PH.D. THESIS

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ENTANGLED SIMPLICITIES
A METRICOGRAPHY ON ‘RELEVANCE’ AND ‘GRADUATE EMPLOYABILITY’ CONFIGURATIONS IN DANISH UNIVERSITY EDUCATION

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Entangled simplicities: A metricography on ‘relevance’ and ‘graduate employability’ configurations in Danish university education

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This thesis is a study of ‘relevance’ and ‘graduate employability’ metrics and of how these metrics affect university education. Different metrics affect education differently, as they configure education in different ways and are enacted into various educational designs and governance practices. In unemployment metrics, ‘relevance’ is configured as a matter of the supply of graduates from particular areas of study in relation to the demand from the labour market. ‘Relevance’ is also configured as a matter of the performance of degree programmes by the unemployment metrics. But those governed by these dominant metrics do not simply adhere to the metrics – they negotiate metrics with other metrics, just as the metrics negotiate them. Those governing through metrics negotiate if ‘relevance’ could be configured as a matter of the productivity of graduates, but some say that productivity metrics do not sufficiently allow for a fair comparison of degree programmes. At least not at the moment, but metrics are always in motion. Meanwhile, ‘relevance’ is also configured as a matter of ‘graduate employability’, or of how graduate skills match the ‘needs of employers’. Conjointly, these various policy metrics operate to improve the efficiency of higher education. In a different (bureaucratic and qualitative) policy metric, ‘relevance’ is configured as a processual matter of being responsive to data and to the ‘general will’ of employers. Numbers and bureaucratic assessments affect human beings differently. But what if ‘graduate employability’ is more a matter of graduate aspirations and behaviours, grounded in social and cultural differences, than of ‘relevant’ education? Or what if it is a property of the job? Can we produce metrics that voice sector and occupation-specific relations between education, students, and work? The thesis seeks to enable new responses, such as new policy options, a multifarious use of metrics in governance, and a deflection of the negative narratives provided by a particular array of totalising metrics. And thereby, this is not the end of the story, but a new beginning.
Acknowledgements: Entanglements that matter

Shortly after my PhD studies began in September 2016, I signed up for a seminar arranged by the Department of Anthropology at Aarhus University. It was with and about Karen Barad. At that time, I had not heard of Barad’s work. From my Master’s programme in Education at University of Copenhagen, I was mostly familiar with Foucault and Latour, but considered the visit by Barad one of the many new opportunities that had become available to me with the grant of the PhD scholarship. So I went. The introductory speeches, made by other PhD students who studied Barad, were complicated and puzzling as they began the work of dragging us into the entanglements of strange words that characterise Barad’s philosophy. The presentation by Karen Barad herself was curious and mostly about physics. But then, gradually, as other scholars who had used Barad and her agential realism presented their work, I became highly interested. Especially the presentation by Dorte Marie Søndergaard fascinated me with its social psychology approach to the study of early teen gamers and the entanglements of their virtual and “real life” worlds. After that day, I went back home to my office and started reading Barad’s book Meeting the Universe Halfway.

I highly value this book. The work of Karen Barad has made a difference to my project. Without her tangible conceptualisation of the ‘apparatus of measurement’ and her notion of ‘entanglement’, both my analysis and my conclusions had looked very different. The entire structure and narrative of the dissertation had never materialised. I had even written these acknowledgements differently.

With the notion of ‘entanglement’ in mind, I utilise the acknowledgements as a way to introduce you, the reader, to the journey of my PhD studies. The notion implies that I as a scholar, and my dissertation as a piece of knowledge, are products of the entanglements that we emerge from. These entanglements include both theoretical fields (such as the philosophy of Karen Barad), academic disciplines, research fields, academia in particular contexts, and the field of my fieldwork. I will try to lay out my entanglements as a matter of acknowledging the people and environments that I have encountered and been part
of during the previous three years. Each of them has affected my dissertation in very specific ways.

First, I wish to thank my main supervisor Gritt B. Nielsen, who has provided a warm, sound, grounded, and professional support all along the way. Gritt has always been extremely attentive to my ambitions and respectful towards my choices while she generously asked stimulating questions in relation to my work. I could not have wished for a better supervisor. As an associate professor in educational anthropology and globalisation, Gritt has associated me with the field of anthropology and other scholars within that field. This association has inspired my project via various literature and methodological takes, but also contributed with a sensitivity towards the difference between my work and the traditions within anthropology.

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I owe great thanks to all my colleagues and in particular my fellow PhD students at the Danish School of Education in Aarhus. We are a great team, and it has been a pleasure to do this journey side by side with you. The Junior Researcher Forum has been a valuable space for sharing our work and getting feedback from a wide range of perspectives within educational research. A particular thanks to Bent, my office mate, for lots of interesting discussions on quantification. Also, thanks to my former colleague, assistant professor Lise Degn (who now works at the Danish Centre for Studies in Research and Research Policy), and to associate professors Helene Ratner and Clemens Wieser for showing a special interest in my work. As these acknowledgements show, the Danish School of Education, with all its diversity of academic approaches and interests, has been a great nesting box for a cross-disciplinary PhD. My project has emerged from the crossing of the anthropology environment, the higher education environment, the policy, governance, and administration environment, the smaller new materialism environment, and the quantitative sociology environment.

As if this was not enough, the PhD study has also taken me abroad. First, in the Summer (or Australian Winter) of 2018, I went to Deakin University in Melbourne, Australia for three months to visit Professor Jill Blackmore, a critical scholar in gender inequality, higher education, and graduate employability. While Jill took great care of me and invited me to participate actively in the life at the REDI centre, other scholars that I met there also affected my work in very particular ways. During my months there, I took walks with and listened to talks by Radhika Gorur. Radhika was significant for my project in the phase where I decided to make measurements (or later metrics) the key focus of my project. Also, Lucinda McKnight contributed to this decision by directing me towards
the work of Patti Lather, Elizabeth St. Pierre, and Ezekiel Jr. Dixon-Román. Especially the reading of Dixon-Román felt like coming home. The acquaintance with his work became crucial for my project. Meanwhile, all the scholars at REDI, including also Harsha, Jessica, Signe, and Stephen and Jessica, made me feel very welcome and provided me with local experiences during my stay.

Later in 2018, I went to the University of Cambridge in England for two months. Here, I visited Professor Susan L. Robertson, who shared her work on the globalisation of education and in particular interesting literature on classification by Marion Fourcade and others with me. Both Susan and her colleague Eva Hartmann took the time to talk to me about my work, which I am very thankful for. The environment at the Faculty of Education in Cambridge was very active, and I took several important new literature references home with me from there, including the QuantCrit-perspective, discussed in a reading group on Race, Empire and Education. Also, thank you Morten for helping me find my way around the Faculty.

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As indicated above, however, these thanks are not merely a matter of my personal gratitude towards people who helped and inspired me along the way. They also compose a mapping of my relations during my PhD studies – relations that constitute this dissertation (in addition to conferences that are not listed here, but also have proved important, as well as my fieldwork, which is described in Chapter 2). Thereby also said that I do not understand the selection of theory and literature for a research project a rational choice. Rather, the selection is a product of what appears fruitful among all the recommendations and coincidental acquaintances that pass the scholar along the way. The acknowledgements are thus not merely a statement of people’s kind efforts to
contribute to my project, but an acknowledgement of the particular process of emergence that my dissertation is a result of. The dissertation is far from my work alone. But I am very grateful for how the result turned out.

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1. Introduction

This thesis is a study of ‘relevance’ and ‘graduate employability’ metrics and of how these metrics affect university education.

We live in a time highly influenced by metrics. Metrics produce knowledge on most aspects of our lives. Data are considered invaluable in all sorts of governance and administration practices, including decisions on local and national policies, financial priorities and allocations, the development of public services, and even in the management of individual staff. Data enable easily readable and assessable comparisons of individual performances, public services, and, on the global scene, states. Whether data occur as performance indicators or simply as information, they always appear to provide clear and accessible knowledge.

Thus, the knowledge produced by metrics simplifies. In fact, it is useful precisely because it simplifies. It allows for the ordering of the complexity of social life. In that sense, metrics are crucial tools in governance and administration. Meanwhile, metrics are not innocent. They do not merely represent the state of affairs – they also affect it. They shape social life in the image of the simplified reality presented in the data in unpredictable, yet profound ways. Therefore, our choice of metrics is highly important.

In this dissertation, I show how metrics simplify and how different simplifications affect the social world differently. My dissertation is not an argument against simplification. It is rather an argument against governance and administration based on totalising simplifications enacted through only a few metrics. When a few metrics, or one single metric, is deployed and proliferates across a range of contexts, social life appears too easily governable. Simultaneously, the single metric conforms social life according to its assumptions and thereby threatens the diversity and multiplicity of our world. My scepticism towards totalising simplifications and my appraisal of multiplicity are the normative points of departure for my project.
The short title of the dissertation is “Entangled Simplicities”. In this title, I emphasise the simplifying capacity of metrics as ‘simplicities’. ‘Entanglement’ serves as my critical response to totalising simplifications. Of course, an analysis of metrics and their simplifying effects is in itself a simplification, as is all analysis. Nevertheless, the dissertation in its entirety entangles various metrics with each other to show their individual limitations and to point out what each metric leaves out in the knowledge it produces of the world. Read together and through each other, the metrics produce a different knowledge of the world than when read separately. Furthermore, the dissertation entangles simplicities by adding context to the simplified product of metrics (often a single number). It turns metrics over and over to re-entangle them with their histories, social relations, and material contexts of display and use. My ambition is to counter simplification with connections and entanglements, and thereby show the partiality of the (undeniably useful) statement produced by each metric.

Thereby, the project emerges as a project engaged with the politics of knowledge. My move of re-entanglement is a reversal move to the move usually implied in the governing practices that involve metrics. While governing practices strive to simplify, I strive to connect and entangle. The project thereby locates itself in a contemporary research aesthetic of adjusting the gaze differently and move the analysis to another level in order to reveal complexity (Riles, 2000: 18; Strathern, 2004), or more precisely to show the particular connections and entanglements that a given metric is embedded in. This means that the result, in terms of an account of metrics that emphasises how the world is more complex than each metric shows, is partly a result of my mode of analysis. This move is, however, in my opinion important as an additive to the moves made in governance practices using metrics.

The dissertation is a study of the use of metrics in governance and administration practices. Governing through and with metrics is an important instance of contemporary governing practices. It comes with particular codes of conduct, is used for particular purposes, and is entangled with particular logics. Throughout the dissertation, I will unfold how governing with metrics emerges as a particular mode of governance in my field of university education.
Meanwhile, the dissertation is not only a case study on metrics as one type of governing practice, but in addition a case study on university governance. While the university is an institution of knowledge and education, a place where young people are taught by knowledgeable scholars and thereby prepared for a long (work) life, it is also an interesting case of public governance and administration. The university has been heavily reformed over the past decades, and is often at the centre of political attention. The university, and in particular the agenda of the ‘relevance’ of university education as it appears in policy and administrative practices, which also addresses the ‘employability’ of graduates, makes up the case of (the use of) metrics studied in this thesis. The case study of a particular policy agenda in a particular field interlinks with the case study of metrics as a more general governing practice.

The study of university governance and administration is not remote, though, from the field of education. One of the main points of this dissertation is that governance and administration practices interfere with educational practices as they enable and restrain them in particular ways. Thus, the study of governance and administration taking place in universities contributes to the field of education by providing insights on how the design and re-design of education is affected by its political and institutional contexts and on how students and teachers (perhaps with management responsibilities) are affected in the university governed through metrics. Metrics on university education highly affect the development of educational practices within and around universities.

1.1 The emergence of an interest in metrics

Originally, the project set out to examine a policy rather than a set of governance and administrative practices. I was particularly interested in the Danish policy on the ‘relevance’ of higher education – a policy ideal that materialised in a set of policy initiatives concerned with the relation between higher education and the labour market. In order to examine these policies and their effects on educational development, I designed an explorative fieldwork at three Danish universities (unfolded in Chapter 2). My current interest in metrics is a result of this fieldwork, where metrics continuously
entered the scene. Let me show you how this happened in the following experiences from my fieldwork:

At one of the first meetings I attend, data are explicitly on the agenda. The meeting is about the ‘employability project’ that the university has launched. The participating heads of studies and administrative staff discuss the recruitment of a new ‘analytical staff member’, who’s task it is to combine different data sets on students in order to search for patterns across the student population that the university can use in its initiatives. I write in my field notes: “I wonder what they need these analyses for. Do they rest on the assumption that there are some students that predictably will find it hard to get a job? And what do they want to use this knowledge for? Is the university trying to reject the role of the university in graduate unemployment? What kind of performativity is at play here? The sorting/valuation of subjects?”

A few months later, I interview the coordinator of the project whose meeting I attended. She explains that the project is initiated by the university management as a response to high graduate unemployment numbers.

As I leave the interview, the coordinator gives me a report of a graduate survey, which, as she explains, they use a lot in their employability work.

Around the same time, I interview a head of studies at another university. He speaks a lot about numbers. He even did some calculations himself in response to the Ministry calculations that he talks about.

I also interview a person from the Ministry, who has been involved in developing the particular calculation methods that the head of studies criticised. I ask him why they started working on these calculations and a policy directed towards lowering the graduate unemployment rates. “The numbers started speaking for themselves”, he says.
I also attend meetings fully organised around data. Here, data are distributed to the participants before the meeting, and during the meeting they discuss the numbers (particularly the ‘bad’ ones) and come up with ideas about what to do to improve these numbers. They also discuss how to understand the numbers and if they recognise themselves in the numbers.

In breaks at meetings, students spontaneously start talking to each other about graduate unemployment rates and how they anticipate their own futures in the light of these rates.

During my entire fieldwork, one of the universities is about to go through a process of accreditation. Even though accreditation was not initially a part of my interest, it comes up in almost all meetings I attend. It is anticipated with a combination of dread, earnest, and thorough preparation.

(Snapshots from various meetings and interviews, December 2016 – May 2017)

During my fieldwork, data were everywhere. Data had the ability to scare students, worry teachers, and give authority to managers. Data could predict dark futures or allow for a here-and-now relief. You could call upon data when you needed to counter an opinion. You could bring other data, new data, more precise data, to strengthen your points. Data could take the breath and agency out of someone – data would leave them naked. But data could also free someone to do as they wanted.

I have observed a countless number of conversations about data and metrics. Along the way, I became caught up with the ways data emerge in these practices and with the significance of the metrics behind the data. As I started talking more directly about data with my collaborators in the field (for example during interviews), data came to take up even more of my attention. I realised that there are a wide array of data at play, but also that some of them mattered more than others, to the extent that they were almost allowed to solely define the world. These realisations formed this project. Thereby, the project is an instance of how a normative and perhaps even political project (in a ‘dry’
academic sense) can emerge during a fieldwork. Certainly, I carry the hopes, experiences, and insights of all my collaborators in the field (including not only the teachers and students ‘on the floor’, but also the key national actors) with me into this project and its framing of metrics.

By metrics, I mean the systematic processes of calculation, quantification, categorisation, commensuration, objectification, comparison, and/or display that are used to produce and circulate measurement or assessment results. Metrics produce a simplified knowledge, which can be given the role of policy information, performance indicators, and so forth. From this definition, metrics can both be quantitative and qualitative, but what distinguishes a qualitative metric from any other type of qualitative assessment is that it ends up in a simplified and often binary result, such as ‘approved’/’not approved’, and thereby enables simple comparisons similar to the ones enabled by numbers. As Fenwick et.al. argue, numbers have displaced “contextualised, messy and ‘local’ understandings and meanings” (Fenwick, Mangez, & Ozga, 2014: 3) because the calculable and comparable knowledge of numbers is transparent, easily circulated, and has a capacity to travel. Meanwhile, as I will show, qualitative knowledge can also become a simplicity, produced by a systematic process of assessment.

1.2 Research ambitions

Universities are, as other public (and private) institutions, subject to a range of different metrics. In these metrics, universities, their activities, and their populations of teachers, managers, and students are observed and made intelligible in particular ways. If metrics, as argued above, constitute what they measure or assess, it becomes crucial to understand the wide range of metrics deployed in university governance as well as their constitutive effects. How do metrics configure university education? And what happens to university education and governance when we measure or assess it in particular ways? These important questions drive my research.

Throughout the modern centuries, human populations have become increasingly observable and intelligible, and thus governable, with the use of statistics on populations.
The works of Michel Foucault (1980), Ian Hacking (2006), Nicholas Rose (2000) and a range of other researchers have exposed this role of statistics in governance. Also education has increasingly been made countable and calculable, and thereby, again, governable (as shown by Fenwick et al., 2014). My research agenda addresses this specific mode of governance. My argument is that we need to expand the objects of governance to include also the metrics that measure education and its subjects. We need to make the metrics themselves intelligible, accountable, and governable (Berman & Hirschman, 2018: 263), and not just human beings and their activities.

Importantly, making metrics intelligible and governable is not about suppressing them. Making metrics intelligible and governable is about recognising metrics as components in the entanglements that we call universities, through which human beings become students, teachers, and managers in certain ways. Metrics as a phenomenon will not go away, and as human beings we are already deeply entangled with numbers and subject to the operations of metrics, so we need to find fruitful ways of living with them. Making metrics intelligible is also about being attentive to metrics in non-stereotyping ways. Maybe metrics can configure desirable educational realities as well as worrying ones, and operate in ways that are enabling as well as ways that are suppressive. If metrics and their operations become more discernible, policy-makers, university managers, teachers, and students might become able to distinguish better between those that are desirable from their perspective and those that are not, and to identify precisely those behaviours of metrics that they wish to enhance, govern, or eliminate. My hope is that this thesis will enable an enriched conversation about what metrics we find desirable as a society.

Thereby, my analytical ambition of making metrics intelligible in non-stereotyping and differentiating ways encompasses a political and critical ambition as well. My aim is to be able to acknowledge the productive capacities of metrics and simultaneously inspire policy-makers, managers, teachers, students, and other actors to use metrics with what Radhika Gorur calls ‘greater care’ (Gorur, 2013). I adhere to her ambition of a critique that transcends the sort of deconstruction of phenomena that sometimes appear merely rhetorically conjured-up, and furthermore moves beyond the critique of intentions and
motivations of policy actors. According to her, an analysis of the complexity of metrics provides such a critique:

...by describing the complexity (and partiality) of [measurements and assessments], spaces are created for debate and for alternative measurements and forms of assessment to be developed. [The description of complexity] invites interdisciplinary conversations around such assessments. It highlights and encourages the need for such measures to be used, not with suspicion, but with greater care. It invites the re-translation of the numbers produced into more contextualised and complex understandings.

(Gorur, 2013: 228)

The type of critique promoted by Gorur enables further dialogue (or ‘debate’). It avoids the glorification of a future without metrics, which would seem very utopic and most likely not very desirable from a governance perspective. Rather, it allows for respect and curiosity, and yet a critical stance towards the metrics.

I will provide this type of critique not only through descriptions of complexity (Gorur, 2013), or rather entanglements, but also by twisting and turning the metrics, and by experimenting with new words or phrases that might endure and from which something new can emerge (Barad, 2007: 179). This experimenting practice produces what Dorthe Staunæs calls an affirmative critique (Staunæs, 2016). The affirmative critique incorporates possible futures and thereby overcome the usual binary division between ebullience and critique (Staunæs, 2016: 5). It...

...unfolds like a curious form of critique, defending itself from moralism. That means scientifically reconfiguring what we think we know with certainty by pointing out what could be different, while simultaneously consulting common concerns and hopes for what the future may bring whom.

(Staunæs, 2016: 6)
As Staunæs explains, the point of an affirmative critique is to reconfigure the world through the analysis of tendencies in their becoming. This critique becomes relational, because it is positioned within the phenomenon studied, and because it “consults” the concerns and hopes of others – in my case in the form of an entanglement with the university context in a fieldwork. The affirmative critique encompasses the descriptive approach and goes even further by actively proposing what such more contextualised and complex understandings of metrics may look like, and how to use them with greater care.

I find the notion of an affirmative critique inspirational in my quest for a way of writing that can both be critical and respectful towards metrics (and towards people as well). It is, however, not a neutral practice to perform an affirmative critique. The experimentation with the emergence of new words or phrases can according to Patti Lather be understood as a mode of dominance, as it infiltrates the existing practices and infuses, intensifies, multiplies, and extends them in certain directions rather than kills them (Lather, 2013: 640). If a knowledge contribution is able to embed new ways of thinking into existing practices, for example through changes of the words and phrases used in these practices, it has had political effects.

I aim for political effects. I aim to produce knowledge or thought that “enables rather than represents being” (St. Pierre, 2013: 225). I wish to enable multiplicity and limit the use of totalising simplifications. I believe that a possibility of affecting the future arises from mutual respect, acknowledgement, and explorations of the future rather than polarising critique. From the combination of these aims and research interests related to the specificities of different metrics, a nuanced critique appears, which is sensitive to minute particularities within metrics and to the particularities that we might want to adjust in order to reach a more fruitful entanglement with metrics in the future.

1.3 A ‘metricography’

In order to become able to differentiate between metrics and their effects, I believe that there is a need to flesh out the intrinsic logics of metrics and the practices they are
entangled in, including their effects on the phenomenon they measure (in this case, ‘relevance’ and ‘graduate employability’, or, more broadly speaking, ‘university education’). We could call such a piece of research a ‘metricography’. By naming my approach ‘metricography’, I wish to resemble the notion of ‘ethnography’, though with a focus on metrics rather than ‘ethnos’.

There are several similarities between ethnography and ‘metricography’. Most importantly, the ‘metricography’ (like an ethnography) is a comprehensive inscription involving “rich, careful, and thorough descriptions” (Culhane & Elliott, 2017: 10). Furthermore, like an ethnography is a study of “cultures, histories, and epistemologies” (Culhane & Elliott, 2017: 6), so is a ‘metricography’. Meanwhile, these phenomena emerge differently in a ‘metricography’, as the people usually studied are replaced by metrics. The rich, careful, and thorough descriptions revolve around metrics rather than people. Thereby, the ‘metricography’ becomes a study of what metrics (and not people, as Culhane & Elliott refer to) “do and say; when and how they do and say it, and with and to whom; and the consequences of all these” (Culhane & Elliott, 2017: 10). It becomes a study that seeks to flesh out how metrics operate and articulate the world they measure or assess. Thereby, a ‘metricography’ is also a valuation study, since it looks at how the value of education is constituted through various calculative and ordering practices (Gorur, 2012: 66; Kornberger, Justesen, Madsen, & Mouritsen, 2015: 9; Mau, 2019: 5).

Meanwhile, doing ethnography is not only about producing a written product, ‘an ethnography’. It is also about specific methodological approaches to the ‘research object’ where the researcher immerses herself into the world of this ‘object’ (Mol, 2008: 9). In the case of the ‘metricography’, this ideal of immersion poses a challenge: How do I immerse myself in the world of metrics? What could that mean? I chose to immerse myself with numbers, methods descriptions, descriptions of statistical categories, data displays, reports, and so forth. I spent considerable time trying to think with the metrics, learn their operations, understand their ways of looking at the world, and get to know their articulations. I furthermore approached this challenge by focusing my fieldwork (where I was already immersed at the time I decided to do a ‘metricography’) on the situations where metrics appeared, for example in the form of data packages. I continued
to participate in the same activities as before I narrowed my focus down to metrics, but directed my attention towards the appearances and effects of metrics, including their effects on people and the role they played in the relations between people. With the help of all the other people present in the fieldwork, I came to know metrics and their effects on university education and governance in ways that allowed me to write this comprehensive account.

While the genre-wise and methodological shifts are important, the main difference between a traditional ethnography and my suggestion of a ‘metricography’ is analytical. The mode of analysis is similar to the ethnography, where the ethnographic material is the starting point and where the need for conceptualisations guides the inclusion of literature or theory. But in the analyses, I focus on the doings of metrics, rather than the doings of people. The metric is the entity that constitutes the ‘metricographic’ locus of analysis, not a ‘social’ situation (such as a meeting or other type of event). Therefore, the analysis will not progress as an analysis of ethnographic situations, but as an analysis of metricographic situations (the calculative operations of metrics, their interactions with people, and the configurations they produce).

The focus on the doings of metrics, and the ambition of making metrics governable, means that intentions and power structures emerge as doings of particular metrics rather than as reasons for particular metrics. When, for example, one of my interviewees from a large Danish lobby organisation says: “In fact, we build most of our policies on challenges, we can see [in our analyses of numbers]”, then I will direct my attention towards how the numbers contribute to the configuration of the policies of the organisation. And when she says that “…it would be a major setback if we launched analyses and things that were wrong, so we are quite conscientious about that – that people can trust the things, we present”, then I will analyse this as a matter of how metrics produce an organisation as trustworthy, and thus as an important voice. An analysis of people and their intentions as the origin of metrics is certainly possible to make, and it also contributes with valuable understandings of social life, but my research ambition fosters a different approach. It is an approach that embeds the actions of people within the entanglements of demands, histories, and responsibilities that make these
actions viable or ‘reasoned’ (Plauborg, 2015: 36) rather than merely criticisable. Thus, the analysis grasps the actions, intentions, and ambitions of people as products of, rather than reasons for, metrics (much like my research ambitions can be read as a product of my entanglements with the field and various research communities, rather than merely a reason for these entanglements).

