows us to imagine that future crystallisation may occur. Which discourses will be crystallised and which discourses will be excluded is something that can only be predicted based on the existence of competing discourses or the lack thereof. Hence, discourses related to the importance of the interaction between society and business, the value of assessment, tendencies toward the individualisation of academic work and the major influence of funding-driven research seem likely to become more fixed in their meaning. Those discourses exist in conflict. How coherent can a discourse be if it recommends interaction with society (understood here as the *Agora*) and at the same time focuses on business and profit? If this argument is right,

what we will see in the future is either the *Agora* or the business world predominantly configuring the core values related to the production of knowledge in higher education. Maybe one can argue that business is fundamentally based on interaction with society and there is no contradiction between business and society. As such interaction is mainly (or exclusively) based on economical values, rather than societal values, such an argument might reduce (and even simplify) the asymmetry between business and society, not being very relevant to the discussion.

*3.1.5. Knowledge society acting as an order of discourse and as a myth: the competing discourse of risk society*

The knowledge society, like the Mode-2 discourse, presents distinguishable and contradictory features. The two discourses differ in the manner in which this differentiation is perceived. In Mode-2, there is a binary relationship between opposing dominant discourses (such as the importance of society and the need to make a profit), whereas the knowledge society order of discourse features more diffuse, less obvious, contradictions. It can be represented by the perfect image of a silver bullet, as coined by Robertson (2008). If Mode-2 encompasses a struggle between providing value to society and ministering to business, the struggles involved in a knowledge society are even more nuanced and less clear, governed as they are by factors like chaos and risks.

I prefer to use the concept of the risk society rather than that of the knowledge society to characterise the present context. A knowledge society indicates a kind of celebration of knowledge and, simultaneously, a myth (meaning, that it is somehow undefined, but usually used as a clear and consensual meaning) that involves great expectations about knowledge. The discourse of a risk society on the other hand, challenges this myth; i.e., these are parallel orders of discourse, one dominant and the other competing. Hence, although the order of discourse identified is the knowledge society, the presence of the parallel order of discourse, the risk society, is clearly visible. The knowledge society includes the major importance given to funding and assessment and access to information as dominant discourses. The acknowledgement of pressures and the idea that long-term knowledge may be at risk are part of that same discourse: «What we are doing now is variations of what already exists and knowledge will lose in that process» (I16 – Assistant Professor at a Portuguese university, Computer Science).

The same society that seems to be celebrating the production of knowledge seems to be creating a sensation of «chaos» in the academic world, giving researchers less time to think and devaluing research careers.

*3.1.6. Teaching intensive universities: a competing discourse or a consequence?*

A discourse that refers to the idea of a teaching-intensive university emerges from the interviews. Some interviewees clearly assume that teaching can/should be a task on its own, challenging the primacy of the university focused on research or/and the interaction between teaching and

service: «Increasingly I think that there will be pressure, and probably not inappropriately, on staff to actually do more teaching» (I6 – Senior Lecturer at an English university, Biology).

A teaching-intensive university can also be seen as a consequence of an excessive degree of focus on research, a structure that emerges to «protect» research and researchers from teaching duties.

The fragility of this discourse derives from their lack of coherence («We are pressured to do more teaching» *versus* «I would rather teach than do research») and also from its lack of differentiation. None of those assumptions are assumed as distinguishable by themselves, as they lack a sense of «identity».

### 3.2. Articulations between orders of discourse

The analysis of the articulations within orders of discourse has allowed the discussion about the fixation and exclusion of meanings pertaining to knowledge production within orders of discourse. It is therefore relevant to examine which foreign and new discourses «travel» between orders of discourse<sup>3</sup>. Focusing on Mode-1 and Mode-2 articulations, one can sustain that there are new and foreign discourses, as well as discourses in tension (Table 1).

TABLE 1  
**Articulations between Mode-1 and Mode-2 (summary table)**

New Discourses	Foreign Discourses	Discourses in Tension
Assessment «game»	Focus on assessment and impact	Prediction <i>versus</i> Unpredictability
Focus on impact factors and citations		www.Knowledge <i>versus</i> Ivory tower
Focus on individual work	Emphasis on competition	Knowledge for its own sake <i>versus</i> Relevance
Knowledge you can use	Close connection between peer review and policy audience	Immediatism <i>versus</i> Reflexivity
Applied and economical value	Importance of productivity patterns	
Safe science	Negative impact on knowledge	

I have identified dominant articulations related to the interaction between Mode-1 and Mode-2, suggesting a slower rate of production of knowledge:

I don't think our knowledge is progressing at the rate that it could. I think the rate of acquisition of knowledge is slowed because if you take risks, then sometimes you will fail, but if you take risks, sometimes you