1.4 The case of ‘relevance’ in Danish university education

As already indicated, the thesis both encompasses a study of metrics as a case of public governance and administration, and a case study of a particular set of metrics. The case that I study metrics through is the ‘relevance’ agenda in Danish higher education policy and practices. As mentioned above, the university has been a site for extensive public governance reform over the past few decades, both in the wake of the Bologna Process (Brøgger, 2019) and as a result of the reformation of the entire public sector in line with New Public Management (Naidoo, 2018). The ‘relevance’ of higher education has played an important part in these reforms.

A major revision of the Danish university law in 2003 transformed universities and other higher education institutions into large corporation-like business that can be run by professional managers and governed through ‘aim and frame steering’ (Wright & Ørberg, 2017: 76). Around the enactment of the law, Danish higher education institutions were fused into three types of institutions: Universities (providing academic bachelor and master degrees), university colleges (providing mostly professional bachelor degrees, such as teacher and nurse education), and business academies (providing practically oriented two-year programmes), which all had a size considered suitable for the new types of governance. ‘Relevance’ metrics play a significant role herein as a way of addressing the ‘outcomes’ of education.

In parallel with this development, Denmark (relatively rapidly) implemented the standardising templates from the Bologna Process (Brøgger, 2019), and did this in a way where the agenda of ‘employability’ was particularly linked to a narrow ‘Fordist’ imaginary of the labour market, for example in the qualification frameworks.
implemented in 2003 and 2007 (Sarauw, 2012). The Bologna Process also led to the introduction of accreditation in Danish higher education (in line with the guidelines provided by the European Association for Quality Assurance in Higher Education (ENQA) established in 2004), which from 2007 was carried out by The Danish Accreditation Institution with ‘relevance’ as one of the accreditation criteria. Thus, already in the first decade of the century, the ‘employability’ or ‘relevance’ agenda emerged within Danish higher education policy.

In the second decade of the 21st century, this agenda was brought to the forefront and furthermore framed in a particular economic version, arguably as a response to the increasing public expenses in relation to higher education in a country where higher education institutions and their teaching activities are almost solely funded by the state. This reinforcement of the agenda initially materialised as a series of commissions and committees directed towards the development of Danish higher education (and in some cases other areas of the public sector as well). The first in this series was the Productivity Commission [Produktivitetskommissionen], which was appointed by the government in 2012 and finished its work in 2014. The task of the commission was to map and analyse the situation regarding the level of productivity in Denmark and recommend initiatives that would improve the nation’s productivity. The commission worked on a range of topics, where education was one of them (Produktivitetskommissionen, 2014). Already before the Productivity Commission had published its report on education, the Ministry of Higher Education and Science had appointed the Committee on Quality and Relevance in Higher Education [Udvalg for Kvalitet og Relevans i de Videregående Uddannelser] to look at the ‘quality’ and ‘relevance’ of higher education more specifically, as well as the ‘coherence’ of the higher education system. This committee produced two reports, one focusing on the educational system of the future (Udvalg for Kvalitet og Relevans i de Videregående Uddannelser, 2014b), and the other one on the excellency of Danish higher education (Udvalg for Kvalitet og Relevans i de Videregående Uddannelser, 2014a).

Over the following years, a range of the initiatives proposed by this committee were implemented, including the 2014 “Sizing Model” [Dimensioneringsmodellen or
Dimensionering af de videregående uddannelser], which was a calculative and regulatory model implemented to cap the production of graduates in areas of study with a “systematic and striking excess unemployment” (Uddannelses- og Forskningsministeriet, 2014a). The implemented initiatives also included the 2015 initiative “Education Zoom”, which was a website with ‘transparent information’ about degree programmes, including average salaries and unemployment rates of the graduates, aimed at potential students (Finansministeriet, 2014). At this point in time, ‘relevance’ had become one of the contemporary cornerstones in Danish higher education policy. Together with the other main policy initiative implemented in these years, called the Study Progress Reform [Studiefremdriftsreformen] (G. B. Nielsen & Sarauw, 2017), the ‘relevance’ agenda aimed to ensure the efficiency in and of Danish higher education (as I will argue throughout the dissertation).

In 2017, the Ministry appointed yet another committee, this time with a sole focus on university education: The Committee on Better University Programmes [Universitetsudvalget or Udvalg om bedre universitetsuddannelser], which published its report in 2018 (Udvalg om bedre universitetsuddannelser, 2018b). This committee’s task was to develop more specific solutions to the initiatives recommended by the Productivity Commission and the Committee on Quality and Relevance. The committee proposed a range of initiatives, for example to re-design bachelor’s degrees to make them qualify students for the labour market (in contrast to the traditional Danish perception that a bachelor’s degree alone does not provide a viable point of access to the labour market) and the promotion of the ‘business master’s programme’ [Erhvervkandidatordningen], where students can obtain a master’s degree part time while they are in full-time employment (Udvalg om bedre universitetsuddannelser, 2018a). Thus, the series of reports progressed by gradually focusing more narrowly on university education, and by proposing gradually more specific initiatives for implementation. The published reports also gradually solidified the university programmes within the humanities as a problematic part of the Danish higher education system. The ‘relevance’ of the humanities was not satisfactory.
The discussion of the ‘relevance’ of university education, and in particular of university education within the humanities, engaged several non-government agencies, who produced a range of reports similar to those made by the commissions and committees (for example Dansk Magisterforening in DAMVAD, 2015; Danmarks Evalueringsinstitut, 2017; Danske Universiteter, 2013; Kraka - Danmarks uafhængige tænketank, 2014; the Rockwool Foundation in Skaksen & Andersen, 2018; Tænketanken DEA, 2016). The Danish Confederation of Industry (DI) and other lobby organisations produced policy proposals on the improvement of the quality (including the ‘relevance’) of university education (Dansk Industri, 2012; Dansk Industri & Akademikernes Centralorganisation, 2009), while the university association, called Danish Universities, defended their value in yet other reports and memorandums (Danske Universiteter, 2012, 2013).

These events make Danish higher education governance, and in particular the agenda on the ‘relevance’ of university programmes (with a particular interest in the humanities), a suitable case for the study of metrics. The ‘relevance’ agenda was linked to transnational notions of ‘employability’¹, but materialised in a distinct way in Denmark (Sarauw, 2012), where metrics came to play a big role, for example in the “Sizing Model” and “Education Zoom” initiatives. For these reasons, the thesis is constructed as a case study of Danish university governance in relation to the ‘relevance’ phenomenon and how it plays out within the humanities, particularly in relation to the policies that were launched around 2014-2015 and implemented during my fieldwork in 2016-2018.

Thereby also said that the case construction in the dissertation treats the ‘relevance’ agenda as one case of metrics rather than treating the three universities selected for my fieldwork as three institutional cases. Of course, there are institutional differences across the three universities, and I have deliberately selected them due to these differences. One university is more traditional, another is more progressive in its project and problem

¹ Throughout the dissertation, I generally use ‘relevance’ and ‘graduate employability’ conjointly, as I consider them interlinked and two aspects of the same phenomenon, where ‘relevance’ is a property of education and ‘graduate employability’ a property of individuals.
oriented teaching, and the third is more regionally oriented. The three universities also engage differently with metrics, and furthermore handle the issue of ‘relevance’ and ‘graduate employability’ differently. Meanwhile, as I am not studying the institutions, but the (national) metrics and the ‘relevance’ agenda, a case study with three institutional cases would not fit my purpose. I view the differences across the three universities as variations across the Danish university context, and the inclusion of three universities as a way of becoming familiar with a variety of practices.

1.5 The three arguments of the dissertation

As the reader may have noticed, glancing over the index of the dissertation, I have included a large number of chapters compared to the usual dissertation. Furthermore, the length of chapters vary greatly. I have chosen this structure of the dissertation because I wish to develop three arguments in parallel. First, I develop the argument of a particular case of metrics: How ‘relevance’ and ‘graduate employability’ is configured in Danish higher education metrics. Second, I develop the more general argument about metrics and their role in governance and administration practices. And third, I develop the methodological argument of the ‘metricography’ as a relevant approach to the study of metrics.

The first argument is developed throughout the lengthy main analytical chapters 3, 5, 7, 9, 11, and 12 that each analyse a metric in depth. These chapters are structured according to different types of metrics. The included metrics are selected for different reasons. The metrics analysed in Chapters 3, 5, 7, and 9 are selected because they are dominant in higher education practices and policies. Besides graduate (un)employment statistics, graduate income statistics, and graduate surveys (which are analysed together as a ‘set’ of metrics in Chapter 8), I also include the accreditation assessment of employer involvement in this list of dominant metrics as it is part of the official national governing of higher education. The claim of dominance of these four (types of) metrics is based on my observations from policy contexts and the three universities in my study. Conversely, the metrics analysed in Chapters 11 and 12 are selected because they show what is left out by the officially used metrics. The inclusion of these metrics represents a political
project of mine, showing that ‘relevance’ and ‘graduate employability’ is not up to degree programmes or universities alone to ensure. In chapter 11, I analyse metrics that measure ‘graduate employability’ as a matter of the social and behavioural properties of the individual graduates. Chapter 12 goes even further by analysing a not-yet existing metric, where ‘relevance’ is considered a property of the job (in what I call ‘access texture’). This chapter provides a space for an affirmative-critical experiment, which offers a new term for Danish higher education ‘relevance’ policy. Finally, the argument of the ‘relevance’ case is compiled and elaborated in chapter 13, where I look at the data produced by the various metrics. Based on the detailed analysis of each metric apparatus, the discussion of their results brings stunning new insights on university education and on why some areas of study – particularly the ones within the humanities – appear to stand out as less relevant and as providing their graduates less employability. This insight offers another affirmative-critical experiment. The first argument is wrapped up in the conclusion.

The second argument is about metrics more generally: How can metrics be understood as agencies, how do they work, and how do human beings work with them? In this argument, the use of metrics becomes a case of public governance and administration. This case may be generalizable beyond the governance of (higher) education, as many other parts of the public sector are equally complex and entangled. The analysis of metrics in the first argument provides a case for the development of this second argument, as it shows that metrics provide simplified knowledge, that they only articulate knowledge about a very limited part of the world, and that they are embedded with assumptions about the world that contribute to the emergence of the world in their own image. In addition to these points, I also develop the argument about metrics explicitly throughout the dissertation. The argument has already been started in the introduction, and in Chapter 2, I outline the theoretical grounds for understanding metrics as agencies. In Chapter 5, where I analyse the graduate wage metric, I discuss the level of comparability needed to make a metric useful in policy work. Moreover, I added some short chapters called ‘intermezzos’ in between the lengthy analyses of metrics to explicate particular points of the second argument: In Chapter 4, I analyse how people interact with and negotiate metrics in my material; in Chapter 8, I discuss
the relation between metrics and different modes of governance; and in Chapter 10, I illustrate how different metrics affect human beings differently. An affirmative-critical proposal related to the use of simplified numbers in governance is offered in Chapter 8. This second argument is, of course, also wrapped up in the conclusion.

The third and final argument is about the ‘metricography’ as a methodological approach to the study of metrics. This argument is also briefly introduced in the introduction, but mainly developed in Chapters 2, 6, 10, and 14. In Chapter 2, I introduce the methodological approach of studying metrics and their sayings and doings thoroughly. Chapter 6 (an ‘intermezzo’) briefly adds finesse to this approach by elaborating on the dynamism of metrics and how to approach this in the study. Chapter 10 (another ‘intermezzo’) similarly adds to the approach by elaborating on the affective effects of metrics. Chapter 14 (a final ‘intermezzo’) returns to the question of methodology and evaluates the ‘metricography’ as well as the theoretical foundation of the analysis, and discusses the contribution of the dissertation. The argument of the ‘metricography’ as a relevant renewal of ‘ethnography’ may appear more subtle than the other two lines of argument, as it is first and foremost illustrated by the dissertation as an example of how this genre may be enacted. I prefer to give priority to “the side of the known” in my account, rather than “the side of the knowing” (Latour, 1988), and thereby limit the methodological reflexive parts of the text to what is necessary for my argument, to give space to the analysis of metrics.

While the three arguments are somehow separate and mostly developed in separate chapters, they are also dependent on each other. The entanglement of the three arguments is necessary as they provide the empirical, theoretical, and methodological grounds for each other. For example, the properties of the methodology are co-constituted by the analysis as it moves along, while the analysis gradually takes on more aspects as the methodology is developed. Thus, I recommend the reader to start from the beginning and move ahead from there, and merely enjoy the disorder and shifts in analytical modes. Hopefully, the progression allows for a solid development of all three arguments as well as a text that is fun to read.
2. Metrics, their configurations, and enacted effects

Different metrics affect education differently, as they configure education in different ways and are enacted into various educational designs and governance practices.

The research ambition of studying metrics in differentiating ways, showing how different metrics work and are used differently, requires a research design or ‘research apparatus’ that enables a detailed analysis of metrics and what they do. In this chapter, I will outline my particular research apparatus (what I call a ‘metricography’). A research apparatus is built from particular theoretical concepts, research objects, materials, approaches or methods, modes of analysis, and ways of displaying its results. It also involves particular research questions.

The ‘metricography’ that is disseminated in this thesis is set up to work with two main questions:

- **How do different metrics configure university education and its ‘relevance’ differently?**
- **How are these metrics and their configurations enacted into educational design and university governance?**

Three key analytical elements are important to note in these questions (besides the object of study in terms of ‘relevance’, ‘educational design’, and ‘university governance’). These three elements are **metrics**, **configurations**, and **enactments**. As I will show later in the chapter, I consider these three elements ‘three sides of the same coin’. However, I find it important to distinguish between them analytically, as they each allow for a distinctive mode of analysis.

In the three following sections, I will describe how I conceptualise these elements and how they become observable in my materials. The three sections are structured in similar ways. Each section includes an outline of how scholars within the research field of
metrics (and related phenomena) approach the study of the element. It also includes a conceptualisation of the element, drawing on the philosophy of Karen Barad (2007) as a main theoretical source. Third, it includes an analytical approach associated with the element, including a description of the type of empirical material deployed to study the element. In the fourth section of the chapter, I will sum up and further specify my research apparatus, including reflections on how to understand knowledge-production and fieldwork as a matter of entanglement, and a presentation of the diffractive analytical strategy of ‘re-turns’ that I mobilise throughout the dissertation across the variety of metrics analysed. I will return to the question of ethics and a brief discussion on the philosophy of Karen Barad in Chapter 14.

The conceptualisations of metrics, configurations, and enacted effects are dominantly inspired by the work of the American quantum-physicist and feminist philosopher Karen Barad (2007). In her main work from 2007, Barad developed a philosophy described by some as a part of recent new materialist approaches (Fox & Alldred, 2017; St. Pierre, Jackson, & Mazzei, 2016). The key contributions of Barad include the reworked notion of ‘realism’ that enables me to respect the knowledge produced by metrics, a relational ontology of ‘entanglements’ that enables me to connect and re-entangle the simplicities produced by metrics, and a notion of the ‘apparatus’ that allows me to conceptualise metrics as agencies with ontologically specific performative (but not deterministic) effects (Barad, 2007). The theory of Barad will be gradually unfolded throughout the chapter.

The chapter includes overviews of various research contributions occupied with the study of metrics. My particular reading of these contributions focuses upon how they study metrics, including how their conceptualisations and research questions make some aspects of the metrics visible and others invisible. The intention is not to synthesise the findings of the different studies or to discuss the findings against each other. Rather, the intention is to lay out a field of research approaches within which I consider myself located, and to explicate how I contribute to that field. In order to spell out my contribution to the research field, I emphasise which aspects of metrics that often, or only rarely, come to matter in the existing research. I do not claim to provide a complete
overview of the research within the field. A broad display suits my purpose here, as it allows me to locate myself in the field. Let me begin with my understanding of metrics.

2.1 The metric as the unit of analysis

The first of the three elements embedded in the research questions is metrics. Metrics are the research objects and units of analysis in this dissertation. The term ‘metric’ (rather than ‘data’ or ‘numbers’) implicates a particular configuration of these research objects that makes particular aspects of them visible. In this section, I will outline the difference between metrics, data, and numbers as research objects, and conceptualise metrics as ‘apparatuses’ that do something rather than static entities. I will furthermore draw out some relevant concepts from the ‘sociology of quantification’ and other related research fields that enable me to show what metrics do, and finally briefly describe the materials I use to study the operations of metrics.

2.1.1 Metrics and related phenomena in existing research

One of the characteristics of the research field that relates to metrics is the variety of research objects studied. This variety is pointed out by Elizabeth Popp Berman and Daniel Hirschman, who reviewed eight books in an attempt to describe the ‘sociology of quantification’ as an emerging but not yet well established field. In their discussion of how to study ‘quantification’ (which in my delineation only partly covers the operations of metrics), they state that we lack sharp “conceptual categories for thinking about what quantification really is” (Berman & Hirschman, 2018: 265). One of the findings from their review is...

...the blurriness of “quantification” and the need for conceptual categories that will help us unpack it. What qualities are specific to rankings, or indicators, or models, or algorithms? What does quantification share with related concepts like commensuration or categorization? ...[When valuation] produces not a number but a binary yes/no, are we still talking about quantification? Maybe not, and yet the
process of producing that binary seems quite similar to that of calculating...

(Berman & Hirschman, 2018: 265-266)

While Berman and Hirschman specifically look at quantification, the blurriness they refer to only amplifies when we add objects such as data, big data, numbers, statistics, standards, and assessments, and processes such as datafication, evaluation, documentation, audit, and calculation. The carving out of the research object affects how the world materialises and thus it also affects the findings enabled in a particular study. The differentiation between the different terms or research objects is, however, not self-evident, as most scholars who study these phenomena do not clarify how they distinguish their specific research object from other related objects.

One relatively common research object in the research field of quantification is ‘numbers’. Numbers are conceptualised differently in different studies. Scholars such as Nicholas Rose and Theodore M. Porter view numbers as technologies of control (Rose, 2000: 12) or of trust and objectivity (Desrosières, 1998; Porter, 1996). For example, Theodore W. Porter has studied how numbers and quantification can be understood as strategies of communication that works across both social and geographical distances. He claims that numbers are important for weak elites, because numbers are able to enforce trust when professionals and politicians are generally not trusted (Espeland, 1997; Porter, 1996). Nicholas Rose (2000) describes how numbers create populations and other units of government, and thereby make both the government of these units as well as the evaluation of governance possible (Rose, 2000: 197-198). The conceptualisation of numbers as a technology emphasises the role of numbers in wider governmental processes. Other studies, however, emphasise the inherent qualities of numbers. Here, the fabrication of the number and its embedded meaning becomes the focus of research. Some scholars conceptualise numbers as embodying cultural assumptions, for example ideas about “who the [tested] child is and should be, and who is not that child” (Popkewitz, 2012: 183), or ideas about how rankings make kinds of people (Sauder & Espeland, 2009: 69).
Numbers are, however, just one type of object related to metrics. We can also talk about ‘data’. Data is in itself an interesting conceptualisation of the research object, as it does something different to the research object than what the term ‘numbers’ does. In some sense, the term ‘data’ unifies numbers into one undifferentiated kind, while the term ‘numbers’ differentiate data as they materialise into something particular. Thus, when the research object is studied as ‘data’, the research object becomes generalised and detached from its particularities. This enables the study of the general functions of data, such as with the term ‘catalyst data’, describing data that catalyse change in schools, municipalities, or states (Lingard, Martino, Rezai-Rashti, & Sellar, 2016); with the term ‘big data’, describing the algorithmic treatment of large pools of data collected from the everyday-use of digital technologies (Mayer-Schönberger & Cukier, 2013); and with the study of processes of establishing and maintaining data (Fenwick et al., 2014; Ratner & Ruppert, 2019). Thus, the term ‘data’ generalises how numbers or metrics operate.

Reversely, when numbers or data become ‘performance indicators’, they are studied in relation to a particular use of the data. As performance indicators, numbers appear as embedded in particular organisational processes such as ‘audits’ of for example the performance of different departments or programmes (Power, 1999; Shore & Wright, 2015a). When data are studied as performance indicators, data can still be configured as generalised in the sense that it is their function as performance indicators that receives attention rather than their content. However, some studies rigorously unfold the fabrication of performance indicators and relate their inherent qualities to their use (see for example Merry, 2016). In both cases, a performance indicator is a particular contextualised material form of number or data related to organisational targets and strategies (Redden, 2019: 16), and thereby the term highlights the uses of the data in a particular managerial or governmental context.

My own cut of this multiple research object as metrics intends to emphasise the multiplicity of the objects produced in measurements or assessments. As illustrated above, different aspects become visible depending on the term used to define these

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2 Here, I refer to quantitative and administrative data produced by or incorporated in metrics, and not to data in the sense of my ethnographic research data.
objects. I find both the inherent qualities of particular numbers, the generalised processes around data and performance indicators, and the technological function of numbers as governance tools important aspects of metrics. Furthermore, ‘numbers’, ‘data’, and ‘performance indicators’ are used differently in different political and institutional contexts, which makes it important to be attentive to this range of notions.

More importantly, however, the term ‘metric’ also relocates the unit of analysis from the static outcomes of measurement and assessment practices to the metric as an active agency that produces these outcomes. Metrics do something. Metrics categorise or classify (Bowker & Star, 2000; Fourcade & Healy, 2017), commensurate (Espeland & Stevens, 1998), quantify (Mau, 2019), calculate (Stevens, 1946), and display (Ratner, 2017), and thereby translate (Gorur, 2013), objectify (Daston & Galison, 2007; Desrosières, 1998), compare (Brøgger, 2016; Novoa & Yariv-Mashal, 2003; Staunæs, 2017), standardise (Bowker & Star, 2000; Brøgger, 2019; Higgins & Larner, 2010; Lampland & Star, 2009; Lawn & Grek, 2012), conform, and simplify social phenomena, such as education. Which of these operations that are part of a specific metric, and how the metric particularly acts, is an analytical question.

The study of the doings of metrics rests on a long tradition of research. The earlier studies interested in metrics (often statistics) and quantification showed how the general proliferation of numbers has become possible through certain developments in ideas and technologies. For example, Alfred W. Crosby (1997) studied the historical developments required to enable a rationality of quantification, including the development of mathematics, the adoption of the Hindu-Arabic numerals, the standardisation of time, and the mapping of space. In a similar way, but with an explicit inspiration from Foucault, Ian Hacking has studied a crucial notion within statistics, namely probability, and the entanglement of statistics with a particular relation between the state and its population. In his works, he shows the ideas embedded in the notion of probability at different times, the foundations for developing the understanding of probability we have today (or when he wrote his works), and the utilisation of probabilities in today’s politics as a matter of controlling the unpredictable (Hacking, 1991: 185; 2006). In addition to these historical studies of quantification and statistics, Alain Desrosières has examined
the history of particular versions of statistics and their emergence into the successful art of crafting statistical objects that we know today (Desrosières, 1998), while Porter has studied the history of statistical methods and their role in professional and governmental work (Porter, 1996).

While these studies were mainly occupied with how quantification and statistical calculation in general has developed, other more recent studies show an interest in particular quantification processes. These studies are often found within the field of anthropology. Several STS-inspired studies pay attention to the particularities of different metrics, especially in relation to the materialisation of data. These studies ask questions about the technical work of producing, cleaning, displaying, and distributing data, the infrastructures of data, and the negotiations around data involved in these processes. For example, Ratner and Ruppert study how data is made algorithm-ready by the use of data-aesthetic practices, particularly focusing on metadata and data cleaning. Through these practices, issues of excess data, absence of data, and inaccuracies in data are made ready and readable for algorithms. In this study, they draw on a concept of data as crafted (Ratner & Ruppert, 2019). In a similar vein, Leonelli, Rappert and Davies conceptualise the matter of data being “constructed as (in)significant, partial or complete, (un)intelligible, or (in)accessible” as a matter of ‘data shadows’ (Leonelli, Rappert, & Davies, 2017: 194; 195). In these STS-inspired studies, the unit of analysis is most often the human actors and technologies around the data, working on the data in different ways. The data themselves, including their meaning, are not the key focus of analysis, and the data contexts appear exchangeable. Thus, data become objectified entities that can be analysed irrespectively of their particularities.

Several ANT-inspired studies focus on the emergence of numbers, including how complex learning practices or other complex phenomena are translated into numeric items that are easily comparable and calculable (see for example Fenwick & Edwards, 2014; Hamilton, 2012). These studies emphasise the material practices involved in translations, including material artefacts such as “benchmarks, inspection forms, achievement tests, databases, league tables, and so forth” (Fenwick & Edwards, 2014: 44). The translations are thus dependent on large networks of human and non-human
actors to become fixed and kept in place. The approach both allows for studies that emphasise all the material entities around the data, keeping it in place, and for studies that emphasise the networked character of metrics or data themselves, thereby opening the ‘black box’ of data.

One example of ANT-inspired research opening up metrics is the study of the Australian website “My School” by Gorur (2013). In this study, she analyses the production of comparable numbers on schools as a series of translations, where the language and mathematics performance of the students becomes a proxy of student performance in general, and where the proxy of student performance becomes an indicator or proxy of teacher and school efficiency (Gorur, 2013: 225). In the process, an Index of Community Socio-Educational Advantage was developed in order to make ‘like’ schools comparable, thus setting aside student differences and disadvantage, leaving back only school performance as an explanation of differences in student achievements (Gorur, 2013: 227). When analysing the particular variables of the metrics through the notion of translation (Gorur, 2012, 2013), Gorur is able to capture aspects of the specific operations of the metrics and the conceptions embedded in them.

Outside the field of education, other ethnographic studies also capture the specific operations of metrics. Sally Engle Merry studies the creation of human rights indicators in the United Nations and U.S. State Department by comparing several of her own ethnographic studies (Merry, 2016). Quantification processes, according to this and other studies, rely heavily on experts and communicative goals. The result is metrics that “embody specific ways of seeing the world” (Berman & Hirschman, 2018: 259). These anthropological studies make visible the production processes and the groups of people that have influence on the development of metrics.

In my study of metrics, I am particularly inspired by the ways Gorur (Gorur, 2012, 2013) and Merry (2016) are attentive towards the specificities of different metrics and the importance of these specificities for the knowledge output of the metrics. Some metrics involve quantification and comparability, while others involve documentation and expert assessment. Some metrics materialise as numbers, while others materialise as assessment reports. Some metrics are used for ranking, while others are used for
decision-making. These particular processes, materialisations, and uses are all relevant in the description and analysis of particular metrics. The capabilities of the metrics lie in the particular operations of the metrics, such as their particular modes of quantification, objectification, materialisation, and so forth. Thereby, my first approach to the study of metrics is an approach that differentiates between different metrics and their particular operations.

2.1.2 An agential realist conceptualisation of metrics as ‘apparatuses’

Karen Barad’s philosophy (2007), which she calls ‘agential realism’, offers a theoretical framework that allows me to conceptualise metrics as productive agencies that do something and moreover to ascribe their ontological specificities a crucial role in this. Thereby, the analytical ambition of producing an analysis that is able to distinguish between metrics and their operations becomes realisable. Furthermore, her theoretical framework allows me to view the results produced by metrics as real, though in a particular sense.

‘Agential realism’ does, as the name indicates, involve a particular understanding of the ‘real’. It is a realism that starts from the relational character of the world and thereby places the ‘real’ in a relational context. With her move from individuality to relationality, Barad dismisses the idea of individual objects or entities with fixed boundaries and pre-existing properties. She replaces these entities with phenomena as the primary ontological units of the world. The replacement indicates that phenomena are something else than individual objects or entities with fixed boundaries. According to Barad, objects do not have an essence, or existence, independent of or prior to the context within which they are embedded. Rather, they emerge out of entanglements. The ‘components’ of the world, be it university buildings, students, teachers, quality staff, or performance indicators, emerge and obtain their properties by virtue of the entanglement within a phenomenon such as ‘university education’ (Barad, 2007: 135-148; 265; 333-337). When a component emerges in a certain way within a phenomenon, it becomes real within that phenomenon. It obtains matter and meaning as a product of the phenomenon. There is no objective real outside phenomena that we (or metrics) can seek knowledge about. Rather, reality emerges as things-in-phenomena (Barad, 2007: 205-207).
According to Barad, the determination of components is a product of *apparatuses*, which are discursive-material practices that cut boundaries between objects, subjects, and other components within phenomena and thereby ascribe them matter and meaning (Barad, 2007: 135-148; 206; 333-337). The cuts do not merely create separations and boundaries, but also connections. They are ‘cutting together-apart’ in one movement (Barad interviewed in Juelskjær & Schwennesen, 2012: 13). In my conceptualisation, metrics are such boundary-setting apparatuses. Metrics (and many other practices) contribute to the becoming of components through the specific ways they measure or assess. This means that reality in this philosophy is understood in a reworked sense where the measured reality is co-produced by and entangled with the metrics we use to produce knowledge about it. The components or entities measured by the metrics, such as ‘unemployed graduates’, ‘skills’, ‘a wage gain’, or ‘immigrants’, do not exist independently of the metrics, but emerge from within the entanglement of metrics, higher education systems, policy agendas, labour market structures, and so forth.

This conceptualisation of ‘the real’ reverses the representationalist view that metrics, when they measure, *represent* reality, or the objects of the world that make up reality. When metrics are understood to represent reality, reality is pre-existing, and the metrics are produced afterwards by people who make that reality transparent (St. Pierre et al., 2016: 103). When metrics are understood as a part of an entanglement that also includes the measured reality, this reality does not pre-exist the metrics that describe it. Rather, the metrics and the reality they describe are entangled in complex relations of simultaneous becoming and mutual co-constitution (Juelskjær, 2009: 52). As Brøgger phrases it, “in onto-epistemological processes, the realizations of the world cannot be distinguished from the ontologies of the world” (Brøgger, 2018: 357). In this sense, realisations (or knowledge) and ontologies (or reality) are in principle inseparable, because they are cut out by the same operation. Reality emerges in a particular

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3 A different conceptualisation than for example Mau (2019: 7), who uses the term ‘apparatus’ at a ‘higher’ analytical level, as an “apparatus of comparison”, in which the ontological specificities of different comparisons are not captured.
configuration as it is being realised (both in the sense of being known and in the sense of coming to be) in a certain way.

Barad speaks of apparatuses as producers of differences (Barad, 2007: 140-146). A metric establishes differences between the subjects and the objects of the metric, or between the knower and the known. Barad makes this point with reference to her notion of intelligibility (Barad, 2007: 142-149). Knowing is about making an object intelligible or observable for the apparatus (in this case, the metric). This intelligibility is determined by the apparatus, which make one part of the world intelligible for another part of the world. I can illustrate the notion of intelligibility with the example of the apparatus of university enrolment, where differences are made between those applicants who are accepted and those who are rejected. This difference matters in the way that it constitutes the daily movements of a lot of people (whether they go to the university or somewhere else) and furthermore constrains their futures in particular ways. Through the physical arrangement of applications, assessment criteria, offices where assessments are taking place, particular officers employed and instructed to evaluate applications, restrictions on the number of students allowed, and so on, the applicants are made intelligible for the university in a particular way.

Thereby, the notion of ‘apparatus’ opens up analysis of differentiation. As Lis Højgaard and Dorte Marie Søndergaard put it, “apparatus is an analytical concept that can be used to conceptualize the location and space of production with respect to becoming” (Højgaard & Søndergaard, 2011: 346). The apparatus is not passive, but actively enacts the world and the differences between components in their becoming. Højgaard and Søndergaard list “intersections, distinctions, boundaries, demarcations, differences, categorisations, etc.” as possible practices of the apparatus (Højgaard & Søndergaard, 2011: 346). With the notion of the apparatus, these differentiations become practices rather than independent characteristics of the world. The practices are a part of the measurement or assessment results produced by the practices. Thus, in this perspective, we cannot think ‘data’ or ‘numbers’ as something independent of these practices. The practices of establishing differences are part of the measured phenomenon.
My research object is composed of a number of metrical apparatuses, including statistical calculations, surveys, and process assessments. Thus, my understanding of apparatuses is not limited to experimental science apparatuses, nor to statistical measurement apparatuses, but involves economic, sociologic, bureaucratic, and management apparatuses that are active across research contexts, sites of policy production, and the practices of university administration. All these apparatuses produce knowledge on reality-within-phenomena (for example ‘education-within-the-‘relevance’-phenomenon’) and thus contribute to the production of phenomena. My conceptualisation of different metrics as different versions of the same thing, as apparatuses, makes it relevant to study them with the same analytical approach. There are important differences between metrics, but those differences are part of their ontological specificities, and thus a concern for analysis rather than pre-given.

2.1.3 Analytical approach to the study of metrics
With the conceptualisation of metrics as apparatuses, I am interested in how they set boundaries, produce differences, and determine objects. In other words, I will analyse how the metrics categorise, classify, commensurate, quantify, calculate, display, translate, objectify, compare, standardise, and simplify. To tease out all these practices of the metrics, I will conduct a rather meticulous analysis of the metrics, which goes into the specificities of each metric. Thus, I will begin the analysis of each metric with an analysis of how it operates. In several occasions throughout the dissertation, a range of similar metrics measure or assess the same phenomenon in only slightly different ways. I consider these as several iterations of the same type of metric. I will typically analyse one or two selected examples of each type.

The metrics, as they materialise in questionnaires, calculation models, definitions, assessment criteria, and so forth, make up my main material for this analysis. Metrics emerge in many material forms. They are described in method-sections or documents, or in guidelines and principles. Their results are displayed in spreadsheets, reports, data packages, and journal articles. From here, they spread into policy documents, press material, and posters attached to doors at universities. These different materialities of the metrics are part of their ontological specificities, because they add structure,
functionality, purpose, and audience to the metrics. As I will show in Chapters 3A and 3B, the display forms can alter the boundary-setting practices of metrics significantly.

When I study metrics, I study all these different material forms. Method-sections in reports or separate methods documents are very important as analytical material for the study of the operations of metrics, because they make explicit (some of) the ways the metrics classify, calculate, document, commensurate, rank, assess, and so forth. The displays are both useful in the analysis of the metrics and of their configurations and enacted effects (which I will return to in the following sections), because the particular form of display and distribution of the results are closely linked to how they affect others. Thus, I pay careful attention to the material forms of the metrics throughout the analysis and include screenshots of (some of) the material forms of metrics to help the reader navigate all the metrics and data.

2.2 Metrics as configurative agencies

The next element from the research questions was ‘configurations’ or the ‘configurative’ capability of metrics. The point of the notion of the ‘configurative’ is to enable an analysis of how the metrics, through their boundary-setting operations, lay out the world in a particular way. This particular ‘lay out’ is what I call a configuration. The analysis of configurations adds to the analysis of operations in the sense that it specifies the discursive-material ‘outcome’ of the operations of metrics in the form of (materialised) ideas about the world. I am particularly interested in configurations of ‘university education’ and ‘relevance’ (and ‘graduate employability’). In this section, I will first elaborate on the notion of the configurative from a theoretical perspective, then show how it is studied by a few other scholars, and finally describe how I analyse how metrics configure education and ‘relevance’.

2.2.1 The configurative performance implied in ‘making intelligible’

When metrics operate (for example when they categorise, calculate, or document), they configure the measured phenomena in a particular way. They simultaneously determine the properties of components like students, teachers, and programmes and make them
intelligible or known to them. In ‘agential realism’, intelligibility is a matter of becoming. The world emerges as it becomes intelligible:

*In traditional humanist accounts, intelligibility requires an intellective agent (that to which something is intelligible), and intellection is framed as a specifically human capacity. But in my agential realist account, intelligibility is an ontological performance of the world in its ongoing articulation.*

(Barad, 2007: 149)

As Barad says, intelligibility implies an ‘ontological performance’ of the world as it is articulated by for example a metric (see also Taylor, 2016: 211). This ‘ontological performance’ or articulation constitutes my notion of the ‘configuration’. The metrics that I analyse configure for example ‘employability’, ‘university education’, and ‘students’ in particular ways as they make them intelligible. The configurations of these entities follow from the operations of metrics. This is why it is important to differentiate between the different operations of different metrics in the study of them.

The analysis of configurations is not separate from the analysis of the operations of metrics, but extends the analysis of the operations to the broader ‘theories’ of the world that these operations articulate. Barad explicitly conceptualises apparatuses as physical arrangements that embody ‘theoretical concepts’ in matter (Barad, 2003: 819; 2007: 129). If we return to the example of university enrolment used in section 2.1.2, the meaning of being qualified for university education can be described with reference to the specific physical arrangement of application formats, assessment criteria, evaluation processes, grade systems, numbers of seats in different parts of the universities, and much more. Being qualified obtains a different meaning if it is based on grades alone rather than admission tests or interviews. These different metrics are each entangled with different ‘theoretical concepts’, ‘layouts’, differentiations, or configurations of what it means to be qualified. Most likely, the boundaries between those who are accepted and those who are rejected will be different, and thus the notion of being qualified will also have a different meaning and material outcome, if the apparatus is altered.
Configurations or ‘theoretical concepts’ are not merely ideational. As Brøgger argues, governing technologies (such as metrics) reconfigure reality and “do not simply offer different perspectives on a pre-established reality” (Brøgger, 2018: 357). When for example ‘relevance’ is configured as a matter of the ‘wage-gain’ of people with a university degree compared to those without one, it simultaneously materialises in the presence (or absence) of differences in money flows and in the material circumstances of people’s lives. An ‘ontological performance’ or configuration has ontological consequences. It produces a particular layout of the world (including properties of and relations of difference between entities) embedded in the process of knowing that is performed by the metric.

Thus, metrics configure the world by performing it ontologically as they make it intelligible. The results are (materialised) theoretical concepts. However, it is important to note that apparatuses are not free agencies that are able to configure in any way ‘they want’. Configurations are dependent on matter. Matter has a history that constrains and enables reconfigurations in certain ways. For example, categories used to categorise and quantify graduate unemployment or skills cannot emerge in any form, but are constrained and enabled by their material and discursive histories. Thereby, an analysis of configurations connects the metrics to the broader entanglements that they are part of.

2.2.2 Studies of configurations embedded in metrics

The study of configurations in metrics is not widespread, as most studies around metrics, especially in relation to education, are concerned with either how they are crafted or what effects they have (which I will return to in section 2.3). The analysis of configurations relies on a technically detailed knowledge of particular metrics. I found such a level of detail in the work of Sally Engle Merry (2016) who, as already introduced, studies indicators. As Merry points out, the ‘politics’ of the indicators are related to underlying social theories embedded in them, which, though rarely made explicit, imply a particular response (Merry, 2016: 20, 45). I did, however, not find a sensitivity to these ‘social theories’ or configurations in many other works. Our analytical sensitivity to these ‘social theories’, or the different configurations related to the ontological specificities of
metrics, is under-developed. However, a few other studies (Dixon-Román, 2016b; Gillborn, Warmington, & Demack, 2018; Gorur, 2013; Popkewitz & Lindblad, 2016) use an approach that engages with the particularities of the quantification and calculation practices (and a range of other practices) performed by metrics, and the ‘theories’ embedded in these practices.

Interestingly, David Gillborn, Paul Warmington, and Sean Demack (2018) have proposed a critical race theory of statistics, or what they call ‘QuantCrit’. The approach seeks to “build on [...] previous studies in order to identify some principles that are explicitly derived from [Critical Race Theory] to guide the interpretation and use of quantitative data” (Gillborn et al., 2018: 168). Critical Race Theory questions the neutrality and objectivity of science, and conceptualises ‘White logic’ as an epistemological aspect of ‘White supremacy’. QuantCrit pursues this critique and brings it into the study of quantitative methods. The authors argue that ‘race’ is more than a variable, and that numbers on race reflect the interests, assumptions, and perceptions of White elites. Therefore, they propose that we interrogate the nature and consequences of categories employed in quantitative studies as well as the statistical calculations and models, which are dependent on the assumptions behind running them. While the QuantCrit approach, like studies on the construction of the Australian Statistical Indigene (Walter, 2010), is particularly interested in race, I find this research inspirational, because it makes the particularities of numbers and the assumptions embedded into categories, regression models, and interpretations of patterns visible. It becomes clear that there is more to metrics than what people do with them – particular assumptions, interests, and power relations are embedded in them.

Ezekiel Jr. Dixon-Román is one of the few scholars who studies metrics with inspiration from Barad and with a particular focus on configurations. With the help of Judith Butler (Butler, 1993: 13), he shows how the labelling of particular groups, such as black males in his case (or humanities graduates in my case) as statistically deviant in some way acts on them and others in “mysterious and tricky ways by re-constructing their existing understanding of Black males” (Dixon-Román, 2016b: 163), and by appropriating black males and their self-identities. These interpellation effects are constituted by the
material histories of statistical apparatuses and of the interests driving the measurement, and thus entangled in a wider set of practices. Dixon-Román emphasises how the ‘measured phenomena’, as well as the apparatus and other entities involved in the measurement, are (re)configured through the practices of measurement (Dixon-Román, 2016b: 163).

Dixon-Román’s work is part of a very recent and only just emerging research strand called ‘cultural studies of numeracy’ (Lather, 2016a, 2016b) or the ‘cultural studies of quantification’ (Dixon-Román, 2016b). The strength in this research strand is that it draws on new materialist writers such as Deleuze and Barad in an attempt to overcome the representationalist understanding that numbers are passive representations of the object they measure. Ezekiel Dixon-Román suggests that we need to “imbue number with ontology” rather than conceive of numbers as a “simple signifier representing the measurable social world” (Dixon-Román, 2016a: 483). This approach asks us to re-entangle the numbers produced by metrics with the techniques, political ideas, cultural practices, and histories they have emerged from (Dixon-Román, 2016a: 484; Lather, 2016a), and the agencies and materialities that operate within them (de Freitas, Dixon-Román, & Lather, 2016: 432). Thus, this approach holds an important capacity to ask questions that allows for the study of the configurations embedded within metrics.

The notion of the configurative capability of metrics encompasses the questions asked by particularly Popkewitz and his ‘social thesis’ embedded in the numbers (Popkewitz & Lindblad, 2016), Merry and her ‘social theories’ (2016), and Gillborn, Warmington and Demack and their focus on ‘assumptions’ embedded in the data (2018), all introduced above, as well as the Stefan Thomas Hopmann notion of the ‘expectations’ embedded in questionnaires (Hopmann, 2008: 425). These approaches help making the metrics and their configurative performances visible.

2.2.3 Analytical approach to the study of configurations
In my analysis of the configurations produced by metrics, I focus upon the different ways different metrics conceptualise the phenomenon in question. The analysis of the configurations of metrics could perhaps be named an ‘intra-metric material-discursive-analysis’. This tentative name highlights the internal relations between the components
of the metrics and its discursive-material operations of boundary-setting or production of differences. An ‘intra-metric material-discursive-analytical approach’ resembles discourse analysis in the sense that it studies the structures of difference embedded in the material arrangements of metrics. However, the ‘intra-metric material-discursive-analysis’ is not primarily an analysis of discourse in language structures, as in the case of a ‘traditional’ discourse analysis (ie. Laclau & Mouffe, 2001), but an analysis of quantification processes and quantitative structures (as well as other processes and structures embedded in metrics) that set boundaries and produce differences between objects as they materialise as such in the world. The configurative aspects of a metrics are moreover not limited to the work of producing a number, but extends to the practices and materialities that the numbers (or other assessment results) are entangled with, such as media stories, quality assurance practices, regulations, infrastructural arrangements, and so forth.

2.3 Enacted effects of metrics and their configurations

The final elaboration of the research questions concerns the ‘enacted effects’ of the metrics and their configurations. In my analysis, I explore some tendential enactments that I read as entangled with the operations of, and configurations embedded in, the metrics. The analysis explores (potential) present and future enactments of educational designs and educational governance, or in other words how policy-makers, managers, educational developers, and students take up the invitations entangled with the metrics and navigate in order to improve ‘relevance’ or ‘graduate employability’. My research apparatus does not allow for a systematic analysis of the extent of these enactments (or ‘effects’), nor does it enable me to locate non-effects. The total mapping of effects is however not the aim of the project. Rather, I wish to open the metrics to governability by questioning their appropriateness when some tendential effects are taken into consideration (in line with the study of ‘tendencies in their becoming’ that constitute the ‘affirmative critique’ described in section 1.2).
2.3.1 Enactments as realised constitutive effects

I understand enactments as realisations of (some of) the potentials embedded in the metrics. The potential ‘effects’ are laid out in the composition of the metrics, including their operations and configurative cuts. Through their embedded configurations, metrics enable certain responses from different actors and thereby invite policy-makers, managers, teachers, and students to navigate or govern themselves and others in particular ways (just as these actors invite the fabrication of particular forms of metrics). If we return to the student enrolment example, an apparatus that makes potential students intelligible in terms of their grades configures the notion of ‘being qualified’ in a way that might be taken up by potential students as an effort to achieve good grades in secondary education. An apparatus of written applications may be taken up by students in other ways, for example as an effort to write the best possible application and perhaps purchase professional help to achieve the best possible product. Thereby, the particular enrolment apparatus implies certain enactments or realisations, wherein potential students emerge in particular ways. As Barad says, there is a (non-deterministic) causal relationship between discursive-material practices or apparatuses and the actualised relations in the world (Barad, 2003: 814). The potential students can enact themselves, and are enacted, in different ways in relation to the various enrolment apparatuses.

The notion of ‘enacted effects’ resembles the notion of ‘constitutive effects’ of metrics (Dahler-Larsen, 2007), though philosophised within a different tradition (see also Sellar & Thompson, 2016: 498). The important distinction between these two notions is that while ‘constitutive effects’ (like ‘configurative capacities’) are properties of the metrics, the ‘enacted effects’ are realisations that emerge in relations between the metric and other parts of the entanglement. With the notion of ‘enacted effects’, I aim to involve other actors or entities in the realisations that emerge from metrics. Apparatuses such as metrics do not determine the world alone. As Barad phrases it, an apparatus contributes to the configuration of a phenomenon. The apparatus creates a ‘field of possibilities’ that enables and constrains practices (Barad, 2003: 819), such as governing practices within education. Thereby, the effects of the metrics that I study are not to be understood as occurrences that are determined by the metrics, but more as materialisations of a reality that emerges simultaneously with the metrics. These
materialisations for example include the becoming of (the subjectivities of) human beings (Højgaard & Søndergaard, 2011) and of educational governance and design as they emerge in their entanglement with the metrics.

With this notion of ‘enacted effects’, I seek to generate a notion of ‘effects’ different from the one found in implementation studies, where a policy is expected to have certain more or less desired effects or outcomes in a certain practice when it is implemented, and where these effects can then be evaluated (Shore & Wright, 2011: 4-5). The notion of ‘enacted effects’ is concerned with the performative effects of policies, governing practices, and metrics, rather than the intentions behind these.

2.3.2 Studies of the effects of metrics

Several scholars within the field of education research are interested in both the policy effects and the governance effects of numbers. This research is generally occupied with the OECD establishment of a global educational landscape of comparable data through measurements such as PISA and TIMMS. Specific contributions ask questions about different political and public perceptions of and reactions to PISA results (Gre, 2009), the ‘socialisation’ of education systems according to the OECD assessments (Gre, 2017), the displacement of data production and use from a local to a centralised level (Ozga, 2009), the replacement of other forms of assessment of schools with data evaluations (Dale, 2017; Ozga, 2016), the policy reform in different school systems affected by international and national testing and accountability regimes (Hopmann, 2008; Krejsler, 2018; Lingard, Martino, & Rezai-Rashti, 2013; Lingard et al., 2016), and test-based learning (Sellar & Thompson, 2016). In general, these studies are designed to study the relations and interactions between institutions, such as OECD, EU, and states on the one hand, and national school systems on the other. Thereby, they study how metrics (or rather data) are taken up by various actors, but without studying the relations between these enactments and the configurations embedded in the specificities of the metrics.

There seems to be a particular interest in revealing ‘unintended’ effects of the use of data as a mode of critique of these practices (Decuypere & Simons, 2016). For example, Sellar & Lingard examine the enacted effects of high-stakes testing in three Australian states.
The kinds of effects they point to are *perverse* political effects, such as the ‘gaming’ of target setting in a way that ensures successful outcomes and thereby federal funding of state education systems (Lingard et al., 2016: 79, 82). In a similar vein, Espeland and Sauder study the effects of rankings and show how they are constructed to create anxiety, fear, and worries, as well as how they are enacted into the internal priorities in budgets in order to improve rankings (Espeland & Sauder, 2016: 2-4). There are, thus, a range of studies that point towards the ‘perverse’ (Baird & Elliott, 2018; Shore & Wright, 2015a: 426), ‘unintended’, or ‘constitutive’ (Dahler-Larsen, 2007; Rijcke, Wouters, Rushforth, Franssen, & Hammarfelt, 2016) effects of performance measurement in various (higher) education contexts.

In a more traditional anthropological approach to the study of metrics, Chris Shore and Susan Wright analyse how the proliferating ‘audit culture’ in academia, where “the principles and techniques of accountancy and financial management are applied to the governance of people and organisations” (Shore & Wright, 2015b: 24), involves a change of academic subjectivities into what they call ‘self-actualized auditable individuals’ (Shore & Wright, 2000: 78). To Shore and Wright, ‘audit culture’ and its apparently legitimate concerns of improving the quality and efficiency of the university is nothing more than a new form of coercive power structure in disguise with costly and damaging effects on the work being done there (Shore & Wright, 2000: 85). While I am inspired by their approach to the study of how ‘audit’ and other practices involving metrics affect subjectivities, the reworked notion of ‘enacted effects’ presented in section 2.3.1 invites me to think about these effects on subjects not as coercive effects, but as effects of discursive-material practices that not only constrain, but also enable subjectivities in particular ways.

Thus, existing research within the field of education and metrics includes a range of studies of the enacted effects of metrics (or data), particularly in relation to policy effects, governance effects, and subjectivising effects (which, in the language of ‘agential realism’, can be understood as the ways organisations, states, public agencies, institutions, and individuals take up the invitations embedded in the metrics to navigate or govern themselves in a particular way). Sellar & Lingard call these types of
contributions ‘reception studies’ or studies that focus on what data do, and argue that this approach to the study of data is becoming more important than studies that focus on what data show (Sellar & Lingard, 2018: 368-369). Rose claims a similar distinction between an American tradition in the study of numbers, emphasising their intrinsic character, and a European tradition (in which he positions himself), emphasising the deployment of numbers in the government of populations and “their alignment within rationalities and technologies for the conduct of conduct” (Rose, 2000: 215). My suggestion is, however, that we need studies that include both these perspectives, as an important part of what data do and how they affect different actors is deeply entangled with what they show or their intrinsic character, including the ways they configure what they measure. This is where my notion of the configurative cuts made by metrics adds an important aspect to the study of the ‘reception’ of data or numbers, as it suggests that potential effects of metrics are closely linked to their design. The analysis of configurative cuts enables a critique that moves beyond the ‘revelation’ of ‘unintended’ effects, as it proposes recomposed configurations and thereby enables different enactments.