<sup>3</sup> As I have mentioned previously, *foreign* and *new discourses* can be created by articulations between orders of discourse when a discourse enters another order of discourse and is not entirely assimilated (foreign discourses) or is incorporated (new discourses).

will make a huge advance and you might discover the cure for cancer, or a cure for HIV or whatever, it doesn't have to be biomedical, it could be anything... (I3 – Professor at an English university, Biology)

Additionally there is a residual articulation related to the interaction between natural sciences and social sciences. The focus on natural science appears to dominate these interactions by fixing new and foreign discourses:

Besides the natural sciences having more funding – we can see that in the data –, I also think that forms devalue the social sciences, ignoring its specificity. The discourse of openness to business forces the social sciences to incorporate such logic. I think that there is an objective inequality that is translated into funding. This has also implications for assessment. We are being assessed by criteria that pertain to the natural and physical sciences, such as the devaluation of books and thesis supervision in relation to 25-page paper. (I26 – Assistant Professor at a Portuguese university, Sociology)

Hence, three major conclusions can be drawn from the analysis. The first conclusion is related to the coexistence of the dominant orders of discourse of Mode-1 (assumed to be the «essence» of academic life) and Mode-2 universities (with their focus on research and publications). The second conclusion regards Mode-2 as a non-dominant order of discourse in higher education and in the academy as well as a possible scenario for higher education in the future. The third conclusion refers to a broader characterisation of the present time as a risk society, privileging a specific kind of knowledge that is not necessarily the kind of knowledge privileged by the academic community.

#### **4. Three ways of looking at production of knowledge and academic community**

##### ***4.1. Mode-1 and Mode-2 universities: playing the game and (still) being an academic?***

Mode-1 emerged as dominant in the discourse of the interviewees. This development conflicts with what I have suggested in the first part of the research. Although the crisis of a Mode-1 university (a university where teaching, research and service are the three main functions of academics) can be identified in political and theoretical discourses as well as in academic discourses, this does not imply (at the level of the interviewees' discourses) a crisis in Mode-1 knowledge production. Mode-1 and its core characteristics – quality control assessed by peer review and contextualised in an academic community based on disciplinary knowledge – are at the centre of academic life.

The Mode-2 university (a university focused on research and publications) also appears as the dominant discourse. Although this tends to be more visible in the English case, one can identify some of these features in the discourse of Portuguese academics.

The «game» academics have to play – and that universities motivate or push them to play – seems to rely on a specific kind of publication and research. In the analysis of the discourse of the

interviewees, I found several tensions about what constitutes this specificity, varying from blue sky research to empirical and business-oriented research. One thing is consensual: a clear focus on research, relying much more on competition and individualisation than on collaboration and individual/community work. The kind of research that is privileged in higher education thus assumes Mode-1 and/or Mode-2 contours depending on issues such as the interpretation by universities and governments of the type of knowledge that is most appropriate to produce at a specific moment and, primarily, the perspective of the academic as the main producer of knowledge who maintains a high level of academic freedom.

The academic seems to lie between the articulation of knowledge produced according to Mode-1 and within a Mode-2 university. The existence of such articulation can be explained by the high level of coherence between these two orders of discourse, leading to a social construction of the university centred in publications and in research where the predominant academic ethos is related to CUDOS (Communalism, Universalism, Disinterestedness and Organised Scepticism).

From this perspective, the academic community will bear the brunt of this articulation. The CUDOS ethos and Mode-1 knowledge production are in tension with the core values of a Mode-2 university, which excludes teaching and service and has a vision of knowledge that is not necessarily based in academic freedom. This will impact the academic community and, eventually, will contribute to its demise.

#### ***4.2. Mode-2: a discourse under construction?***

The interaction between Mode-1 and Mode-2 university discourses might indicate a diffuse hegemony of Mode-2 discourse, reinforcing the tension between the coexistence and prevalence of modes of knowledge production. The use of the word «diffuse» is quite important here, as a Mode-2 discourse emerges in the discourse of the interviewees (and contrary to the analysis in the first part of this work) as a competing (and not dominant) discourse. Mode-2 presents a high level of differentiation around very distinguishable discourses. Discourses as different as the business value of knowledge and the *Agora* (society speaking back to science) belong to the realm of Mode-2. I also find different actors within Mode-2 discourse, such as practitioners, knowledgeable people and academics. The production of knowledge is seen in different ways within Mode-2 discourse. I argue that, due to this high level of differentiation, there are two scenarios that describe alternative ways for the production of knowledge and academic community to develop.