2.3.3 Analytical approach to the study of enacted effects
The analysis of enacted effects draws on an ethnographic (or ‘metricographic’) fieldwork. This fieldwork was conducted over 18 months in 2016-2018, where I repeatedly visited three Danish universities and followed their work of making their programmes more ‘relevant’. The fieldwork has provided me a range of cases of this work. During my visits, I attended 60 activities, including meetings and special ‘employability’ events where leaders, managers, administrative staff, teachers, students, and advisory board members participated in different constellations and with various purposes (see appendix). My selection of these events was based on the expectation that educational practices were suggested, discussed, decided, and justified during events like these, and furthermore that practices of governing and administrating university education would become visible. ‘Relevance’ and ‘graduate employability’ were addressed in various ways, for example as one of many responsibilities of a Study Board, or directly as the main purpose of a ‘career day’ or ‘advisory board meeting’. Besides the events, I also interviewed 41 teachers, employer representatives, managers, students, and staff, and had twelve less formally structured conversations with managers and staff (some of which overlapped
with the interviewed people). I furthermore interviewed four national policy actors, one from the Danish Ministry of Higher Education and Science, one from the Danish Accreditation Institution, one from a government-appointed commission, and one from a lobby organisation. Finally, I studied a variety of documents, handed out to me or publically available, ranging from reports to strategy documents to curriculum descriptions to evaluations and probably more. All these encounters within the university context provided me cases of university practices that helped me analyse the configurations embedded within metrics.

In my observations of enacted effects, I was particularly interested in the effects on educational content and forms, and on governance and management practices. I was not only attentive to direct effects of the metrics, but also of the policies based on them, and of the distribution and interpretation of their results in press releases, journalist articles, published books, and blog posts. My encounters in the university context included a great amount of conversations on metrics and their effects on people, on decisions made about how to develop education, and on the broader perception in society of (in my case) the humanities. These conversations could be about others (for example teachers and managers, who are often themselves teachers, often talked about the effects on students), or about one self (for example, students also often observed themselves as worried, in doubt, deliberately indifferent, and so forth). However, my entanglement within the field also allowed me to observe effects myself.

My mode of entanglement was not as a participant observer. My status as a researcher did not allow me access to any of the often formally defined roles that condition active participation in universities. For example, teacher representatives and student representatives are the ones who speak about agenda items in Study Board meetings. Administrative staff are also allowed to speak, but in certain ways – either as an expert informing the other participants on particular aspects of the agenda item, or as a secretary engaging primarily with the documentation of the meeting and with practical matters around the meeting. A guest researcher, such as myself, does not really have a well-defined role in such a meeting, but the unspoken rule demands as little interference as possible with the agenda items. Thus, basically, I only engaged actively in
conversations during breaks and before and after meetings. However, this does not mean that my presence was non-significant. While I did not interfere with the practices taking place as such, my entanglement with these practices initiated (what perhaps could be illustrated as) a parallel trail of self-observation by the participants in the practices. These participant-observations were often shared with me during breaks, before or after meetings when people gradually gathered and the situation was less formal, or at my next visit.

While my collaborators in the field in general expressed hopes connected to my presence, they also in the field in some cases felt that my status as a researcher alone would disturb a process that was considered vulnerable. Thus, I have been restricted from access to a few meetings and furthermore to some of the universities that I approached before my fieldwork started. Besides being limited by access, my fieldwork was limited to education governance and administration and to the humanities. My entanglements in the practices around metrics did not bring me into the classroom. My interest was mainly in how education was governed or navigated in terms of the ‘relevance’ and ‘graduate employability’ metrics, and thereby in the decisions made on curriculum rather than in the teaching and learning practices where the decisions were ‘brought to life’. Furthermore, I delimitated my fieldwork to the humanities departments and faculties in the universities, because these fields are highly affected by the metrics – at least in the sense that they often stand out with ‘poorer’ results in the measurements.

Only the observations of the people allowed to speak in the meetings and other events that I attended can be included in my analysis. This always includes managers, teachers, students, employer representatives, and quality and employability staff members. It does, however, not include administrative staff such as the secretaries writing the minutes of the meetings. The perspectives of secretaries are simply invisible to me, and I do not know if the inclusion of these perspectives would have added something to the analysis. I am however responsible for contributing to the (re)production of them as non-relevant when it comes to the matter of education.

The analysis of (potential and emerging) enacted effects of the metrics and their configurations of ‘education’ and ‘relevance’ does not identify linear, causal relations
between the metrics and certain practices, but rather practices that refer directly to the metrics and their configurations. Throughout the dissertation, I will include cases and observations as texts in italics with case examples, observations from meetings, and interview statements (all translated by me from Danish to English). Whether a text in italics is a case example or an observation of an enacted effect will be explicated in each case. Both types of texts are written with the explicit aim of analysing configurations or effects of metrics rather than replicating the situation as accurately as possible (Mol, 2008: 10). They are not included as material for an analysis of the situation in the field as such, but because they provide access to important aspects of the analysed metrics. Furthermore, they should not be understood as a documentation or representation of ‘reality’ in a positivist or traditionally realist sense (Lather, 2013: 639; Mazzei, 2016: 151; St. Pierre, 2016: 118), but as performative in the sense that they contribute to the account of metrics produced throughout the thesis.

2.4 Research apparatus

From the above sections, the outline of the research apparatus for my ‘metricography’ emerges. The notion of the research apparatus is a conceptualisation of the research design and methodology that draws on the notion of ‘apparatus’, which I also used to conceptualise ‘metrics’ in section 2.1. Like the metrics are discursive-material practices that set boundaries and produce differences in the phenomena they measure or assess, so is my research design and methodology. My research apparatus creates a ‘field of possibilities’ that I and others can take up in different ways. Through the particular ways that I make metrics and their effects intelligible, I reconfigure them in a certain way. Therefore, the knowledge produced in this dissertation is, like the data produced by metrics, exclusively objective within the entanglement of the research apparatus and the studied phenomenon. This notion of objectivity makes it crucial to specify the research apparatus used to produce this knowledge (Barad, 2007: 205-207).

The specification of the research apparatus includes the specification of the studied object, the arrangement of the apparatus, and the point from which the results are observed. I already indicated some of this in my description of the normative stance of
scepticism towards totalising simplifications and the appraisal of multiplicity, in my description of the Danish higher education policy notion of ‘relevance’ as the studied case of metrics, in my outline of selected metrics for analysis, in my research questions about metrics, configurations, and enacted effects, and in the specification of the materials that I use to analyse these questions. However, further elaboration is required. This last section of the chapter will more deeply describe the way of ‘knowing’ of the research apparatus; the setting of the ‘gaze’ of the observer; and the operations that the research apparatus deploys to produce an analysis of metrics and the problem of simplification. I begin with the specific configuration of ‘knowing’ embedded in my ‘research apparatus’.

2.4.1 Knowing from within entanglements

The ways of coming to know metrics and their effects in my research apparatus is about knowing from within. This ‘within’ is necessary, because only ‘things-in-phenomena’ are available to the state of knowing. Only from within the entanglement of a phenomenon do metrics, their configurations, their enacted effects, and I as a researcher become determinate. This means that knowing can never take place from a distance, but will always be an entangled knowledge. My knowing from within is triple in the sense that it combines an entanglement with practices in the university context, an entanglement with various research fields through intensive reading and literature search, and an entanglement with theoretical concepts thanks to all the encounters described in my ‘acknowledgements’ in the beginning of the dissertation (and more). The analyses emerge from this triple entanglement and knowing from within.

This philosophical point of departure has epistemological implications. The ‘knowing from within’ and the entangled state of the world somehow dissolves the individual, coherent subject as the locus of knowing. Rather, we can perhaps talk about a ‘manifold knowing subject’ embedded in the phenomenon. Here, the work of Lisa A. Mazzei (2016) can help elaborate. Her work is inspired by Deleuze, who configures the subject differently than Barad, as he does not operate with a ‘subject’. In an agential realist framework, the subject does not disappear, as with Deleuze, but it is reworked into a knowing entity, which is not confined to the individual human being. Nevertheless, I find
Mazzei’s writing experiments interesting and use them as a source of inspiration in my own analysis of observations and events. Mazzei works herself away from writing practices that ascribe her interview person, Fran, a singular and distinct voice. Rather, she speaks of ontological voice which is “voice thought as assemblage, a complex network of human and non-human agents that exceeds the traditional notion of the “individual,” the “body,” the “person.”” (Mazzei, 2016: 155). Here, the voice of Fran is not belonging to her but a “machinic assemblage of becomings” of a particular type of women (Mazzei, 2016: 155). Instead of telling a particular story or narrative that isolates blocks of time and space from each other, Mazzei experiments with stacking accounts and thereby showing in her writing how time and space is enfolded in the collective assemblages or entanglements of “bodies, histories, classrooms, spaces, accents, futures, clothing, coal dust, wordings, and other bodies both human and non-human” (Mazzei, 2016: 159). This leads to an almost poetic writing of a moment, including the pasts and futures present in the moment, and of a generalised production of effects by the particular apparatuses, rather than individualised intentions and agentic singular human beings. Mazzei’s style of writing transcends the placement of intentionality and agency in people, and replaces it with the ontological performance of the (manifold) subject as becoming in its knowing.

The work of Mazzei inspires me to abstain from treating human beings, as they emerge in observations and interview quotes, as coherent individual subjects who ‘speak for themselves’ and are available for me to analyse (Lather, 2000: 16). In section 1.3, I outlined this move as part of doing a ‘metricography’, where the locus of analysis is not ‘social situations’, but metrics, and where human intentions are analysed as products rather than merely causes of various actions, for example by metrics. Throughout the dissertation, I will avoid ‘personifying’ the people who appear in observations and quotes, and rather view them as components in entanglements, where they emerge as ‘students’, ‘heads of programme’, or ‘ministries’. The very few exceptions from this principle are found when the naming of an individual helps the reader, but the names are not used to establish coherent individuals. The collectivisation of interview statements and actions does not mean that I become insensitive to differences within the
entanglement (for example differences between students), but that I ascribe these differences to different enactments rather than different individuals.

Mazzei furthermore inspires me to look at my project as a product of the field (including me) rather than as a product of my choices alone. My account of ‘relevance’ and ‘graduate employability’ metrics came to be as a product of the empirical activities and analyses described above. It is an account from within Danish universities, from within the humanities, and from within university governing and quality assurance contexts. As Dana Culhane and Denielle Elliott suggest, "human beings are most productively understood as social beings who come to know what we know [and simultaneously come to be who or what we are], about both ourselves and others, in and through relationship” (Culhane & Elliott, 2017: 18). Therefore, ethnographic knowledge production profits from a collaborative approach that engages in relationships. This collaborative approach implies that the people that I interviewed and observed, as well as the metrics that I studied, emerge as fellow ‘knowers’ and not just as a part of the ‘known’. Culhane and Elliott emphasise that "Texts created by ethnographers therefore emerge from conversations and exchanges among researchers and collaborators who are active agents engaged in studying their own and other’s cultures, histories, and epistemologies” (Culhane & Elliott, 2017: 6). In a sense, the ‘informants’ became a manifold of ‘co-researchers’ (Mol, 2008: 10), who explored the workings of metrics as well as the configurations of ‘relevance’ and ‘graduate employability’ and their effects with me, not as part of a ‘fantasy of mutuality and shared experience’ among ‘coherent subjects’ (Lather, 2000: 16, 19), but as part of a ‘manifold voice’ that articulates being and knowing from within the entanglement of universities, ‘relevance’, and the research project.

For example, at a meeting in an organisational ad hoc unit working with employability, I observed the following discussion:

*The convenor of the ad hoc unit introduced the next agenda item, which was a memo for the university board. She explained that the university board was very keen on observing a drop in the graduate unemployment numbers as a result of the ad hoc unit initiative, but as she emphasised, there was a disagreement on how to measure the*
results. Recently, an external consultancy company had been involved in developing a measurement, and they had observed that a measurement of graduate unemployment in the 8th-10th quarters after graduation, rather than the usual 4th-7th quarters, improved the humanities department numbers significantly, while the social science numbers remained problematic.

One of the participants in the meeting said that in his department, they had found out that the bachelor’s degree of the graduates made a difference to their employment status. Graduates with a professional bachelor found it more difficult to get employment than graduates with an academic bachelor. Someone mentioned that pregnant women on maternity leave counted as unemployed in some measurements. Someone else mentioned that temporary project positions were difficult to register in some types of measurements. The convenor repeated that the management wanted to see changes in the numbers. One teacher argued that the method of measurement was quite important, because if it was all about having a job, all they needed was to make the graduates take jobs in ice cream shops.

(Observation notes from meeting in the employability ad hoc unit, May 2018)

In a conversation such as this one, my collaborators in the field shared their knowledge with me (and each other) in terms of the time of measurement, in terms of the definitions of unemployment, and in terms of other causes of unemployment than merely the university effort (as suggested by the problems of graduates with a professional bachelor). Furthermore, the conversation articulated a knowledge about an embedded linear theory of how successful initiatives should lead to changes in the numbers. During the conversations, different aspects of different metrics were highlighted, justified, and problematized. In my becoming-researcher within this field, the knowledges of the field also became part of me and my analysis (in this case in Chapter 3A and 3B). And this observation is just one example.
The idea of people in the field as ‘co-researchers’ is valuable from an ethical perspective, because it transmutes those usually known by the metrics into knowers of the metrics, but it is also valuable because those participants are differently and more extensively entangled with the practices than me as a researcher. Thereby, the inclusion of their observations, as they can become known from my research apparatus and the particular attentive states it is restricted to, expands and refines the knowing from within. These reflections call for me to include observations and statements from the fieldwork in an embracing, non-suspicious, and non-superior way.

2.4.2 The role of literature, theory, and methods
In my research apparatus, research literature often appears as a vehicle for analysis by introducing an interesting concept or argument that helps me make a configuration or the enacted effects of a metric visible. The analysis includes a range of concepts that I use to conceptualise the operations and configurations of metrics, as well as their effects. These concepts do not in advance belong together in one coherent analytical corpus. Rather, I picked them up from a range of different scholars and research fields. In a way, I have assembled a mosaic of generative resources that I put to work. Meanwhile, sometimes, particularly when it comes to research literature on graduate employability, this literature itself emerges as an apparatus with a particular configuration and particular effects. As I study apparatuses that produce different versions of ‘relevance’ and ‘graduate employability’, my apparatus considers research literature occupied with this a material for analysis.

Similarly, ‘theory’ also plays different roles. Sometimes theory contributes with interesting concepts and arguments that help me make metrics intelligible. But theory may also appear as a ‘finding’ in my study of configurations. ‘Theoretical concepts’ are embedded within each apparatus, and the analysis attempts to flesh out these theories. The differences between theories in apparatuses are the differences between the configurations. Thus, I consider this type of theory a research finding. The distinction between the theory that I study as a part of my research object and the theory that I engage with my research object as a productive vehicle for analysis is analytical and constituted by my reading of the metrics.
Finally, ‘methods’ alternate in roles – sometimes as my research methods described above, and at other times as a component of the metrics that I analyse, whether they take the form of governmental or managerial metrics or research publications. The ‘methods’ employed in metrics such as graduate surveys or bureaucratic assessments constitute the operations of the metrics, and they are thus an important object of analysis.

2.4.3 An analysis of re-turns and diffractive readings

As argued in section 2.2.2, there is no coherent analytical apparatus for the study of the operations of metrics and their configurative capabilities in place. Thus, the mode of analysis resulting from the triple knowing from both within the field, the research literature, and the theory of ‘agential realism’ is a mosaic analysis. The mosaic analysis is inspired by Barad’s notion of re-turning (Barad, 2014). Barad introduces the notion with the following lines:

As such, I want to begin by re-turning – not by returning as in reflecting on or going back to a past that was, but re-turning as in turning it over and over again – iteratively intra-acting, re-diffracting, diffracting anew, in the making of new temporalities (spacetime matterings), new diffraction patterns.

(Barad, 2014: 168)

With my arsenal of concepts, observations, theories, and metrics, I analyse the metrics, their configurations, and the enactments of effects by turning them over and over again, each time reading them through a new element from the arsenal. These different readings or re-turns each form a part of the mosaic. Barad uses the notion of the re-turn to describe her diffractive methodology. As she indicates in the quote, a diffractive reading of re-turns is about adding something new to the phenomena studied. New insights are to be found in the frictions between the re-read materials. A diffractive analysis engages and entangles a range of resources with each other and thereby constantly disrupts and re-entangles the studied phenomena. In this way, a diffractive analysis is an example of what Lather calls a post-qualitative research practice of micro-methodologies that challenge standardised research techniques by introducing other analytical practices (Lather, 2013).
In a diffractive reading, theories, concepts, metrics, and observations from the field are dynamically read through each other, and this mutual reading contributes with productive differences and mutual co-fertilisations of the different elements. It is a matter of “inheritance and indebtedness to the past as well as the future” (Barad interviewed in Juelskjaer & Schwennesen, 2012: 13). Barad particularly uses this approach in her reading of theories, and she suggests that this reading needs to pay respectful attention to detail within each argument and tease out the differences between the different theories in order to account for what difference the differences adds to the theories (Barad, 2007: 72; 92-94). As an analytical strategy, a diffractive analysis emphasises an alteration of the studied phenomena, and thereby distinguishes itself from neutral representationalist strategies. New cuts or entanglements that configure the studied phenomena slightly differently may emerge (Barad, 2007: 136-137). As Dixon-Román writes about Barad:

*By thinking one disciplinary theory through another she seeks to pay particular attention to the boundary-making processes of each disciplinary theory and the ways in which one might rescue, recover, recuperate, or illuminate the other; making visible that which was excluded by the boundary-making practices of the disciplinary theory.*

(Dixon-Román, 2016b: 165)

While Barad primarily talks about diffractive methodologies as a matter of reading texts, Ezekiel J. Dixon-Román suggests a diffractive methodology of multiple methods of knowledge production in his attempt to cross-fertilise quantitative data and cultural studies. In relation to his particular field of research, he suggests analysing the performative and ontological effects of statistical apparatuses measuring differences between Black males and other populations by diffractively reading them through other types of materials, such as interviews, newspaper articles, legal documents, or plays. By advocating for the use of multiple materials or texts and multiple methods, he envisions an analysis focused on how methods go beyond or contradict each other, and how there are mutual disjunctures or tensions between different types of data (Dixon-Román, 2016b: 165-166).
My own diffractive analysis combines three moves that all enable the de-simplification of metrics through re-entanglement and re-turns. First, I write up a mosaic analysis of each metric, unfolding the operations, configurations, and enacted effects of the metric. Each mosaic analysis draws on a variety of concepts in order to re-entangle each metric with its histories, embedded theories, materiality, practices, sciences, institutions, ideas, and discourses. Through these re-entanglements, I can build an argument on each metric. By analysing one metric after the other, using a relatively consistent template, I am able to mobilise comparisons across the metrics as a means to point out the particularities of each of the metrics.

Second, throughout the dissertation, I read the analysed metrics through each other. The result of the second move is an analysis that illuminates how different apparatuses produce different configurations and how these different configurations are entangled with each other, but also creates frictions that makes visible what the different apparatuses are blind towards. The diffractive reading will read the theories embedded in apparatuses through each other, the produced ‘employability’ and ‘relevance’ configurations and the produced education-configurations through each other. A final analysis (in Chapter 13) will read the results of the metrics through each other.

Thus, my strategy is about re-turning apparatuses. Metaphorically, in the second and third move, we can talk about a messed up Rubik cube that is twisted and turned over and over again, each time showing a new pattern of relations and frictions between the different apparatuses. This approach produces an analysis that allows for an affirmative critique (Staunæs, 2016) that starts from within the current practices.

The analysis is mainly a ‘conceptualising analysis’ in the sense that I use different concepts from various scholars to produce a vocabulary that enables me to conceptualise the effects that I see. In return, it is (most often) not a generalising analysis (Lund, 2014), unless I can generalise across several occurrences within my own material. As a case study, the cases are allowed to stand for themselves, though of course adding to the already existing research in the field (Mol, 2008: 9).
2.4.4 Summary of the research apparatus

From the various points in this chapter, I can now clearly summarise the research apparatus of my agential realist ‘metricography’. The study of education through policy, management, and administration practices does not a priori come with a particular methodology or analytics, and thus it has been necessary to generate an appropriate research apparatus for my purpose. The research apparatus is devoted to the analysis of metrics and how they simplify what they measure or assess, and to an affirmative critique of these simplifications that involves thinking about a possible future with a multiplicity of metrics as well as a more nuanced approach to metrics. This ‘nuanced’ approach includes the analytical ambition of making metrics intelligible in terms of their ontological differences and thereby different performative effects, as well as the political ambition of enabling actors within the university context to govern the metrics through the analytical ambition.

The research apparatus specifically studies the case of ‘relevance’ and ‘graduate employability’ metrics in a Danish university context with a particular focus on the humanities. Metrics are understood as operative agencies that do something. The apparatus asks questions about how a selection of metrics configure ‘relevance’ and ‘university education’, and how the metrics and their configurations affect the navigation and enactment of governance practices, including the governance of oneself, others, and educational content. The metrics selected for analysis mainly include key examples of the main types of metrics used and promoted in official national and institutional governance practices, but also metrics in the periphery of these governance practices as well as metrics that do not yet exist.

The analytical process, as it has emerged along with my literature studies and fieldwork, involves two major leaps. The first leap was explorative, openly considering possible themes related to ‘relevance’ and ‘graduate employability’ across my entire material (which was at the time only part of the material that I ended up with). As illustrated in the introduction, the explorative reading gradually lead to an interest in metrics and an identification of the many ways metrics emerge in the practices within the university context. This explorative processes mainly took place in first half year of my fieldwork.
and lead to a more focused continuation of the fieldwork. The second leap was a more systematic reading of my material to identify relevant metrics and how they appear in the material in enacted forms. From this reading, the structure of the dissertation and the analytical chapters has emerged, as well as their trajectories of analysis.

The research apparatus is set up as an arrangement of various materialisations of metrics in documents and websites, of observations within the field of three Danish universities and their humanities sections, of conversations with managers, teachers, students, quality workers, and potential employers within this field as well as with policy-makers and key actors on a national level, of research literature on ‘graduate employability’, of a range of concepts provided by various scholars, and of ‘agential realism’ as a theoretical framework. The product of the apparatus emerges from my combined physical entanglement with these various elements, in the form of reading as well as conversation and observation. The product is a ‘metricography’ that conceptualises what metrics say and do and read these sayings and doings diffractively through each other in order to produce a different possible entanglement with the metrics.
3A. Graduate employment statistics and graduate supply policies

In unemployment metrics, ‘relevance’ is configured as a matter of the supply of graduates from particular areas of study in relation to the demand from the labour market.

In this first analytical chapter, I will examine graduate employment statistics. The analysis will show their calculative operations and inherent (economic) theories about education, and furthermore point to performative effects of the statistics, both in terms of their design and the ways they are put to use. I will analyse two specific and distinct metrics, both developed by the Danish Ministry of Higher Education and Science, plus a few variations over these metrics. The two metrics, and in particular one of them, are the main statistics used in both higher education policy and in quality work, and thus important examples of unemployment metrics.

After a general analysis on the statistical aspects of the graduate employment metrics, the analyses will proceed to describe the two ‘relevance’ configurations that the metrics produce. One configuration is entangled with national policy initiatives (examined here in Chapter 3A), while the other one (examined in Chapter 3B) is entangled with quality assurance work at the universities. The theoretical concepts embedded in the apparatuses are inspired by macro-economic theory on supply-and-demand and the rational human being, and performance indicator management respectively. As I will show at the end of Chapter 3B, these two different modes of entanglement have profound effects on the configurations of ‘relevance’ and university education.

Graduate employment statistics play an important role in contemporary higher education governance in a Danish context. The statistics analysed in this chapter have

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4 Several other metrics of this type are available (Capacent Epinion, 2007; Danske Universiteter, 2012, 2013; Kraka - Danmarks uafhængige tænketank, 2014; Produktivitetskommissionen, 2014; Udvalg for Kvalitet og Relevans i de Videregående Uddannelser, 2014b; Udvalg om bedre universitetsuddannelser, 2018b)
very tangible effects on the governing of universities and, in addition, more subtle effects on the configuration of what university education is and how it should develop. The graduate employment statistics are important because of the formalised practices that have been built around them. Furthermore, they are the most obvious type of metrics when we talk about measuring graduate employability or the relevance of higher education today. When following the higher education debates in Danish media, one can hardly avoid coming across these numbers. The statistics make up an effective ‘ordering machine’ that categorises graduates and calculates them. All in all, the graduate employment statistics make up something very close to a totalising metric that has proven able to simplify the world in a way that has convinced the public, the policy-makers, university managements, and students about the order of things.

Besides the empirical analysis on these two specific apparatuses and their contexts of use, the chapter also contributes with a more general insight in how statistical apparatuses work and what capacities the knowledge of numbers has. To help me produce an account of the statistical apparatuses analysed in this chapter, I will introduce selected ideas on statistics from Stanley Smith Stevens (1946) and Marion Fourcade (2016) that will recur throughout the analytical chapters. They help me characterise the particular calculative operations of the metrics. I also draw on theoretically informed ideas on modes of governance enabled by vast amounts of quantitative data as introduced by Pierre Lascoumes and Patrick Le Gales (2007), Vincanne Adams, Michelle Murphy, and Adele E. Clarke (2009), Ian Hacking (Hacking, 1990, 1991, 2006), David Savat (Savat, 2009), Patricia Ticineto Clough (2007), and Annemarie Mol (2008). The ideas of these authors will be introduced as the chapter progresses. By engaging these different ideas with the empirical material of the metrics, the (potential) effects on the governance of education are made visible. In particular, I will show how ministries emerge differently before and after numbers are made solid, and how students are enabled to make choices in the present based on the statistical forecasts of the future.

I enumerated the following Chapter 3B, as it is a continuation of Chapter 3A. While the two chapters together make up the full analysis of the graduate employment metrics,
they also describe two different versions of these metrics, each analysed with a separate body of literature. Thus, in Chapter 3B, I will add concepts related to performance management, action planning, and the organisation of work to my analytical resources. At the end of Chapter 3B, I will read the findings of both chapters diffractively through each other. But first, I start with an analysis of the operations of the two metrics.

3.1 Two official measures of graduate employment

The two metrics of graduate employment analysed in this chapter are both produced by the Ministry of Higher Education and Science and regularly updated and distributed at the Ministry website. One is the measure called “Employment of Graduates” [“Nyuddannedes Beskæftigelse”]. The other more recent one is called “Current Unemployment” [“Aktuel Ledighed”]. The “Current Unemployment” metric is now the most commonly used because it has some advantages over “Employment of Graduates”, which I will come back to in the analysis below. Nevertheless, I include them both to show a variety of apparatuses and to highlight the improvements – and sacrifices – made in the newer “Current Unemployment” metric. I will introduce the statistical apparatuses through the notions of categorisation, quantification, and comparability, which, I argue, are the basic operations of producing statistical data.

3.1.1 Quantification and categorisation of data

A statistical apparatus quantifies a part of reality and makes calculations on it. In the case of graduate employment statistics, the apparatuses quantify the labour market situations of graduates. The difference between the two different graduate employment metrics lies in the ways they quantify and calculate. While the older metric called “Employment of Graduates” quantifies the situations of graduates without ranking them, the newer one enables ranking, and this difference makes the numbers produced by the new metric more unambiguous.

The old metric quantifies by sorting graduates into five mutually exclusive categories according to their modes: 1) Graduates enrolled in further education; 2) Graduates employed in Denmark; 3) Graduates who emigrated; 4) Unemployed graduates in
Denmark; and 5) Graduates who are not available to the Danish labour market. The sorting into modes is based on what Fourcade calls a *nominal* judgment, which is a qualitative operation that sorts elements according to their kind (Fourcade, 2016: 176), or what Bowker & Star call a classification, which is a segmentation into a set of mutually exclusive boxes according to a set of classificatory principles (Bowker & Star, 2000: 10-11). In the case of graduate employment, real human beings can in principle belong to several boxes at the same time, but the classificatory principles prevents this through the category definitions (Styrelsen for Forskning og Uddannelse, 2018a). The number of cases within each category are aggregated to enable a numerical (or cardinal, Fourcade, 2016: 177-178) assessment. The scale produced is, however, only quantitative in the sense of counting the number or share of graduates within each category. In this scale, we are technically speaking not able to rank the different categories or say what category has the higher value (Stevens, 1946). Is it better to emigrate than to enrol in further education? Is it better to be unemployed than to be unavailable to the labour market? The scale does not help us determine this.

The other and more recent metric, “Current Unemployment”, has solved this valuation problem by quantifying the movements of graduates in a very different way than the older measure. Rather than categorising the movements of the graduates according to their mode, the “Current Unemployment” measure calculates the ‘unemployment rate’ of each graduate in each quarter of the year. The proxy of unemployment used in this metric is the registration in the public unemployment system in order to receive unemployment benefits, which means that some (un)employment is probably not visible for the metric. The unemployment rate is defined as the extent to which a graduate is reported unemployed in a particular quarter of the year. If a graduate in one quarter is applying for full-time unemployment benefits in one of three months, the graduate will be quantified into an unemployment rate of 33 %. If a graduate is registered with a part-time position equivalent to 80 % of a full-time position in all three months, the unemployment rate of the graduate will be 20 % (Styrelsen for Videregående Uddannelse, 2014). The new metric shifts the focus of measurement from employment to unemployment. While the five categories in “Employment of Graduates” positively describe the situation of each graduate, the unemployment rate negatively defines the
(full or partial) lack of employment of the graduate. The different quantification method applied makes it possible to rank the results – or to make an ordinal judgment (Fourcade, 2016: 178). A lower unemployment rate is better than a higher one. The clarity of the better number is one of the key assets of using comparable indicators (Dahler-Larsen & Krogstrup, 2001: 156), such as the graduate unemployment rate. Only by selecting one of the five categories for comparison, and thereby ignoring the other four, can the older measure provide this clarity.

In both graduate (un)employment metrics, time is arranged as measurable intervals (for a detailed account of the history of how time became measurable with the emergence of notation of music, see Crosby, 1997: 75-93, 139-163). “Employment of Graduates”, on the one hand, is measured annually on a specific date. The apparatus defines the distances between October 1st in 2013, 2014, and 2015 as equal. This means that the distribution within each category can be compared from year to year, and that the mean value across several years can be calculated, resulting in a very robust number. The “Current Unemployment” metric, on the other hand, calculates the graduate unemployment rate for each quarter from 1 to 7 after graduation (see figure 1; Uddannelses- og Forskningsministeriet, 2018a). But, strikingly, the apparatus actually measures the unemployment situation on a daily basis, meaning that the “Current Unemployment” can capture a lot more variation in a graduate’s employment situation than the “Employment of Graduates” metric, which only captures the employment situation one day each year. The new metric provides a more precise measurement.
3.1.2 Rankability and comparability of educational units

In both metrics, there are three dimensions of measurement. I have already introduced the dimension of the graduate employment situation and the time dimension above. The third one, which is similar across both metrics, is the boundaries between the objects of measurement – what I call the educational units. These are the units made intelligible to the metrics. With the new metric, they become rankable (Fourcade, 2016). Both metrics measure the value of graduate (un)employment across different educational units (though in slightly different ways). The units included in the metrics are, for example, the institution or university, the degree programme title, and the broader area of study. One university has a higher unemployment rate than another one; university...
graduates are more unemployed than graduates from Business Academies; and History graduates are more unemployed than Medicine graduates. The commensurability of the objects of measurement, or educational units, are built into the materiality of the spreadsheets in which the numbers are disseminated. On the front page, each spreadsheet has a navigation function that allows the viewer to compare different educational units (see figure 1 and 2). So, while the quantification of graduates’ situations makes them intelligible for statistical methods, the registration of their educational degree makes educational units intelligible for comparison and thus governable.

![Figure 2: A screenshot of the “Current Unemployment” spreadsheet sorted according to universities](image)

By aggregating the situation of each graduate, the metrics enable direct, numerical comparisons and bench-markings between different units of measurement. In order to produce one single number that shows the graduate employment of a given unit, a series of apparatuses are involved. As shown above, this series includes a statistical apparatus that categorises the employment situation of graduates, an administrative-statistical apparatus that sorts them into educational units, and the very familiar apparatus of the

a Danish context refers to a limited element within a degree programme, such as a 10 ECTS course on Methodology, I will try to avoid using this term.
calendar that divides time into equally sized entities such as days, months, and years. For each education unit, and each time interval, a graduate (un)employment number is revealed. This number is the measurement.

The numbers produced by the two different metrics differ, and they are not comparable. Furthermore, they hold different meanings because of the different statistical apparatuses involved in quantifying the employment situations of graduates. The “Current Unemployment” metric configures educational units as possibly (almost always) holding a lack and a potential for development in the race to reach a unemployment rate as close to 0 % as possible. Through the provided tools of ordinal judgment, this metric clearly ranks degree programmes and other educational units in a way that makes them accountable and governable. The older “Employment of Graduates” metric makes graduates visible and observable in their current activity in a positive sense, be it further education, employment, or unemployment. Thus, the “Employment of Graduates” produces more information than the more recent “Current Unemployment” metric, but the new metric is, to its great advantage, both clearer in its assessment of educational units, eligible to a much wider range of statistical calculations, and capable of dividing time into a much more fine-grained entity.

Engaging these quantifying operations with agential realism, we can talk about quantification as a process of mattering, where the matter of human beings, time, and institutions, is enfolded into new matter of numbers. This enfolding is both affected by the history of matter and the apparatuses. The apparatuses certainly have a constitutive effect on the enfolding through the cuts of graduates and education into unambiguous, quantitative units, but the measurement results are also highly dependent on the actual matter that is being measured.

3.2 Policies entangled with the graduate unemployment metrics

The rest of the chapter will focus on the “Current Unemployment” metric, which is the one used in recent policy and governance of higher education. The “Current Unemployment” metric was developed as a part of two policies, which both originated
from a financial plan [Vækstpakke 2014] aimed at increasing the economic growth in Denmark (Finansministeriet, 2014). The first policy in question is the regulatory device called the “Sizing Model” [Dimensioneringsmodellen], which is used to govern the maximum student enrolment in degree programmes with high graduate unemployment numbers. The second policy is the transparency policy embodied in the website called “Education Zoom” [Uddannelseszoom], which is used to govern potential students and their choice of area of study by configuring their future potential work life as a function of this choice. The policy devices are interesting in relation to the metric, both because they are constitutive of the measurement apparatus in their determination of the users of the numbers (ministries and students), and because they define the sites where the metric comes to matter. Furthermore, the policies clearly display the theoretical concepts embedded in the metric through their responses to the results. Thereby, the policies are both enacted effects of the metrics (enacted by the government) and co-constitutive of the configurations embedded in the metrics.

3.2.1 The “Sizing Model”

The “Sizing Model” was a part of one of the most novel and in some ways intrusive higher education reforms in this decade. The reform introduced a cap on student admission for selected degree programmes which, according to the model, had a “systematic and striking excess unemployment” (Uddannelses- og Forskningsministeriet, 2014a). The decision of making a centralised model was controversial, because the universities generally have the decision-making power of enrolment numbers. The model, launched in 2014, works through three steps of calculations, of which the first operationalises several assumptions embedded in the particularities of the calculation. In the first step, the model selects groups of degree programmes with a “systematic and striking excess unemployment” for (down)sizing. Thereby, the individual programmes are ‘territorialised’ as ‘spaces of calculation’ (Miller & Power, 2013: 579). ‘Striking’ and ‘excess’ is here defined as more than two percentage points above the average unemployment of all higher education graduates; ‘unemployment’ is defined as the unemployment rate in the 4th to 7th quarter after graduation; and ‘systematic’ is defined as a striking excess unemployment in 7 out of 10 years of measurement.
The definitions are very important in terms of how the model configures the relation between higher education and the labour market (see also Fourcade & Healy, 2017: 289 for a note on this point). First, the measurement of graduate unemployment in the 4th to 7th quarter after graduation configures higher education as something valued in relation to the transition into the first job and early career, rather than the career achievements of the graduate throughout a long working life. Second, by determining the future number of graduates from unemployment numbers from the past 10 years, the model enacts labour markets as relatively fixed regarding the number of jobs. Because of this long time span of data and the time span between admission and employment, the labour market situation 10 years ago can affect the number of graduates produced in 5-6 years. Thus, the model involves an assumption of a sluggish labour market. Also, the calculation presumes a clustering of degree programmes into groups, based on the idea that degree programmes in these groups educate for the same labour market. For example, the group of degree programmes named “Classical Humanities” includes Philosophy, History, Danish, different types of Archaeology, and Religion. Another example is “Area Studies and Others”, including programmes like African Studies, Global Studies, Religious Roots of Europe, Psychology of Language, and Folklore Science (Uddannelses- og Forskningsministeriet, 2014b). Through this clustering, the model assumes a fixed relation between these areas of study and particular labour markets. Thus, a cluster is measured and regulated as a whole to prevent that a reduction of graduates from one programme is countered by an increase of graduates from another programme, aimed the same labour market. Third, the determination of “striking excess unemployment” implies a relative calculation, where the degree programmes are compared to each other rather than to an absolute number. Overall, unemployment is configured as a function of the area of study, and the areas of study with high unemployment rates are identified as the cause of the graduate failures at the labour market.

In a governance perspective, this configuration makes specific actions possible, and the ministry enactment of these possibilities involves a ‘ceiling of enrolment’. The second step in the model determines the ceiling of enrolment, where 2.0-4.9 percentage points of excess unemployment equals a 90% ceiling (or a 10% cut); 5.0-7.5 percentage points
equals an 80% ceiling; and more than 7.5 percentage points equals a 70% ceiling. Finally, the third step distributes ‘sizing’ from the (national) groups to the individual institution (Uddannelses- og Forskningsministeriet, 2014a). This policy thus enables a relation of quantitative correspondence between areas of study and graduate jobs.

To gain within-sight into how these definitions emerged, I interviewed a Ministry Official from the Danish Ministry of Higher Education and Science, who was involved in developing the policies. He, on the one hand, observed the founding principles of targeting degree programmes with a systematic and striking excess unemployment as a political decision, and, on the other hand, the crafting of the exact definitions as an “engineering exercise”. This exercise was performed by working groups in the “machinery” of the Ministry, simply because it was a very technically difficult exercise. The Ministry Official talked about how, by tuning one or more of the definitions slightly, the number of capped degree programmes changed dramatically. He told me that more than a hundred different versions of the model were tried out in the process. In the end, the selection of the final model (or rather the three scenarios presented to the Minister) was based on a political “gut feeling” about the fair degree of regulation:

_Some of the proposals in the process... I had a sinking feeling in the pit of my stomach when I first saw them, thinking: If we present this to the politicians... then it will show them that a lot of degree programmes have to reduce enrolments. And they all have to cut the numbers by 30% - not just 5% or 10%._

(Interview with Ministry Official, March 2017)

As I understand the Ministry Official, the exact definitions of systematic and striking excess unemployment, and thus the boundary-setting cuts made by this apparatus, were determined from their political effects on the higher education institutions. Thus, the final set of definitions was fixed not only by taking their logic into account, but also by considering their effect and political feasibility, balancing the navigable between a too small and a too high effect. However, the more interesting question to pose here, from the perspective of my ethics of making metrics (rather than people) governable, is to ask what effects the numbers produce on the people in the Ministry. When the Ministry
Official says that he had a “sinking feeling”, and later speaks about a “gut feeling” involved in determining the numbers, I would analytically consider these bodily effects, affected by the numbers. Before the numbers become fixed, the imaginaries of the potential effects of the numbers produce different feelings, and some numbers may feel more right than others when they are put in relation to the anticipated practical consequences at the universities. The numbers still invoke political choice for the Ministry at this stage, and the gut feeling represents the particular competence of assessing the political feasibility of different alternatives. However, as soon as the numbers become fixed and firm, and thereby neutral and unquestionable, they produce the Ministry in a different way – as a rational trustworthy governmental body presenting new facts on higher education, and as a responsible body that takes action if numbers are problematic.

3.2.2 “Education Zoom”

The cap on the admission of students is not the only policy response made by Ministry of Higher Education and Science to the statistical metric of graduate unemployment. The response of governing the supply side of the labour market for higher education graduates also appears in the second policy device, called “Education Zoom” [Uddannelseszoom], which was launched in the spring 2015. This initiative is intended for individual use by potential students who are selecting what degree programmes to apply. “Education Zoom” is a website where all degree programmes can be compared on a range of different measures. Some measures are based on statistics, while others, added in 2017, are based on a large survey among graduates. The measures used to calculate programmes include graduate unemployment rates, average pay, share of entrepreneurs, distribution of public and private sector employment, the demand for and utility of skills acquired during the studies, average working hours, and several more. I will return to the graduate survey in Chapter 7, and now focus on the graduate unemployment rates displayed at the website.

By using the website, potential students can select up to three specific degree programmes and compare them, and thus make what is considered an informed choice of their area of study. For example, they can compare similar programmes at different
universities, or they can compare completely different programmes at the same university (Uddannelses- og Forskningsministeriet, 2015, 2018f). For each programme, two graduate unemployment numbers are shown – one measured at 4th to 7th quarter after graduation, and one measured after 10 years. In comparison to the 4th to 7th quarter measure, the longer 10-year measure added in “Education Zoom” significantly changes the results and the differences between study programmes compared to the 4th to 7th quarter. As an example of this, the comparison of the masters’ in Computer Science and History at Aarhus University shows that Computer Science has 4% unemployment in the 4th to 7th quarter after graduation, while History has as much as 28%. If we then look at the 10 year measure, the unemployment rates are 1% and 2% respectively (Uddannelsesguiden, 2018b). The difference no longer appears to be important. The difference in short-term and long-term results shows how the tangible effects of the “Sizing Model” are based on the more dramatic differences in measurement results, while the faded differences after 10 years are shadowed in this policy. The notion of shadowing is not to be understood as a linear concept of data simply missing, but rather as something ignored or untagged in order to highlight the more dramatic differences in the 4th – 7th quarter measurements (Leonelli et al., 2017: 192-194). These dramatic differences seem to be highly important to address in the national governance-context of political responsibility in which the “Sizing Model” is entangled, where the high unemployment rates become a national economy and legitimacy problem. In contrast, it seems to be in the interest of the individual student to look at the future employment prospects in a longer perspective as well, as indicated by the inclusion of the 10-year measure in “Education Zoom”. Thus, the differences in the wider setup of the measurement, including its users, changes the exact operations of the metric.

In contrast to the numbers in “Current Unemployment”, the unemployment numbers displayed at the “Education Zoom” website are calculated as an average of the latest three years of data. While this stacking of data makes the numbers more robust in the sense that it increases the population size to three years of graduates, it also means that the variations of the unemployment rates from graduate year to graduate year are erased, making the numbers appear more constant, and in addition easily comparable. The erased differences over time in the graduate unemployment could have shown if the
unemployment numbers were moving upwards or downwards for a specific degree programme. The numbers are accompanied by a bar chart, visualising the numbers (see figure 3). It seems as if numbers made for potential students require a different data aesthetics (Ratner & Ruppert, 2019) than numbers made for university management and staff (see figure 1+2). Data aesthetics is a notion that Ratner and Ruppert use to capture “the work needed for data to come into relation at sites of projection” (Ratner & Ruppert, 2019: 4), such as spreadsheets or websites. The data exhibited in “Education Zoom” are extracted from “Current Unemployment” and reworked into an even more simplified form to accommodate the needs of potential students. These data aesthetics shed light on the relative numerical differences in graduate unemployment across areas of study while shadowing any contextual information that could add meaning to the differences, as per the previously introduced notion of data shadows (Leonelli et al., 2017). Svein Hammer suggests that governance through indicators and measurements can be understood as something that “partly simplifies the complex, but at the same time partly closes the open”, so that the practices of actors (in this case students) are directed in an indirect and sophisticated way (Hammer, 2010: 91). Thereby, the simplified data aesthetics of “Education Zoom” can be seen as a ‘technology of risk’, deployed to make life more secure in a world of ‘uncertainty’, where the real ‘cannot be aggregated or calculated (Hammer, 2010: 91). With this ‘risk technology’, the wide-open choice of area of study is partly closed as a result of the easily comparable numbers.

Figure 3: The bar chart, which is a screenshot from "Education Zoom" (Uddannelsesguiden, 2018b), shows the unemployment rates for 'newly graduated' and '10 years after graduation' for two degree programmes.
The analysis of these two policies shows how numbers made by a ministry need to be neutral, fixed, and unquestionable as a part of their properties. However, the analysis also shows how different entanglements of the numbers change the exact measurements used, both in terms of the temporal perspectives of the context of use, and in terms of the properties of the readers of the numbers. Here, we see the first minor differences in the configurations produced by the metrics, which will become even more explicit in the following sections of the analysis. Next, I will look at the theoretical concepts embedded in the two policies, and thus in the numbers.

3.2.3 Supply-and-demand and rational-choice theories

The theoretical concept of ‘relevance’ embedded in the “Sizing Model” and “Education Zoom” policies draws on the economic theory of supply and demand. The theory differentiates between a supply (the number of graduates available) and a demand (the employer need for graduate labour)\(^6\). Within this theory, a mismatch between the supply and demand of educated labour is reflected in unemployment (or worsened conditions of the employees in work in terms of salary, working hours, contract duration and so on as a result of internal market forces; Udvalg for Kvalitet og Relevans i de Videregående Uddannelser, 2014b: 15-16; also see the analysis by Wieling & Borghans, 2001 for an example). A relatively high graduate unemployment number shows a mismatch, or what is also called an over-supply (Teichler, 2007: 15)\(^7\). If the supply goes down or the demand goes up, the unemployment will be reduced. In a marketized society, where employers decide for themselves how much labour they want to employ, and thereby autonomously define the demand, the logical policy response (or enactment) is to regulate the supply side, being the educational output. The supply side (the number of graduates) is a part of the public sector, and thus directly and legally governable.

\(^6\) In other contexts, the supply could be understood as the supply of higher education places, while the demand could be understood as the student demand for higher education.

\(^7\) Other indicators of an over-supply could be ‘over-education’, where people are employed in a job that requires less qualifications than what they have. See Barone & Ortiz (2011) for a European cross-national analysis, as well as the analysis of a ‘vertical match’ metric in Chapter 11.
While the “Sizing Model”, in contrast to “Education Zoom”, governs the number of graduates through what Pierre Lascoumes and Patrick Le Gales would categorise as a *regulative* instrument (Lascoumes & Le Gales, 2007: 12), the *incentive based* instrument of the “Education Zoom” website (Lascoumes & Le Gales, 2007: 13) shares the same purpose. The immediate rationale behind making graduate unemployment numbers available for the potential students seems to be to encourage them to make more rational education choices through the availability of transparent information. If information on graduate unemployment is available to the potential students, they will seek degree programmes without an over-supply to make themselves “demanded” at the labour market. Before the launch of the website, the Minister talked about the students as rational choosers, making their education choice with both their “hearts” and their “minds”, but without the necessary information (S. C. Nielsen, 2014). Thus, the distribution of transparent information poses another way of governing the supply: It mobilises natural movements in the market initiated by the customers. It assumes that a potential student is a ‘homo economicus’, or a rational human being characterised by a maximising behaviour, dependent on the available information to make the optimal choice (Becker, 1976: 5-14; Nannestad, 1991: 422-423). These ideas can be found in the economic ‘rational choice theory’ (or ‘rational action theory’ as Goldthorpe (2000) prefers to call it). Even though this theory comes in different versions, where some emphasise an ‘objective’ rationality based on objective facts (which may include professional pride, autonomy, values, work conditions, and socio-communicative environment, besides employment and salary (Teichler, 2007: 17)) while others include beliefs and desires in a ‘subjective’ form of rationality, it maintains that choices are based on a rationality of the chooser, which again depends on the prerequisite level of information (Berg & Gigerenzer, 2010; Goldthorpe, 2000: 119). However, the specific shadowing and highlighting of data performed by the website constitutes transparency in a specific simplified way (as simplified decontextualized information exhibited with a certain rationality in mind). The “Education Zoom” website provides a governed form of transparency.

Statistical unemployment metrics are entangled with these macro-economic theories of supply-and-demand of graduates who are characterised as rationally optimising human
beings. The policies in Denmark (and elsewhere) have tackled the supply-side of the ‘mismatch’ between supply and demand. The emphasis on the supply side configures education as an input for the labour market, which should be adapted to the needs of the labour market. The macro-economic idea of a market that over time adapts to the demand is observable in the promotion of transparent information. The direct regulation of the supply side only becomes relevant when the graduate unemployment is high over time and across an entire cluster of degree programmes, which is a sign that the market forces did not do their job.

The idea of the self-regulation of supply and demand within the market is also found in supply policies in other countries. In the UK, for example, where employability has been on the political agenda for at least a decade longer than in Denmark, the state has governed universities through the marketization of student choice combined with tuition fee funding (Boden & Nedeva, 2010: 45; Tomlinson, 2012: 409). These policy trends have been followed up by the “transparency revolution” of the 2016 Higher Education and Research Bill, “enabling students to make informed choices between institutions and courses that meet employers’ needs”, with clear parallels to the Danish “Education Zoom” (Department for Business Energy & Industrial Strategy, 2016). But, unlike the Danish case, the UK has not implemented direct regulations on the graduate supply through caps on the allowed admission in selected degree programmes, as in the Danish case with the “Sizing Model”\(^8\). Thus, the UK incentives are directed solely towards student choices and are in that sense more clearly market-based, while the Danish incentives combine the self-regulation of the market with a direct, legal regulation of higher education institutions and their discipline-specific supply of graduates.