In the first scenario – which might be called the *Agora* – Mode-2 features will continue to be diffuse and there will be a reinforcement of Mode-1 characteristics. Democratisation of knowledge, meaning the importance of recognising the production of knowledge outside of academia, will be enhanced, along with the social role of academics within society. Higher education will embrace

teaching, research and service due to its social role and will have different audiences. The academic community will be composed of academics in the traditional sense but, above all, by citizens who are identified as knowledgeable people. Collaboration, not competition, is the key word.

In the second scenario – which might be called a business-like framework – Mode-2 will become the dominant discourse, threatening Mode-1. A specific kind of knowledge production will be privileged, focusing on applications in the «real» world. The «relevance» and the «impact» of knowledge produced for business will be a major issue for academics and for society. Higher education will increase its specialisation. Some universities will focus more on research and others on teaching, due to the pressure to produce a specific kind of knowledge related to business. Teaching-intensive universities will flourish, as there are roles to be filled in the training of younger generations. Working in a framework where business is central will threaten the academic community's core values and the progress of knowledge. The core values of the academic community – academic freedom, in particular – will be at stake because they are not vital or necessary for producing knowledge related to business. The progress of knowledge will be at risk, and «safe» science that is conducive to profit and application will be privileged. Business-like values are not the same as academic values, and there will be a cost if the academy begins to work within those boundaries. At the disciplinary level, one will witness the disappearance of disciplines that do not have value for business. Competition, not collaboration, is the key word in this scenario.

### ***4.3. Knowledge society deconstructed: the emergence of a risk society?***

The discourse of knowledge society is usually linked to an almost idyllic celebration of knowledge. Apparently, from that perspective, the academic community and its privileged relationship with knowledge are in a strategic position to use the advantages of such a society. However, as was previously discussed, knowledge society does not support the celebration of all kinds of knowledge, but only the kind of knowledge that has applications in business. Thus, knowledge society emerges, as Robertson (2008) argues, as a «silver bullet».

Knowledge society can mean that the time for the academic community has passed and the focus now is on academics (or researchers) who can deliver research related to business or research related to whatever is most valued by research-funding agencies (currently, a large number of publications in specific journals). Competition, instead of collaboration, is the organiser of academic life and the issue of «community» is being dissolved.

Despite the fact that research is assumed to be the most valued mission of academia, the status of full-time researchers is not coherent with that assumption. *The European Charter for Researchers* (2005) can be interpreted as an indicator of the underestimation of the status of researchers. Although it can be argued that a document separated from its application is not

enough to support such an argument, the fact that *The European Charter for Researchers* was developed with the collaboration of academics and in the context of the European Research Area shows that the status of «researchers» must be discussed. In an era in which higher education is all about research and publications, why are full-time researchers not more valued? Faculty is the privileged position for people who want to do research. This is partly because careers for faculty are by far more secure and have more chances for promotion than research careers. The fact that a faculty career also includes teaching and service seems not to introduce any benefit to this fact. In fact, the analysis reveals that if some professors could continue in faculty careers without teaching or service, they would do so.

Risk society (Beck, 2008) is a discourse in competition with knowledge society. Risk society translates the tensions and the discursive struggles of what constitutes knowledge and the privileged actors who manage that knowledge. The fact that we are now producing safer science can be a risk to the progress of science and knowledge. The transgressive character of the production of knowledge in the academy seems increasingly residual, and we are now witnessing academics «recycling» versions of knowledge already produced in order to get published.

## **Conclusion**

The argument is that a Mode-1 and a Mode-2 university are dominant orders of discourse, reinforcing the CUDOS academic ethos and the production of knowledge for its own sake. Although the essence of academic work (Mode-1) seems to be still present, the focus on a Mode-2 university shows that such essence is being reconfigured. Mode-2 emerges as a no-dominant order of discourse, but, simultaneously, as a possible scenario for higher education and academics. If knowledge society will continue to privilege knowledge related to business, that scenario will concretise. The probability of this scenario (and its different contours) becoming a reality depends on the outcome of higher education policies in the near future. If we continue to privilege a production of knowledge within the academy focused on specific publications, we will certainly witness a decrease in discoveries and originality in scientific work and an increase in (safe) research that is publishable. These tensions allow to suggest that we are living in a risk society rather than in a knowledge society. Competition seems to rule in the academy, and it threatens the existence of an academic community.

Will academics continue to have the possibility to produce knowledge for its own sake or/and for the betterment of global societies? Arguing that academic freedom and peer review are the major warranties of the «quality» of academic work will today elicit a wry smile from almost every academic. The pressure to produce applicable, profitable and visible knowledge is entering the academic world in a manner that was unnoticeable before. Those discourses are creating a social



reality regarding what can constitute knowledge in the realm of universities and academics. This is a contribution to the discussion about what knowledge should be produced by academics and what kind of academics our society really needs.

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