\(^8\) Even though both the UK and Australia previously had a student cap, these did not restrict universities at discipline level, and furthermore they were not related to the demands from the labour market, but rather to financial concerns about controlling the total number of higher education costs. In both countries, these caps have been removed earlier in this decade (Norton, 2014: 2-3; Secretary of State for Business Innovation and Skills, 2011: 48-50).
3.2.4 Obligations towards the future

The “Education Zoom” policy incorporates a specific mode of governing. It promotes a certain relation between data and the future as it urges the next generation of students to make the ‘right’ educational choices. Potential students are enacted as (self)calculable persons (Rose, 2000: 213-214). To theorize this mode of governing, I will draw on Vincanne Adams, Michelle Murphy, and Adele E. Clarke (2009), who propose *anticipation* as an important contemporary state of being. Anticipation is conceptualised as an affective-temporal state caused by the ‘predictable uncertainty’ of the future. As statistics provide a means of prediction through the notion of *probability* (Desrosières, 1998: 59; Hacking, 2006), it can be used to generate ‘speculative forecasts’ of a future that is always uncertain. Ian Hacking shows how the idea of probability is entangled with the notion of frequency. A higher frequency in historical-statistical cases is interpreted as a higher chance for the specific event to occur in the future. Or, we could say that this specific future outcome is more probable than another outcome with a smaller frequency (Hacking, 2006: 43-53). Probability thus emerges as a core statistical concept aimed at minimizing future risk, and by designing it as transparent information on a website, students become involved in managing this risk. The possibility of prediction of the uncertain future invokes anticipation as an “affective state” or condition that “interpellate, situate, attract and mobilize subjects” (Adams et al., 2009: 249).

Policies such as the “Education Zoom” initiative work by enacting this affective state involved in the anticipation of a ‘distant future’ of employment (Guyer, 2007; G. B. Nielsen & Sarauw, 2017: 165). Potential students are invited to anticipate comparable distant futures of employment (as well as the nearer future of studying) as they look up programmes at the website. Thereby, “Education Zoom” produces “possible futures that are *lived and felt* as inevitable in the present, rendering hope and fear as important political vectors” (Adams et al., 2009: 248) and futures that are enacted as an extension of the statistically measured past (G. B. Nielsen & Sarauw, 2017: 167). Anticipation however comes with necessity and moral demands, as Adams et al indicate:

*Anticipation, as a lived condition or orientation, gives speculation the authority to act in the present. Anticipatory regimes offer a future that*
may or may not arrive, is always uncertain and yet is necessarily coming and so therefore always demanding a response. Anticipatory regimes in their specificity can conjure many versions of the future, but what all speculations share is the orientation towards and claim to the future as that which matters. Anticipation is not just betting on the future; it is a moral economy in which the future sets the conditions of possibility for action in the present, in which the future is inhabited in the present. Through anticipation, the future arrives as already formed in the present...

(Adams et al., 2009: 249)

Through anticipation, the conditions for present actions (such as choices) are set. Thereby anticipation provides a political potential for governance. Political practices may both incorporate anticipatory mechanisms (by providing forecasts and predictions) and produce affective states of anticipation as their effects. But, according to Adams et al, the present is not merely affected by the anticipated future – the future is also created by present anticipations, as “material trajectories of life [...] unfold as anticipated by those speculative processes” (Adams et al., 2009: 248). The speculative futures are enacted through decisions in the present. Thereby, students become “rational [choosers] in the short run and “makers of [their] own fate” in the long run” (Guyer, 2007: 413).

Even though I have not come across any documentation of the extent of potential students’ use of “Education Zoom”, and even though most of the students I have spoken to during my fieldwork and interviews had never heard of it, the policy still works. Adams et al emphasise that regimes of anticipation affect subjects individually and collectively (Adams et al., 2009: 249). Thus, from a theoretical point of view, the forecasts provided by policy initiatives such as the “Education Zoom” website may not only affect the individual student (and potential student), but also work through the general public. The statistics are formally distributed via the website, but they also operate in the public space, at the very least in the form of an everyday knowledge of the high graduate unemployment rates within the humanities. Thereby, they produce a ‘collective anxiety’ as well as an individual fear in relation to the unemployment ‘risk’ before choosing an
area of study. The collective hopes and anxieties affect individuals and thereby amplify the effect of the forecasts.

To understand more precisely how potential students are affected by these anticipated futures, I will add the work of David Savat (2009) and Patricia Clough (2007) to the analysis. They both talk about modulation (a notion introduced by Deleuze) as an amplification or extension of disciplinary power (a notion introduced by Foucault). Modulation is about adjusting or transforming courses of actions, for example the choices made by potential students, in a constant transformation process (G. B. Nielsen, 2015: 212), often in the form of self-reformation. Unlike disciplinary power, which works by observing subjects and thereby compelling them to adapt to the norm, modulation works by observing patterns. Thus, ‘modulatory governance’ is directed towards the pattern, or “the regularities of the aggregate effects of individual bodies” (Clough, 2007: 19) such as the relation between certain choices and certain outcomes, or between certain populations and certain risks, rather than towards the subject (Clough, 2007: 19-21; Savat, 2009: 48-51). Through an ongoing observation of negative patterns of the past and present, these patterns and events can be anticipated and thus prevented (Savat, 2009: 48-51). Thereby, subjects and especially their futures become malleable (see also Adams et al., 2009: 256). As Savat states:

*The moment when a person’s weaknesses and strengths, likely diseases and resistances, likely failures and desires can be predicted, is effectively the moment one can order those persons in advance.*

(Savat, 2009: 49)

“Education Zoom” can be understood as a policy device that ‘orders’ or requests a specific kind of graduates in advance. According to Savat, the production of continuous data on likely futures enables the observer, which is often the subject itself, to steer outside potential dangers such as personal failures. Graduate unemployment is an example of such a failure. When the graduate unemployment statistics are produced and distributed to potential students through “Education Zoom”, the students are asked to observe and thus avoid the pattern of graduate unemployment by choosing a different area of study where a risk of unemployment is less likely. This injunction of the avoidance of negative
patterns or probabilities through self-reform becomes a very interesting and subtle mode of what Savat calls control (Savat, 2009: 57), or what I call governing, through “a technologically dispersed education/training in self-actualization and self-control at the preindividual, individual, communal, national, and transnational levels” (Clough, 2007: 21). It is a governance by circulation or modulation of affect (Clough, 2007: 20) in the form of anticipated futures. The availability of comparable and probabilistic statistics with dramatically different numbers forces potential students into a control-relation to their futures by being entrusted the responsibility of their future labour market success or ‘failure’.

The choice of area of study can thereby be seen as an enactment of (individual and collective) affective states affected by anticipation, and of the injunction of avoidance of negative patterns. But there is more at stake. The choice is also affected by a contractual relation between the potential student and the state, which is particularly firm in a country like Denmark, where the state solely funds higher education. Annemarie Mol attaches what she calls the ‘logic of choice’ with a particular configuration of the ‘citizen’, which is defined by civic laws in the forms of ‘contracts’ (Mol, 2008: 29). The contract of higher education in a Danish context links the state offer of a free higher education degree of your own choice to an individual obligation of using the choice wisely (meaning rationally, as indicated by the ‘relevance’ metrics). With the ‘partial closure’ (Hammer, 2010) of the numbers at the “Education Zoom” website, the state expresses expectations and incentives for students to choose some programmes rather than others as part of the civic contract. Thereby, the students are not merely affected by their own and the public affectivities when selecting area of study, but also potentially need to take their obligation towards the state into consideration. Thus, while the chooser (such as a potential student) is usually celebrated as a sovereign subject, or as the decider, this subject may partly be making a choice as a stand-in for someone else (such as the public and particularly the state that invests in the subject). By providing predictions on the consequences of decisions through the website (and the public media), the state becomes an ‘auctor’ or someone who augments, increases, or perfects the act of decision made by the potential student in line with state interests (Chun, 2015: 154) as well as obliges subjects to pay attention to evidence of risk and to pursue the moral responsibility of
securing the ‘best possible future’ (Adams et al., 2009: 254-256). In other words, the choice comes with an injunction of a responsibility towards the state.

3.2.5 Enactments of how to live with a ‘risky choice’

Importantly, however, the forecasts do not only affect the potential students making a choice. They also affect the students who already made a choice, but a ‘risky choice’ such as a humanities programme with a relatively high graduate unemployment rate. In posterity, the choice both comes with a sense of ‘nervous anxiety’ (Adams et al., 2009: 247) and with guilt (Mol, 2008: 79-80). This effect of the circulation of graduate unemployment data was observed by one of the heads of studies that I interviewed during my fieldwork:

Some of these concerns [on the utility of their area of study] are very evident among our students, so the political discussions or discourses spill over. I mean, the young students and in particular their parents also read the newspapers and watch the news, and hear the politicians talk about the advices against... no, that is not what they say, right, they say that they promote engineering, right? And then we have a young woman who would rather study Spanish or Dramaturgy or something like that... and of course that installs itself [in her] as a doubt about making the right choice.

(Interview with Head of studies, February 2018)

The head of studies refers to a doubt that I also observed among students. The doubt relates to choice. The doubt is an ongoing companion for the students who are given the responsibility of making a choice for the future that enables them to avoid risk. In my interviews with students from the humanities, I observe three different ways of enacting oneself in the field of possible anticipatory anxiety and doubt: Take responsibility, resist the affective state of doubt, or adhere to a different, more hopeful forecast.

The students associating with the first attitude take responsibility of their risky choice by compensating through a range of other actions. They engage in part-time work alongside their studies, they collaborate with companies during their studies, and they
make particular choices that may make them more attractive for the labour market. Sometimes, they also surrender to the responsibility and risk by selecting a different course of studies along the way, as the bachelor’s student in this observation:

*Before a meeting, I bump into some students and a teacher from the programme that I am following in my fieldwork. The students and the teacher small talk about different topics. One of the things that come up is the lack of new PhD applicants. The teacher asks one of the students if she would be interested in doing a PhD after her master’s degree. She says that she is not sure if she has the courage to go all the way, so she might choose a different area of study for her master’s degree. She is concerned about what doors she might be closing with a master’s degree in an aesthetic area of study.*

(Observation from an informal conversation before a meeting, May 2017)

In this situation, the female student observes two paths for herself – the courageous one where she continues her studies in a solely aesthetic area of study and might face closed doors later on, and the safer one where she chooses a different area of study. It seems like she is anticipating a closure of opportunities if she pursues her studies in the area of aesthetics, which she is probably mastering quite well, since she is asked about her interests in doing a PhD. The risk of the ‘closed doors’, however, may become too stark and push her into a different choice anticipated as less risky.

The attitude of taking responsibility comes with an affective state of doubts and anxiety, as indicated by the head of studies in the quote above. Here, the future appears as an “aggressive and invasive force coming on to the present” (G. B. Nielsen & Sarauw, 2017: 168). The students that I interviewed used words and phrases like the “anxiety to run out of unemployment benefits and get stuck”, “frustration”, “panic”, “stress”, “the nagging thing in the stomach”, “doubts”, and talked about groups of friends affected by “mental disorders, anxiety, and depression” (Interviews with students, November 2017 – March 2018). These affective states were all associated with the unemployment rates and the broader image of the humanities as “not really useful”. The same kinds of affectivities also became manifest in my observations of student conversations:
In a coffee break, I hang out in a sitting area where around ten student representatives from different areas of study are gathered. They talk about how they like their studies. One female student talks about how she is still in doubt about her choice of study. Even though she finds the area of study very interesting, she does not know if it was the right thing to do. She talks about the general anxiety and a lack of motivation among her fellow students and herself because of the ongoing talk about unemployment. The other students respond with concern and show that they recognise the expressed doubt.

(Observation from a meeting break, May 2017)

In this situation, the female student (which is not the same person as in the previous observation) anxiously observes the future prospects for a graduate from an aesthetic area of study. These future prospects were directly associated with graduate unemployment. Thus, the anticipatory mode of the supply policies and their distribution of statistics highly affect students within the humanities negatively.

Several students escaped the negative anticipation by committing themselves to a particular future and thereby reducing the uncertainty. The particular future most often pointed towards by the students I interviewed was ‘high school teacher’. The option of becoming a high school teacher requires a certain educational profile, but it is associated with less uncertainty. As one student expresses it: "When you have a plan of becoming a high school teacher, then you are more capable of taking it easy. You get a sense of calmness by knowing where you are going" (Interview with student, March 2018). The commitment relaxes the uncertainty of the future and the affective states of the students. But it is also an example of how the anticipation of uncertain futures affect the trajectories of students, as they make defining choices based on this commitment to the future in the present.

Meanwhile, there are also other ways of dealing with the negative prospects. One way is to resist the injunction to anticipate the future and make choices in relation to forecasts. As it shows in the following quote by a student, this strategy, like the strategy of taking responsibility, also requires a lot of work:
I exert myself enormously to free myself from [the statistics]. Because, well, it is the thing you are always confronted with, and that is just fucking frustrating, I feel, because ... it almost reduces your own decisions as a human being, right?

(Interview with student, March 2018)

This student speaks about ‘freeing himself’ from the statistics. This is not an effortless task. The experience of exertion that the student talks about was shared among several of the interviewed students. They had decided not to think about unemployment and become affected by the negative forecasts. However, ‘not thinking about it’ is an active stance rather than a passive attitude, since the confrontation by statistics is continuous and commanding. The students undertake a mode of resistance towards the reduction of the individual decision, and thereby also an affective state that affects the students negatively, although more in the form of exertion than fear.

Negative anticipations can also be dealt with by adhering to a different forecast than the one provided by the graduate unemployment numbers. Listen to Elizabeth, a graduate student within culture studies who participated in a group interview:

Elizabeth: No, [I have not had doubts] at any time... at all, I mean not at all. I have never felt as sure about making the right choice as when I started my first semester here, and I am not at all nervous if I get a job when I am done.

Alice: (laughing) that was very concise!

Me: But how do you then feel about the way the humanities are talked about?

Elizabeth: It is shit. But that is also because so few people actually understand how important the humanities and the things we work with are, because they don’t know what it is. And in a world that becomes more and more digitalised, entirely new problems that we as humanists can take care of will emerge, and that entails that we as humanists will
continue being relevant, and that is also the reason why I am not nervous.

(Interview with students, February 2018)

I wish that you could actually listen to Elizabeth, because the tone of her voice as she said these things was quite firm and convinced, to the astonishment of the rest of us. But she has good reason to be firm and convinced. As the quote shows, Elizabeth draws on a different ‘speculative forecast’ than the one provided by “Education Zoom”. This forecast is embedded in an analysis of the future development of society rather than in the statistical prediction of high unemployment rates of humanist graduates. This alternative forecast allows for a different anticipation, one that is associated with hope and with the importance of the humanities. Thereby, her choice is reconfigured as a responsible one rather than a risky one.

While these interview quotes and observations are indicative rather than representative and all-encompassing, they show how “Education Zoom” is entangled with a mode of governance that works through the mechanisms of affective anticipation and the modulation of present actions in the prevention of a negative future, which both becomes an affective desire for the individual and a contractual obligation towards the state. For potential students, these desires and obligations may affect their choice of study, but for the students who already chose an area of study with negative forecasts, the affective effects of the policy are severe, unless the students are able to free themselves by resisting or redirecting anticipation.

3.2.6 Chapter conclusion
Conclusively, from the above analysis of the statistical graduate unemployment metric and the ways it has been put to use, a particular ‘relevance’ configuration emerges – a macro-economic configuration where the ‘relevance’ of higher education is about a long-term match in supply and demand of early career graduates educated within specific clusters of area of study, related to specific labour markets. The implied causal relations assume market self-regulation of supply and demand dependent on transparent information, but not sufficiently self-regulated to avoid the need for governmental regulation in addition. Importantly, the graduate unemployment metrics configure the
supply as the area of study. The over-supply is defined as an over-supply of graduates from, for example, Language, Culture Studies, or Arts. However, the causal idea of area of study as determinant for graduate employment is not the only possible idea. In Chapter 7, we shall see how this differs from other ‘relevance’ configurations, where the relevance of higher education is rather made up of the particular curricular elements within a degree programme, largely independent of the area of study.

The ethnographic material on the ‘fields of possibility’, as well as on the enactments of ministries (the governing) and (potential) students (the governed), enabled an analysis of how ministries and students emerge in their entanglements with metrics. Ministries, who use their ‘political gut-feeling’ to determine the feasibility of particular metrics, become strengthened by fixed and unquestionable numbers. The subjects of governance, who are affected by the anticipations enabled by the numbers, need to find ways around negative prospects to be able to live with them without (too strong) feelings of anxiety and guilt. The policies work by using statistics to anticipate the future through the recognition of negative patterns in the past and give subjects (such as potential students) the responsibility of controlling their future and avoid the negative patterns. The metrics attempt to fixate a particular pattern that can be used in rational decision-making, both when it comes to the legal regulation of higher education institutions and to the soft incentive-based governance of potential students through transparent information. In the next chapter, I will move on to the other context where graduate unemployment statistics are brought to use, namely in the quality work at universities. Here, the people entangled with and affected by metrics are the Danish Accreditation Institution and heads of programmes at the universities.
3B. Graduate employment quality indicators

‘Relevance’ is also configured as a matter of the performance of degree programmes by the unemployment metrics.

The graduate unemployment rates are, as introduced in the previous chapter, used in a national context in the policy initiatives of the "Sizing Model" and the "Education Zoom" website. Meanwhile, they are also used in the quality work at the universities. In these contexts, the graduate unemployment statistics change their modes of operation slightly, and with new operations, they configure education and ‘relevance’/’employability’ differently.

This chapter will continue the analysis of the graduate unemployment rate by studying how it emerges in the quality work context of the universities. I will draw on the initial analysis of the graduate unemployment rate metric in Chapter 3A and compare the emergence of the metric in the national-political context with its emergence in the institutional-administrative context analysed in this chapter. Overall, the metric changes from working as a regulatory measurement device in one context to a performance indicator in the other. The performance indicator has a very different theory embedded in it than the theory of supply-and-demand of graduates to certain labour markets. Rather, as I will show in this chapter, as a performance indicator, the unemployment rate is a function of the performance of the programme.

The chapter draws on various notions, including ‘performance indicators’ (Redden, 2019) the ‘material-affective work’ of colour coding (Brøgger, 2016; Brøgger & Staunæs, 2016), ‘accountability’ (Hopmann, 2008), ‘catalyst data’ (Sellar & Lingard, 2018), ‘performance management’ (Holm, 2018; Pollitt, 2013), ‘actions’ (Knox, 2016), ‘the new spirit of capitalism’ (Boltanski & Chiapello, 2005b), and the already introduced sociology of quantification concepts by Fourcade (2016), Gorur (2013), and Espeland & Sauder (2007; Espeland & Sauder, 2016). This variety of notions helps me tease out the particular performativity of the metric when it operates within quality assurance. The chapter will progress by first analysing how the metric operates in this context. Next, it
will analyse examples of the enacted effects in the form of two actions that have been initiated at Danish universities in order to improve the graduate employment figures. Thereby, the chapter opens the discussion of what constitutes a ‘relevant’ programme in terms of its design, and not just in terms of its number of students. Finally, I will conclude on this chapter and read it diffractively with Chapter 3A. But first, let us look into the work of the graduate unemployment rates in university quality work.

3.3 Graduate employment statistics in quality work
Graduate employment statistics are one of the mandatory key figures in Danish quality assurance. In Denmark, quality assurance of higher education is audited and accredited by the Danish Accreditation Institution in accordance with the international Standards and Guidelines from the European Association for Quality Assurance in Higher Education (ENQA: 2015). One of the key accreditation criteria for higher education institutions in Denmark states that the institution should have “a practice which ensures that new and existing programmes reflect the needs of society and are continually adapted to societal development and the changing needs of the Danish labour market”. This should partly be done by monitoring the graduate employment of degree programmes and by taking initiatives to improve it (The Danish Accreditation Institution, 2013: 16). Remarkably, the universities have chosen to do this in a very similar manner, all using the “Current Unemployment” metric published by the Ministry of Higher Education and Science. I will return to the framework of accreditation in Chapter 9, and now stick to the graduate unemployment rate and unfold the implications of embedding this metric in local quality work, in terms of how the metric changes its configurative work.

3.3.1 Thresholds and colour codes
In Chapter 3A, I analysed how the graduate employment statistics were used in the context of the “Sizing Model” and “Education Zoom”. In relation to the “Sizing Model”, the clustering of degree programmes that were assumed to educate for the same labour market resulted in a configuration of ‘relevance’ as a supply-and-demand relation between the numbers of graduates educated within these clusters and a sluggish labour
market with a relatively static graduate demand. In “Education Zoom”, however, the unemployment numbers were used at programme level as transparent information for potential students on the expected labour market outcome of their choice of study.

When we turn towards the quality work at universities, the numbers are used at programme level as well. Here, they are embedded in different data dissemination devices (for example in documents called ‘data packages’ or in digital report templates) along with around five to seven other key figures on the degree programme. While the graduate unemployment rates published on the Ministry website are publicly available, and thus always knowable for heads of programme (and everyone else), the annual embedment of them into data dissemination devices translates them into something more than publicly available free-floating numbers. They become formalised entities surrounded by a comprehensive formal process. Furthermore, the rates become entangled with quality assurance as they enter these formal processes, and thus they emerge as one of several proxies (Gorur, 2013) or indicators (Redden, 2019) of quality.

The formalisation of the data implies a series of discussions, document productions, and approvals. In this process, degree programmes become visible across the organisational layers in a quantified and categorised way. The process is organised differently in different universities, but it typically involves a collection of inputs from the group of teachers and the Study Board (with student and teacher representatives) of the programme. The head of programme, who is usually responsible for producing documents, writes up comments on the key figures, status reports on previous action plans, and new action plans. In one university, the action plan is decided at a ‘status meeting’ (with the participation of the Faculty pro dean, head of school, head of programme, and a quality executive), but in other universities, it is commented and approved in writing by the responsible head of study. Thus, the report and the approval constitute a formal cycle of communication and decision-making on the quality of the degree programme. Even though I was not able to follow the quality work ‘upwards’ in the organisation during my fieldwork, the cycle extends from the Faculty to the University Directorate that decides on the enrolment numbers and eventually closing of degree programmes.
Early in the process, the key figures are marked as satisfactory or unsatisfactory with reference to a key figure memorandum that defines the thresholds. All three universities that I studied have aligned their threshold to the definitions of the “Sizing Model” shortly after its launch. For the humanities, the “Sizing Model” threshold calculation of two percentage points above the national average results in a considerably lower threshold than the previous calculation methods. The universities also now define unemployment as 4th to 7th quarter after graduation, using the unemployment data calculated by the Ministry. Conclusively, the universities have conformed to the metric produced by the Ministry.

![Kandidat Status for någetal](image)

**Figure 4: Green tick off marks and red lights marking five key figures of a programme at the University of Southern Denmark**

The threshold of the graduate unemployment rate determines a colouring of the employability indicator, indicating if there is a problem or not. For example, at the University of Southern Denmark, a green tick off sign is triggered if the number is marked as satisfactory, while an unsatisfactory mark triggers a red circle, called a “red light” (see figure 4). In case of a “red light”, the head of programme is obliged to write a comment. If a programme has more than three “red lights”, it faces an obligation of annual reports on the action plans and ultimately possible decisions by the Board of Directors on cuts in enrolment positions or shut down of the programme. The materialisation of numbers into colours makes up an important feature of the quality work.
Governance through colour coding has previously been theorised by Katja Brøgger and Dorthe Staunæs as a material-affective infrastructure of reform implementation (Brøgger, 2016; Brøgger & Staunæs, 2016). In their analysis of the implementation of the Bologna process, they describe how the colour coded map of the participating countries, indicating their level of implementation, accelerates the implementation through naming, shaming, and faming:

The color coding and naming exercise incites the countries and the people participating in these exercises to move from the “reddish alert colors” to the calmer green nuances indicating success and hopefully a better sense of oneself... The “alert system” keeps the educational systems, stakeholders, and agents stretched between the potential embarrassment of shame and the potential thrill of fame.

(Brøgger & Staunæs, 2016: 231)

Thus, the colours can be understood as connected to different affective effects, leading the participants to get involved in adapting the standards of the Bologna process at a national and local level. As Brøgger writes,

[red], yellow and orange are the undesirable colours that represent the bottom of the scale: these are the colours associated with shame and the embarrassment of not performing well. Dark-green and light-green colours, on the other hand, are associated with success and excellent (or almost excellent) performance.

(Brøgger, 2016: 82).

This form of governance resembles the colour coded performance indicators in my material, where the colours green, red, and, in some cases, yellow, appear. But while the coloured visuals in the case of the Bologna process constitute the main mode of governance, which Brøgger calls ‘soft governance’, the colours are a sign of a more tangible danger in the case of the University of Southern Denmark, as a repeated appearance of three “red lights” can lead to a closing of the degree programme. Through the colour coding and the thresholds, the metric becomes an ‘alert machine’.
With the common threshold, all degree programmes are made commensurable. Commensuration is about making different entities (such as programmes) numerically comparable. This can be done in different ways, for example in terms of utility of the entities, the price of the entities, or the cost-benefit ratio of the entities (Espeland & Stevens, 1998: 315). Thereby, commensuration processes transform qualities into quantities – sometimes easily and sometimes in more cumbersome ways (Espeland & Stevens, 1998: 318). In the process, some information is discarded while other information is re-organised into new forms (Espeland & Stevens, 1998: 317). As Espeland and Sauder write, commensuration “simplifies in two ways: by making irrelevant vast amounts of information, and by imposing on what remains the same form – a shared metric” (Espeland & Sauder, 2007: 17). The properties that are made commensurable in the metric make other categorisations of difference irrelevant, and thus invisible.

While all three universities in adopted the “Sizing Model” threshold, the threshold differs across the broader areas of study at Aalborg University (which was not part of my fieldwork). Here, the threshold between ‘green’ and ‘yellow’ is 20% for programmes within the humanities (and between ‘yellow’ and ‘red’ it is 23%), while the ‘green-yellow’ threshold for technical sciences is 10% and 15% for social sciences (Aalborg Universitet, 2018b). Thus, the definitions of thresholds at Aalborg University differ from other universities by taking not only the national average, but also the historical numbers at the Faculty into account. This difference indicates that different areas of study are not completely commensurable and cannot be assumed to deliver the same performance – maybe justified by their different historical performances, or maybe by their inherent difference. Either way, in the reality of quality work at Aalborg University, the enfolding of matter into matter (Barad, 2007: 180), or the unemployment history of the broader areas of study, is taken into account and materialises differently, as a larger share of degree programmes within the humanities presumably will turn out green or yellow than at other universities, where the majority of humanities degree programmes are coloured red.
3.3.2 Performance indicators and problem-solving

In quality work, the unemployment rate emerges as a matter of the performance or behaviour of degree programmes. The comparison of programmes, enabled by the rankable numbers, is an expression of ‘quality’ rather than ‘demand’. Interestingly, this different expression relocates the accountability relation (Hopmann, 2008) embedded in the numbers. While the “Sizing Model” and in particular the “Education Zoom” website configure unemployment as a ‘failure’ of the individual students in terms of the rationality of their choices of area of study, and thereby articulate a relation of students failing the state (and themselves), the performance indicator of ‘relevance’ configures unemployment as a ‘failure’ of programmes that thereby fail the students (and the state).

As a performance indicator, the unemployment rate expresses expectations to universities and programmes in relation to their obligations towards students, who are entitled to a degree that enables employment (in line with a 'US constitutional mindset', see Hopmann, 2008: 425-431).

As a performance indicator, the unemployment rate is expected to be fluid (Fourcade, 2016: 185) in the sense that degree programmes should be (equally) able to move up and down the rankable order produced by the numerical calculations. Thereby, the numbers presented in the key figures become malleable. If a degree programme has a ‘red’ graduate unemployment rate, it can literally act its way out of this situation by an ongoing development and implementation of initiatives. Performance data call for action (Winthereik & Jensen, 2017: 260), and in the formalised process of generating and distributing key figures, action planning is even mandatory – at least for degree programmes with unsatisfying numbers. Furthermore, the obligation towards action planning is not only inherent in the reporting system for degree programmes, but also at Faculty and university level, where different initiatives and projects are put in action to change the employment numbers across an entire group of programmes. In other words, it is important to show that action is taken at all levels. This was made clear to me, both by the accreditation guide and by several informants.

The idea that actions can lead to changes in future employment numbers constitutes a causality of actions and their measurable effects. This causality is in line with the logic of
**performance management**: “The core logic can seem deceptively straightforward: organizations and individuals are given objectives, measurable targets are derived from the objectives, and then a wide variety of instruments of authority or incentive are deployed to encourage staff to hit or exceed their targets” (Pollitt, 2013: 346-347). When the targets are set, the staff acts in ways that will ensure that these targets are met. As Guy Redden points out, the assumed improvement provided by performance measurement must necessarily be understood in terms of the critical information that it provides, which various actors can then make use of (Redden, 2019: 5). Unsatisfactory performance data are used in some way or another, for example as the foundation for decisions on existing activities and programmes (among many other types of use that Pollitt demonstrates (2013: 349)). In university quality assurance, these decisions materialise as action plans.

The performance management literature is most often occupied with either the effectiveness or performative effects of different ‘instruments of authority or incentive’ that are implemented to ensure the motivation of staff to improve their work (for example Holm, 2018; Pollitt, 2013). A similar interest in the performative effects of performance data can be found in the field of education research. Here, Bob Lingard and Sam Sellar use the notion of *catalyst data* to conceptualise the effects of large-scale assessments like PISA on national or ‘post-national’ policy-contexts. By using the notion ‘catalyst data’, they emphasise the value of the data produced in these assessments as a matter of what they *do*, in terms of catalysing effects, rather than what they *show* (Sellar & Lingard, 2018: 368). When performance data enter a particular context, they “provoke a reaction” and open windows for policy reform through ‘affective impact’ (Sellar & Lingard, 2018: 368). This conceptualisation suggests that policy reform (or ‘reform’ at institutional or programme level) is a main purpose of generating and distributing key figures. Performance data catalyse change by producing affect.

Meanwhile, in the case of the unemployment rate, there are two problems with this relation between actions and numbers. Both problems have to do with time and with the calculative operations of the metric. First, the performance data presented at a given time represent a bygone time. The present data will most often measure graduates that
graduated on a previous (or pre-previous) programme regulation, since the data arrive into the quality assurance processes two or three years after graduation, and thus around four or five years after the graduate began the master’s studies (which defines the programme regulation of their master’s degree). As most programmes reform their regulation at least once in a five-year period, the age of the data makes them quite obsolete and irrelevant as an indicator of current problems. This irrelevance of the indicator is, however, generally ignored.

Second, the effects of actions will not show in the performance data anytime soon. While the ideal version of the performance management cycle and the fluidity of the graduate unemployment rate assumes that the actions will improve subsequent performance data, this is literally never the case. The performance data are encumbered with a significant delay. If, for example, an action targets bachelor students, the number of years until this action will show its effect on the graduate unemployment rates might reach seven or eight. Even if an action targets students graduating in that year, the effects will necessarily not show in the first two or three years because of the time of measurement (after 7th quarter) and the time required for data processing. Thus, the ‘production time’ of a graduate and of data is too long to make up a useful performance indicator. The relation between the changes in the behaviour of the programme staff and the data is too complex.

3.4 Enactments of a ‘relevant’ programme

The actions resulting from the ‘graduate unemployment performance indicator’ are interesting, as they represent enactments of how to improve the ‘relevance’ of a programme. The actions do not emerge directly from the performance data, because as Redden points out, it is “somewhat illogical to assume that the creation of data in itself creates methods, capacities or resources that actually help actors to improve their performance” (Redden, 2019: 30). Rather, the actions emerge from the field of possibilities that the data co-produce. In this section, I will analyse the types of actions that come out of the action planning. As I will show, these actions are affected by the
framework of action planning and key figures, and by the metric that produces the key figures.

I will analyse two selected actions in detail. These two actions represent two extremes within the total amount of actions. They are both quite comprehensive, in each their own way, but they approach the improvement of their performance quite differently. My purpose here is not to evaluate the actions, a task that I would find almost impossible because of the above-mentioned uncertainty of the effects of such actions. Moreover, my purpose is also not to map the entirety of actions that are developed at the universities, even though that would be the hope of my contacts at the universities. The range of actions by far exceeds the two actions analysed here. Rather, my purpose is to show how different university environments propose actions and attempt to improve their unemployment rates. First, we will visit the Musicology degree programme at Aarhus University, and next we will visit the Humanities Faculty at University of Southern Denmark. Importantly, however, the differences between the two actions are not necessarily representative of the initiatives at the two universities in general. Bearing that in mind, I will now move on to the first action: The redesign of a bachelor degree programme.

3.4.1 Long-term changes: Approaching new labour markets

The first action that I will analyse is the revision of the bachelor programme in Musicology. The revision was a result of new research interests within the research environment, gradually emerging over decades. Concurrently, these new research interests have appeared in the degree programme as new modules and as a new specialisation. The revision that took place during my fieldwork was about strengthening this specialisation.

The action was not invented in the process of writing an action plan. The trajectory of its birth was a lot more complex. Meanwhile, it was added to the action plan as the sole action related to the target called “relation to the labour market”, which is connected to the graduate unemployment rate indicator⁹. In the following observation notes and

⁹ While this action is related to the bachelor’s degree programme, a similar action was suggested for the master’s degree programme for the following years. Meanwhile, due to
interview quotes, I will invite the reader into the world of this case example and sequentially analyse the action and what it shows about how the improvement of graduate employment is imagined and designed. Let me first explain the context and content of the strengthening of the newer specialisation:

The BA in Musicology needs a new programme regulation. In fact, all bachelor’s programmes across the Faculty of Arts need to revise their programme regulations, but Musicology is up for a major revision. Right from the beginning of my fieldwork I am told by heads of programme and teachers that the purpose of the major revision of the degree is a strengthening of one of the two specialisations within Musicology – a strengthening of the most recent specialisation, which is aimed at conquering new labour markets in the music industry and the cultural scene. Even though this specialisation has been offered to students for years, only a few students each year choose it, and some of the teachers believe that one of the reasons for this poor recruitment is the relatively vague profile – and in particular the vague labour market profile – of the specialisation. The low number of students is a problem, both because this specialisation is cheaper than the other one, and because it reflects new developments within the research environment better than the other profile. Thus, a better balance of students would be preferable. So, a working group with two teachers and two students is assembled to write the new programme regulation over the course of the summer.

The group and I meet several times over the summer in a small meeting room in the far end of the top floor corridor. The meetings are rather informal and centred around the task of writing the programme regulation. This means that the main activity taking place at the meetings is continuous rewritings of the draft document – at some the timing of my fieldwork, I was only able to follow the action related to the bachelor’s programme.
meetings the entire document, and at other meetings a specific section of the document that needs particularly careful rewriting. Through these processes of rewriting, the final course module descriptions, learning outcomes, and examination regulations gradually emerge, including a strengthened specialisation aimed at the cultural labour market related to music production and events.

While some parts of the programme are taught separately according to the specialisation, most parts are taught jointly. In the joint parts, ‘project management’ and ‘project design’ appear as relevant skills to introduce into the curriculum. One of the teachers in the working group observes these skills as important components in the new specialisation. One of the students in the room observes them as a specification of the skills humanist graduates can offer the labour market, and mentions that they would therefore be attractive to students. The ‘project management’ skills end up in the course module called the Practical Music Project. They materialise as curricular content in both the implementation of projects involving composition, performance, or production; in readings of project-related literature; and in reflections on the implemented projects based on the readings. Later in the text, they recur as learning outcomes on the “participation, development, and implementation of diverse practical-musical project processes...” and on “bringing a critical and constructive perspective on own and others’ practical-musical projects” (Aarhus Universitet, 2018). Other skills, such as ‘cultural analysis’, ‘oral and written dissemination’, and ‘qualitative methods’, are also added as part of the strengthening of the newest specialisation within the joint curriculum. Furthermore, within the field of musical production, recorded music, podcasts, beep sounds, and music videos are added to the renowned object of live music.

In the separate parts of the curriculum, ‘experience economy’ and music as a ‘cultural product’ in ‘commercial contexts’ are considered important
elements. The elements added to the joint part of the curriculum are also further enhanced in the separate part.

(Observation note extracts and interviews with teachers, May 2017 – April 2018)

In the observations assembled in the observation notes above, the curricular content of the new specialisation emerges as a mixture of project management and design, qualitative methods and culture analysis, dissemination skills, experience with emerging music media, and knowledge on commercial and economic aspects of music as a product. The teachers and students in the working group perceive the specialisation and its content highly ‘profession and career minded’, both because of the added content and because of the choice of specialisation that students will have to make already within their first year. Thus, the specialisation towards a particular labour market is enacted as an action that can improve ‘relevance’.

Meanwhile, these new curricular contents may be associated with a particular organisation of the labour market that is entangled with a ‘new spirit of capitalism’, as Luc Boltanski and Eve Chiapello conceptualise it (Boltanski & Chiapello, 2005b). Boltanski and Chiapello analyse this ‘new spirit’ in relation to previous ‘spirits’, meaning ideologies that justify why people commit to capitalism despite its exploitation of them. A ‘spirit of capitalism’ “stems from a relatively stable set of arguments, most of which have been shaped by economic theory” (Boltanski & Chiapello, 2005b: 163). The previous ‘spirits of capitalism’ were centred on large, integrated, hierarchically organised mass-producing firms incarnated by a director, a security provided by the welfare state, and a meritocratic form of fairness. The ‘new spirit of capitalism’ rather rests on a different configuration, where capital is accumulated by network firms with varied and differentiated productions, fuzzy organisations, transversal flows (rather than hierarchical ones), and permanent change. The justificatory logic of ‘the new spirit of capitalism’ is characterised by a principle of activity rather than work, and it is organised around projects, where people connect and share their social connections and possibilities with those incapable of getting involved. Security lies in the ability to be mobile and adapt to new contexts, as a career is built around a series of projects (Boltanski & Chiapello, 2005a: 105-106; 2005b: 162-170). The new content of the
Musicology programme, related to projects, culture analysis, dissemination, products, and commercial markets can be read as a move towards a labour market characterised by network organisation, projects, and the constant move from one activity to another. Thereby, the changes might be read as a (progressive) way of preparing the students for a different mode of work that is associated with a new organisation of work. This argument is consistent with the Accreditation Institution’s call for the adaptation of programmes to the ‘needs of the labour market’.

Nevertheless, there are several uncertainties associated with this action and its effects on the graduate employment statistics. First, it is uncertain if the adaptation to the new labour market will exceed potential losses in other labour markets. Second, it is uncertain if the graduates will be able to outmatch the workers already employed in the new labour markets. And third, it is uncertain if the graduates will remain distinguishable from other graduates within the humanities. As such, it is a risky action. I continue the case example from above:

Not all teachers approve of the strengthening of the specialisation. They are concerned about the professional profile of graduates from the new degree programme. Their concern relates to the Professional Minimum Requirements [Faglige mindstekrav] in relation to the older specialisation of Musicology, which is aimed at teaching. The Professional Minimum Requirements are standards that a graduate needs to fulfil to get a job as a music teacher in the Danish high school, and thus they have been, and are, very important in the production of employable graduates for the high school labour market, which is the traditional labour market of the graduates. Particularly, the practical discipline-specific skills of singing, playing instruments, arranging works of music, and conducting choirs or bands are key in this labour market, but they are possibly threatened by the new curricular content introduced in the joint parts of the curriculum.

One teacher, who is not part of the working group, observes this threat when I interview him after the programme regulation revision process.
is finished: “In the new programme regulation”, he says, “it takes up even more space. Cultural studies are allowed to spread even wider, and actually also at the expense of what skills-oriented teaching we had ... In some ways, I think we have tried to become less dictated by the labour market than previously. Actually, I believe that we went in the opposite direction – at least if we talk about the high school, right? ... I think we let go of some elements in relation to that, because we wanted them to learn something else than what was specifically high school related. Those practical skills that I talked about, that I still find to be important for a high school teacher in music, or that you still would expect from a high school teacher in music, right? ... I am a bit concerned if [the graduates] can do those things”.

(Observation notes and interviews with teachers, May 2017 – April 2018)

When the degree programme teacher talks about the new programme regulation as being ‘less dictated by the labour market’, he is referring to the traditional labour market of high school teaching rather than the new one of the culture sector. He enacts certain skills as very important for high school teachers, and he fears that the spread of the more academic cultural content will affect the skills level of the graduates in this regard. The practical music skills are taking up less space of the joint curriculum than previously, while other skills take up more space. The new skills, such as ‘project management’, ‘IT-skills’, and ‘oral and written dissemination’, are associated with a strong position in the broader (project-oriented) labour market, but the discipline-specific practical skills are important within the narrow but important labour market of high school teaching. In this way, the traditional tight connection between the degree programme and the high school labour market is both a strength and a weakness, because it secures the position of graduates according to this labour market, but prepares them less well for other, broader culture-related labour markets. Here, in turn, the practical skills that the teacher lists are less useful. As another teacher observes, why would you need practical piano skills if you don’t want to become a high school teacher?
Thus, it is not clear whether the curriculum changes are an overall improvement of the employability of graduates, or merely improves the employability in the broader labour market at the cost of the employability in the narrow, but traditionally strong high school labour market. This may not only be a conflict between two sets of skills, but also between two ‘spirits of capitalism’ (Boltanski & Chiapello, 2005b), as the relatively fixed relation between acquired skills and profession in the ‘high school labour market’ resembles a certification for a particular profession (secured by the ‘Professional Minimum Requirements’), while the new skills as previously indicated associates with a more flexible, networked and project-oriented labour market where the exact job content varies over the career and is impossible to predict.

Furthermore, as the following interview quote from an advisory board member and potential employer suggests, it is simultaneously not clear if the graduates from the newer specialisation will have a strong enough profile for the broader culture-related (and commercial) labour market. The advisory board member has a degree in Musicology as his major subject and Economics as his minor subject, and now holds a commercial manager position in the event industry. He shares the following observation about potential changes in the degree programme:

I don’t necessarily think that you should change the content, because I think you should be careful about... I believe I said this at one of the very first [advisory board meetings] I attended, because someone asked me: “But should we then try to make a Music Management [Programme]?” No, I don’t think you should do that, because then you compete with people like me and those business administration types and business school [graduates], and they are a lot better at it than you are. So, if you create some sort of … programme, where people believe they can do all kinds of things... Then they will compete with someone with five years in Economics or... of course [the economics graduates] are a lot better than that.

(Interview with advisory board member, May 2018)
In the quote, the advisory board member is not talking about the particular curricular changes involved in the revision described above, but more generally about turning the disciplinary profile of the graduates in a very business-minded direction. Thus, the problem of competition against business graduates that he talks about is not an actual problem of the changes made in the current revision. Nevertheless, the quote expresses a second risk involved in specialising the degree programme towards a particular labour market by adding more management-related and commercial elements to it: The ‘new’ labour market might already be occupied by other types of professionals, and the graduates with the strengthened specialisation might not be able to surpass these competitors for the jobs. Hence, it is not only uncertain if the employability improvements in one labour market exceeds the loss in the other (high school) labour market, but also uncertain if the improvements in the one labour market are strong enough to push other kinds of graduates out of the ‘zero-sum’ labour market articulated by the advisory board member.

Finally, the newer specialisation is more similar to other humanities programmes than the old one, which may also affect the employability of the graduates. This uncertainty was observed by the students, as they discussed pros and cons of the two specialisations:

A few months after the interview, I join a group of Musicology students who are due to choose between the two specialisations. They arranged a meeting to discuss the newly strengthened specialisation aimed at the broader labour market within the music industry and cultural sector. Most of the participants are doubtful, while a few are eagerly promoting this newer specialisation. An older student who has enrolled in the newer specialisation, invited by the others to share her experiences of this choice, is gladly encouraging the younger students to make the same choice as she did. But a lot of the younger students remain sceptical. I get the feeling that the identity as a competent Musicology graduate lies within the practical music skills. “We are doing a lot of practical work here – we are not a bunch of bookworms” is how a student later explains how he is useful for society. Furthermore, in spite of her eager promotion
of the specialisation aimed at the broader labour market, the older student expresses a concern that her transition into the labour market might be tough – she will have to compete against not only Musicology graduates, but also graduates from other disciplines.

At the end of the meeting, most students seem to have landed on the safe choice – the teaching specialisation. “You can always become a teacher”, as a student later tells me in an interview.

(Observation note extracts and interview with students, March 2018)

The discussions among the students in this observation are interesting in relation to the analysis of the ‘predictable uncertainty’ of the anticipated futures analysed in Chapter 3A. As several of the students that I interviewed, the students in Musicology also find ‘high school teacher’ (and to some extent teaching more broadly) a ‘safe’ choice that provides an identity of ‘usefulness’ and reduces uncertainty. The teacher specialisation protects the students from becoming a part of the masses of indistinguishable humanist graduates that compete for the same jobs. In the broader culture-related labour market, the students are competing against graduates (or ‘bookworms’) from similar aesthetic disciplines, as well as more commercially oriented disciplines, as we learned from the advisory board member above. Thereby, the ‘positional advantage’ (Tomlinson, 2012: 420) of the Musicology graduates at the labour market may be weakened.

The action of redesigning the curriculum of a degree programme holds an assumption that the curricular content of education matters. It is an important part of the ‘performance’ or ‘behaviour’ that is reflected in the ‘performance indicator’. This same assumption is at play when universities introduce electoral ‘profile courses’ in teaching, project management, journalistic, or professional dissemination, and other similarly profession-oriented topics in the master’s degree programmes. In this assumption, the employability of graduates can be improved through curricular changes. Thereby, it is not only the discipline as such that determines unemployment rates – the contents of the discipline also play a part. However, the action of curriculum development will only show its effects in a long term perspective. The action requires at least eight years before
it shows in the unemployment rates, as the new students have to graduate and enter the labour market before their employment rate can be measured.

Overall, as the case example shows, the action has the clear strategy of strengthening the profile of the graduates in relation to a new labour market, in order to improve the employability and employment of graduates. However, it remains uncertain whether the actualised effects of the action match the anticipated effects. The art of crafting actions that can solve the problem determined by the key figures is not a straightforward task, but rather an ambiguous and risky task that involves a negotiation between different ‘spirits of capitalism’. In addition, the curricular approach to enhancing employability, where the content of education is assumed to affect employability, is an elongated approach. The effects will not become visible in the numbers for many years ahead. The head of studies responsible for approving the action plan for Musicology noted this in his comments for the action plan of the master’s programme, where a similar action was proposed. He wrote: “This is very long term – I wonder if you do something here in 2017?” The head of department answered: “What should we be able to do short term?” From the point of view that education matters, and that the employability lies in the curricular content, this is a valid response from the head of department. Meanwhile, as we shall see in the next section, other approaches to employability foster shorter-term actions.

3.4.2 Quick fixes: Connectivity enhancement

The second action that I will analyse is a Faculty-wide action. It emerged in one degree programme as a trial, and has since then been dispersed across the entire Faculty and made mandatory for all master’s degree students. Thus, the initiative is expected to have a clear effect. While some teachers suggested that the (assumed) clear effect should be demonstrated in data before the initiative was dispersed to the wider range of degree programmes, the Faculty-level manager rejected this idea. According to him, waiting for evidence would be in vain, since clear evidence for the effect of CMS would never become available, as a range of factors affect employment simultaneously. In addition, the Faculty felt that the need to act was urgent. I will now describe the action as a case example and thereafter analyse it in terms of its assumptions on employability:
In December 2016, the local newspaper of a university brought a section on “Career Planning”, including interviews with a student, with the Vice Dean of the Humanities Faculty, and with the author of the book “The Humanists Guide to the Business World”. The occasion was the Faculty wide introduction of a Career Management Skills programme, colloquially called CMS. This programme addresses clarification of competences, networking, job-searching, the job interview, work-life balance, career strategy, and writing a master’s thesis in collaboration with a corporation or organisation.

The first of these elements, the clarification of competences, is particularly valued by the interviewed student. She explains how, in one exercise, each student told a personal success story, while the other participants wrote post-it notes with skills identified from the success story and placed them on the body of the storyteller until they “all looked like Christmas trees”, as the interviewed student explains it (Schaumann, 2016). This exercise is only one of the activities of the programme. The purpose of the programme is to provide the students with a range of ‘tools’ they can use to smoothen their transition from the university to the labour market. The tools range from media channels that can help them come across to the labour market (such as LinkedIn and job applications), to personal relations that can open access to influential people and possibly a job, to plans and strategies that mobilise the other tools according to a timeline.

The programme is embedded in various optional course modules at the third semester of the master’s degree, right before the students are supposed to write their master’s thesis and graduate. Some students are doing apprenticeships during this third semester, and others are following optional course modules. Regardless, they will meet the CMS programme. The programme is organised as four sessions, taught by
the career-counselling unit at the university. In addition, each student get a mentor that they need to consult on a regular basis.

(Schaumann, 2016 and various other document material)

Compared to the action analysed in section 3.4.1, this action is short-term. The students participating in the Career Management Skills programme, or CMS, are in their final year and will graduate within a year, meaning that the 4th to 7th quarter data will be available after only three to four years (yes, a long period of time, but relatively short compared to eight years). Thus, we may term this action a ‘quick fix’. It improves the performance data of programmes by improving the performance of the graduates in their transition to the labour market. Thereby, it reads the performance data as aggregate data of individual students’ performances rather than data correlated to the content of the programmes. The implementation of CMS does not alter the curriculum significantly, since it is an extra-curricular activity, even though it is mandatory. Rather than addressing the disciplinary or professional profile of the graduates, it addresses the performance of graduates’ transition into the labour market. Thereby, it holds a different, more individualised, configuration on employability.

I would call this a configuration of employability as connectivity. It builds on the idea that students and graduates need connections as well as the ability to connect to get foothold in the labour market. Thereby, this action is, like the Musicology action, in line with the ‘new spirit of capitalism’ and new more flexible, mobile, and networked organisation of work introduced by Boltanski and Chiapello (Boltanski & Chiapello, 2005b). Here, “[job] security is now predicated on the “employability” that a person develops as he or she gains experience” as well as through the “ability to nourish a network” (Boltanski & Chiapello, 2005b: 166). The configuration does not locate the problem of unemployment in the programme, but it allows for the university to take responsibility by providing ‘transition support’ that can enhances the connectivity of the graduates. The mobilisation of a student’s network of influential people, making a LinkedIn profile, and writing a job application are all activities that improve the connectivity of the graduates and their chances to transition quickly from education to
labour market. Or, in Barad terminology, the activities enable students and graduates to become differently entangled with work places.

In my entanglement with the three universities, I heard other examples of such ‘transition support’ activities. Imagine filling a bus with students and their teachers and drive them around town to visit a range of companies. The bus is a very tangible piece of infrastructure that enables a temporary movement of the students, while the connections between companies and students that result from the bus trip might allow for possible collaboration and new projects. Another example could be to hire a coach that is supposed to connect graduates effectively and individually with potential employers. Indeed, new categories of university staff are commonly involved in improving the transition from education to labour market – either by coordinating activities (such as teaching the CMS programme or arranging the bus trip), or by connecting students to workplaces themselves. Compared to the new Musicology programme regulation as an action, the ‘transition support’ requires significant relocations of resources across the university. Career offices grow across all three universities that I followed and external coaches and consultancy bureaus are hired in to do various activities with the students. This relocation affects university education, as part of it is now (potentially at some universities, actually in others) taught by non-academics.

So how can we characterise this kind of action? It is seemingly not about meeting the ‘changing needs of the labour market’ as the accreditation criterion requests, because the labour market will receive graduates that (once they reach the labour market) are quite similar to the ones they received previously. The action follows the logic of the metric rather than the accreditation rhetoric. It is controversial, as it is perceived as instrumental and as “union work” (or as a task usually conducted by unions and unemployment centres) by people at other universities (observation notes, December 2016). It aims at getting the graduates faster into the labour market, and this is what is measured in the numbers. Thus, the action is quite valid. It is an example of an enactment of both the quality cycle that promotes (relatively) short-term actions, and of the graduate unemployment metric that promotes a quick transition into the labour market by measuring unemployment in the 4th to 7th quarter after graduation.
Conclusively, the action may not strictly address the ‘changing needs of the labour market’ as the Musicology curriculum change does, but it does address the imperative to act in order to improve the key figures very accurately. The difference between meeting the needs of the labour market and improving the key figures indicates that the ‘needs of the labour market’ are more complex than what is measured by the graduate unemployment metric.

3.4.3 Chapter conclusion and diffractive readings

From this Chapter 3B, we learned that the graduate unemployment rate as a quality indicator enters a quality circle, where it becomes a matter that needs reporting, is provided with a threshold and colours, and requires action. It becomes a means of knowing yourself and others differently through a quantified knowledge. This knowledge presumably enables the improvement of the graduate unemployment rates through the implementation of initiatives or actions that are formulated in action plans. In other words, the graduate unemployment rates are no longer merely stiff information that politicians, managers and potential students can base their decisions on – they become manageable and manipulable. Thereby, the graduate unemployment metric is severely altered when it enters into a new context.

The numbers do however not suggest any obvious actions from teachers and heads of programme, who then have to come up with their own particular enactments of improved performance. From the two case examples, a discussion of effective actions emerges: Are the long-term actions that address the content of programmes more or less effective than short-term actions that address the numbers more directly and read them as aggregates of student performances? Are actions related to the ‘industrial’ labour market with predictable skills-needs more or less effective than actions related to the ‘project-oriented’ labour market, where the required number of connections and experiences is less predictable? There is no unambiguous answer to these questions, and thus action planning remains an ambiguous activity.

Meanwhile, in the quality work, the graduate unemployment indicator is not as robust as it is in the national context, which becomes visible when the two versions of the metric are read diffractively through each other. While the “Sizing Model” uses long data series
of ten years of graduate cohorts in order to identify ‘systematic' and striking excess unemployment', the quality work uses annual data. If the graduate unemployment rate is above the threshold one year, this year’s performance is coloured red. Thereby, the numbers become a lot more sensitive to small changes in the relatively small populations found within the humanities degree programmes. In addition, the age of data emerges as a problem in the quality work, where the indicator is supposed to reflect current performance, whereas this is not a problem in the national policy work, where the labour market is assumed to be sluggish and where bad numbers therefore only are counted as such if they appear in 7 out of 10 years. Possibly, the graduate unemployment statistics are less suitable for quality work than they are in the national context where they were crafted.

The metric changes its configuration of education and 'relevance' when it moves from the national policy context to the institutional quality context. In one configuration, the problem of unemployment is a problem of 'mismatch' between supply and demand, and a problem of irrational choices made by potential students. In this configuration, 'graduate employability' lies in the broader area of study of the graduate. In the other configuration, which encompasses the quality work and partly also the “Education Zoom” website, unemployment is a problem of ‘performance’. Here, graduate employability lies in the curricular content of the programme or in the aggregate performance of the graduates. While the ‘mismatch’ problem can be solved by rearranging the distribution of students across areas of study, either through direct regulation or through regulated transparency, the ‘performance’ problem can be solved through action planning.

The two configurations have different constitutive effects on education. The ‘mismatch’ configuration, on the one hand, which materialises in the “Sizing Model” and the “Education Zoom” website, affects students by installing doubts in them. The doubts grow out of the idea that the future is controllable as long as you have the data to help you predict the future and show you what probably futures to avoid. The graduates that nevertheless chose a humanities degree, where the graduate unemployment rates are relatively high, are constantly concerned about this choice and most often engage in
ongoing affective work to handle their concern. On the other hand, the ‘performance’ configuration of ‘relevance’ affects university teachers and heads of programme by inviting them to solve the problems posed by the metric. Particularly, the specificities of the metric, which measures graduate employment in the 4th to 7th quarter, animates an entire business of improving the transition of the graduates. This business implies a relocation of university resources and in some cases also curriculum away from the academic environments and into the career counselling units (as well as the quality units that are required to support the production of reports and action plans).

The conjoint work of Chapter 3A and 3B provisionally indicates that the information provided by metrics, and the workings of metrics, are transformed as they enter new contexts. A metric is not merely a metric – it is accompanied by an entanglement of categorisation practices, calculation practices, histories, materialities, government practices, and people. The indication of the entangled nature of the apparent simplicities produced by metrics will become gradually more consolidated as we move through the dissertation. Next, I will move on to graduate wage metrics, but first I will make a pit stop.
4. Intermezzo: Negotiating (with) metrics

But those governed by these dominant metrics do not simply adhere to the metrics – they negotiate metrics with other metrics, just as the metrics negotiate them.

I have now analysed graduate unemployment metrics as they emerge in (at least) two different variations across different contexts of use. Meanwhile, the metrics are not merely accepted by those ‘governed’ by the metrics, such as heads of programme. The metrics are constantly negotiated. The ‘governed’ consult other metrics, whereby the simplicity offered by the dominant graduate unemployment metric becomes contested.

Let me illustrate this with a few examples. The first example shows how a head of programme draws on metrified knowledge very close to the dominant metrics. This was not an uncommon practice across the university departments where I did my fieldwork. Quite often, heads of programme used the graduate unemployment numbers 10 years after graduation, included in “Education Zoom”, to negotiate the relevance of the short-term measure used in the quality work. A head of programme, who talked about how she comments on the graduate unemployment numbers in the annual head of programme report, explained this to me:

*These unemployment numbers, they are another element that we need to... I mean, I have spent some time on that as well in the head of programme report, right? Looking at that thing – “Education Zoom”, right? Where you can show that after 10 years, well, then they are not unemployed, right? So there is something about how you cut it, right? And if the cut is precisely after seven quarters, or how much it is, then the number is relatively high, and if you then want to go a bit longer ahead, then there would be a smaller number... And that, I find, can somehow be a good perspective to add to the picture, right? That there*
is something about that random cut you make, and for this I use “Education Zoom”, for example.

(Interview with Head of programme, May 2017
(the interviewee used the English word “cut” in Danish))

The head of programme talks about the ‘cut’ of the measure, and about how different cuts produce different numbers on the performance of her degree programme. She negotiates the official short-term number and puts it into perspective by including the longer term measure in her report. Thereby, she adds information on the longer-term efficiency of her degree programme to the simplified information offered by the key figures.

While the official graduate unemployment metric provides what Carol Heimer (2006: 110) calls a ‘classificatory’ or relational knowledge that compares across different commensurable units of measurements such as degree programmes, the head of programme in the example above adds ‘biographical’ information to the report, enabling a temporal comparison. This is also the case when heads of programme add previous graduate unemployment figures to their reports to show how a certain graduate unemployment number, which in comparison to other programmes is a bad number, is actually an improvement from previous years. The two types of biographical comparison are different, however. The 10 year measure compares the biographical data of the average graduate, while the comparison to data from previous years concerns the biographical data of the programme. This information is added to demonstrate that the performance of the programme is rising, even though it still falls behind the acceptable performance defined by the threshold.

There are also metrics that contribute with alternative anticipatory narratives rather than alternative comparisons. These brought-in metrics differ from the official policy metrics and require interpretation to work. At one university, a head of programme showed up at a meeting with an alternative metric. He handed out a piece of paper that included a categorisation of employment fields of the graduates, and then a list of examples of career trajectories, made from a search on graduate names on social media. The list appeared quite impressive to me, as it included careers as researchers, lifestyle
experts, press officers, rectors, writers, and CEOs. Compared to the graduate unemployment metric and other official governance metrics, the ‘career trajectory metric’ (as I call it) did not emphasise the average employment situation of the graduates, but the exceptionality of individual stories. From this metric, the head of programme was able to (attempt to) build a narrative of a programme that was doing quite a good job at being ‘relevant’, while the other participants in the meeting added a more negative picture to this conclusion, as they referred to the graduate unemployment metrics where the programme did not score too well. A metric like the ‘career trajectory metric’ does not allow for comparability, which makes it insufficient (though useful) for governance and management purposes. Furthermore, it draws on a different conception of worth, where the graduates are assessed or judged on their great feats (Boltanski & Thévenot, 2006: 132) rather than their rate of unemployment.

All these examples show attempts at negotiating how degree programmes are to be known through metrics by offering alternative metrics, as well as attempts at increasing the complexity of the knowledge on a degree programme by adding more (also simplified) information to the picture. Thereby, the ‘governed’ negotiate how the metrics simplify. Not all simplifications are equally favourable for specific degree programmes, and a different kind of simplification can draw a different (possibly more positive or hopeful) picture. The negotiated status of a metric does however not counter its relevance and usefulness (Meilvang, 2017). The usefulness can however be disputed by a lack of commensurability, as we shall see in the next chapter.
5. Graduate wages: A disorderly metric

Those governing through metrics negotiate if ‘relevance’ could be configured as a matter of the productivity of graduates, but some say that productivity metrics do not sufficiently allow for a fair comparison of degree programmes.

Moving on from the graduate employment metrics, which are widely used in both higher education policy and university governance, I will now introduce a second type of metric: The graduate wage metrics used to describe the economic gains from education. These metrics have many similarities to the graduate employment metrics, but also one major disadvantageous difference. It does not provide a comparable measure that can be used across all kinds of higher education programmes. Therefore, it is (at the moment) not widely used in specific policy initiatives and also not affecting educational practices. For this reason, I will only analyse it briefly. The short analysis of this metric contributes to the overall picture of ‘relevance’ metrics at play, but the main point of the chapter is a different one. It concerns the utility of metrics in a policy and governance context and shows that metrics must be able to order what they measure in a fair and harmonious way to be useful for the governance purposes of the Danish Ministry of Higher Education and Science. Thus, this chapter shows a general point on metrics in education policy, governance, and administration, introduced as the second argument in the introduction to the dissertation (see section 1.4).

5.1 The annual income metric

From the series of recent policy reports, produced by various commissions, committees, and independent think tanks (see references below), we learn that the economic gains from education can be measured in different ways and with different purposes. The annual graduate income measure included in the report from the Committee on Better University Programmes [Udvalg om bedre universitetsuddannelser] (2018b) is a relevant example of this kind of metric, because it is accompanied by a clear description
of some of the key concepts that it draws on. Furthermore, it appears in a recent policy report, and thus it may potentially come to play a role in higher education policy in the future.

The Committee on Better University Programmes is the latest of a series of government-initiated commissions and committees that address the ‘relevance’ of higher education (see the overview in section 1.4). In the report, the annual income measure is included as an indicator in the report section called “The value of university education for society” and thus appears as a relevant element to include to describe this value, particularly when it is embedded in larger scale calculations on the economic gains of the state. Besides numbers on the economic gains of university education, the report section also includes statistics on graduate employment. While the graduate unemployment rate analysed in Chapter 3 relied on a configuration of graduate unemployment as a relation between the supply and demand of graduates, the annual income metric draws on some of the same ideas, but in a configuration that is more explicitly theorised.

5.1.1 Components in annual graduate income
The annual graduate income statistics measure the annual income of graduates. The report states that the annual income data are generated as the total value of income from employment and pension schemes paid by employers, including net profits from self-employment and fringe benefits (Udvalg om bedre universitetsuddannelser, 2018b: 98). These are all measured in monetary values. In the bar chart shown in figure 5, the population is made up of master’s degree graduates, who are sorted into five broader areas of study in order to make them comparable. The data are organised according to the number of years after graduation, from one to ten, and the income numbers of each year are connected to each other by a graph. Thus, each graph shows the development of the annual income of a particular subpopulation over ten years.
The graphs in the bar chart represent averages of all graduates within the five subpopulations. In a second bar chart (Udvalg om bedre universitetsuddannelser, 2018b: 100), this average is complemented by indications of the averages of the 25 % earning the least within a subpopulation, as well as the average of the 75 % earning the most. In contrast to the general average shown in figure 5, these calculations partly indicate the deviation of the income, but not entirely, as they are still calculated as averages. The use of averages indicates an assumption of a (rough) typical correlation between the broader area of study and a salary span. It makes the exceptional cases invisible.

The data include both employed and unemployed graduates as well as graduates outside the labour force. Graduates with a PhD and graduates with residence outside Denmark are not included. Examples of graduates outside the labour force could be graduates on parental leave not paid by employers, or graduates with chronic diseases and disabilities who are eligible for social benefits and not capable of handling a job (Udvalg om bedre universitetsuddannelser, 2018b: 99). By including unemployed graduates, the graphs
partly reflect the graduate unemployment rates analysed in the previous chapters. The annual income describes the average income across the entire subpopulation of graduates, but only count in the income of the graduates in employment. Thus, a considerable share of graduates on social benefits (including parental leave) and unemployment benefits will result in a significantly lower average annual income, as the income of these graduates is not counted.

The annual income is (theoretically speaking) a product of three measures combined: The employment frequency, the work hours, and the hourly pay (Udvalg om bedre universitetsuddannelser, 2018b: 98). The employment frequency and the work hours (quantified as the “official” or paid work hours (Danmarks Statistik, 2019) and thereby not extra hours unaccounted for) indicate the amount of work done by graduates within a subpopulation, while the hourly pay indicates the productivity within a ‘work unit’ (one hour). The report measures the hourly pay as a “wage gain” (Udvalg om bedre universitetsuddannelser, 2018b: 105), indicating the expectation that a graduate with a particular 5-year university degree will have a certain extra earning per hour compared to a graduate without a university degree (for example a graduate from a 2-year business academy programme).

The reason why hourly wage can indicate productivity is explained by the ‘wage formation theory’, as presented for example by the Productivity Commission (2014). It relies on the assumption that an employer pays the employee according to productivity. The employer will not pay the employee any more than what he or she is worth in productivity, but the employer will have to pay that amount to ensure that the employee does not find another job (Produktivitetskommissionen, 2014: 39). The productivity (as well as the wages) also depend on the supply and demand of workers, as analysed in Chapter 3A. If, on the one hand, there is a scarcity of graduates with particular skills, their productivity will be higher because they become employed in specialised positions where their skills are needed. This scarcity is also reflected in the wages, because employers compete against each other for the specialised skills with higher salaries. If, on the other hand, there is an over-supply of graduates with particular skills, they will work in less specialised positions and therefore not utilize their skills to the same extent.
as scarce workers, which again makes the employers willing to pay less for their work (Produktivitetskommissionen, 2014: 40). Thereby, the metric becomes a ‘pricing machine’.

Thus, the hourly pay measures productivity in two senses: First in the sense of particular skills that an employer is willing to pay for because they imply an increased productivity, and second in the sense of the scarcity of those skills and thereby their utilization in jobs where they are needed the most. When we multiply the hourly pay, or the productivity per ‘work unit’, with the amount of work done by the employee, reflected in the employment frequency and the work hours, we arrive at the total productivity.

5.1.2 The configuration of return on investment

The annual income measure is not only a metric in itself, but also used to calculate lifetime income. When the lifetime income is sorted according to educational levels and areas of study, it describes the contribution of various levels of education to the national economy. This contribution reflects the productivity of graduates from different types of education. Meanwhile, in order to calculate the effective contribution, the costs of education, including both the direct costs of universities and students grant schemes and the indirect costs of lost taxes during the extra years of education, are subtracted. The result is an indicator of the economic return of education for the nation. This return represents the ‘relevance’ configuration embedded in this metric. Here, the ‘relevance’ of university education reflects a combination of the extra productivity caused by education and the lost productivity due to less years in the labour market over a lifetime. For education to be relevant, a surplus of productivity is required.

The return of education is measured and assessed on a national economic scale rather than an individual or private economic scale. In the economic research literature, the private economic gains of education is a popular topic and related to student choices of degree programmes (see for example Glocker & Storck, 2014; Kirkeboen, Leuven, & Mogstad, 2016; Skaksen & Andersen, 2018: 52-62). Here it is often concluded (from a rational choice perspective) that the wage differences in Denmark are too small to motivate potential students to select their area of study based on the income prospects. The individual return on investment for graduates is also included in the website.
“Education Zoom” (analysed in section 3.2) and thereby adds to the forecasts that potential students can use to make ‘rational’ choices (and one that has in fact been consulted by several of the students that I interviewed). However, the individual income measure is not the important one in the ‘relevance’ metric used by commissions and committees. Rather, the reports are concerned with the return on a societal level (Produktivitetskommissionen, 2014; Udvalg for Kvalitet og Relevans i de Videregående Uddannelser, 2014b; Udvalg om bedre universitetsuddannelser, 2018b).

In this configuration, education becomes an investment for the state in its labour force, in line with a (macro-economic) theory of human capital (Becker, 1993: I will return to a more elaborate discussion of the human capital theory in Chapters 7 and 8). By investing in education, the human capital available to the state (and thus the national economy) will improve. The mechanism that makes the investment give a return is however unclear – the relation between education and productivity is ‘black-boxed’ in this macro-version of the human capital theory. One report suggests that productivity is a function of the skills-level of the graduates (Udvalg om bedre universitetsuddannelser, 2018b: 83), but the exact relation between education, skills, and productivity is not elaborated. Another report argues that the productivity of the graduates of a particular area of study is a matter of the quality of education, but again the relation between quality and productivity is unspecified (Produktivitetskommissionen, 2014: 40). Meanwhile, the productivity configuration is empirically based rather than theoretically, and more concerned with the consequences of a relatively low productivity of graduates from some areas of study than with the causes of it.

5.2 The questionable utility of the annual income metric
The reason for the brief character of my analysis of the annual income metric is its limited use in higher education policy and university governance and administration. The productivity configuration is not visible as a source of knowledge in education development (i.e. as an argued change of a programme in order to enhance the productivity of the graduates). Throughout the series of commission and committee reports, its relevance as an indicator of ‘relevance’ is discussed. The Productivity
Commission writes that the mechanism of wage formation works differently in the public sector than the private sector, partly because parts of the public sector are characterised by a limited extension of specific labour markets (for example the number of nurses or teachers required is relatively fixed, or at least regulated). This condition limits the supply and demand mechanism (Produktivitetskommissionen, 2014: 39). Furthermore, as argued by the Committee on Quality and Relevance, 90% of the total amount of wages in the public sector are negotiated at a central level rather than locally, which means that public employers cannot reward the productivity of their particular employees like the private sector employers (Udvalg for Kvalitet og Relevans i de Videregående Uddannelser, 2014b: 17). Despite these concerns by previous commissions and committees, the Committee on Better University Programmes argues that the indicator is nevertheless also relevant in the public sector, as employees can still choose the alternative private sector employers if the wage differences are too high, and as employers will still assess if employees are worth their pay (Udvalg om bedre universitetsuddannelser, 2018b: 93).

Meanwhile, at the time of my interview with a Ministry Official on the ‘relevance’ policies implemented in 2014, the Ministry considered the many possible versions of the wage measure unsuitable for policy initiatives. Instead, the Ministry chose the graduate unemployment rates as the foundation of the policies (the “Sizing Model” and “Education Zoom”). The main difference between the utility and suitability of the two measures is the comparability that they allow. For the Ministry of Higher Education and Science, a measure that allows comparison of degree programmes across the entire higher education system (including shorter programmes than university degrees) is a great advantage – perhaps even a requirement. Due to the differences between the private and the public sector, the graduate wage indicator was not sufficiently comparable across the entire higher education sector:

If you take [graduate employment numbers and graduate income numbers], we find the graduate employment number most solid, and this is partly because it is very comparable across degree programmes and across areas of study. If you look at income or salary, there is a big,
big difference between being employed in the private and the public sector, because in the public sector we have... I know that I am making a caricature, but you have more or less the same salary in those workplaces. So, it may indicate if you are popular... I mean, if you have the relevant skills, so to speak, but no matter how relevant skills you have as a graduate: If there are thousands of [graduates] with the same skills and there are only few jobs available, well, then you will not get a high salary – at least not in the private labour market. This makes salaries a little bit harder to work with.

(Interview with Ministry Official, March 2017)

In this quote, the Ministry Official introduces an argument similar to the one discussed in the commission and committee reports. As he explains, employees in the public sector earn more or less the same wages, while employees in the private sector are paid for relevant skills, unless there is an over-supply of these skills. Thus, the wage formation is much more dynamic in the private sector. By pointing to the comparability of measurements as a decisive factor in the choice of a ‘relevance indicator’, the Ministry Official emphasises the kind of work the metric needs to do for the Ministry. In our Western world, as defined by legal regulation, a ministry is meant to govern and administrate. The Ministry of Higher Education and Science governs almost the entire higher education system, and since the Ministry is the agency that developed the metric for their purpose, a comparable measure is required. A comparable metric is easier to “work with”, as the Ministry Official points out. This purpose of the metric configures the metric differently than if the measuring agency was merely the single university management. Degree programmes have to be comparable nation-wide and across different types of higher education institutions. This consideration becomes more important than the need for a usable metric at a local level (which would perhaps have been more suitable for the usage analysed in Chapter 3B).

Thus, while different versions of the graduate wage metric appear in policy documents, including Commission and Committee reports as well as reports from non-governmental think tanks, they do not (yet) appear in policy initiatives. For this purpose, they are not
comparable enough. Or, more precisely, they are comparable as measures of the economic output of education and its consequences, for example in terms of tax incomes for the state and whether it pays off to invest in higher education, but they are not comparable in terms of the performances of higher education programmes or useful for regulations of them. The measures are too dependent on the circumstances for the results (the private versus the public sectors) to directly and comparably reflect the ability of degree programmes to increase the productivity of the graduates. Therefore, they are not ‘fair’ as measures of ‘relevance’ in policies where the results will have direct consequences on university resources. For governance purposes, an orderly metric that can compare in a fair and harmonious way is required.
6. Intermezzo: Metrics in motion

*At least not at the moment, but metrics are always in motion.*

I wrote “yet” in the previous paragraph, because I wonder if graduate wages may come to play a more formal or a bigger role in future higher education policy. At the time of writing, graduate income data are only included in “Education Zoom” and emphasised in commission and committee reports, but since the series of reports shows an increasingly positive attitude towards the comparability and thereby utility of these data, the Ministry may adopt them and develop a metric usable for governance at some point.

This short chapter returns to the methodology of the dissertation. It returns to reflect upon the dynamism of metrics and to discuss how to handle this dynamism in a ‘metricography’. By placing this reflection well into the analysis, I can better illustrate my points by drawing examples from the already analysed metrics and point towards the analyses to come.

Take the graduate unemployment rate, for example. As already illustrated in Chapter 3A, the graduate unemployment rate metric called “Current Unemployment” has been developed in addition to the already existing metric called “Employment of Graduates”. While the “Employment of Graduates” metric still exists and is ‘run’ annually, the new “Current Unemployment” metric has replaced it as the dominant measure of ‘relevance’ used in higher education policy. Furthermore, as illustrated in Chapter 3B, the metric moves into other contexts, where tiny details are altered (such as the addition of a colour coding or a particular limiting value). The metric is in motion, as it is continuously complemented, replaced, copied, and altered.

With the new funding scheme for Danish higher education, implemented from 2019, yet another graduate employment metric enters higher education policy and governance. This metric is called the “Employment Rate” (not to be confused with the ‘unemployment rate’ used in the “Current Unemployment” metric). The “Employment Rate” uses the old categorisation of graduates from “Employment of Graduates”, where graduates are
classified into five categories: 1) Graduates enrolled in further education; 2) Graduates employed in Denmark; 3) Graduates who emigrated; 4) Unemployed graduates in Denmark; and 5) Graduates who are not available to the Danish labour market. It then calculates an employment rate based on only graduates assigned to groups 2 and 4. The rate represents the share of people in group 2 out of the total number of people in groups 2 and 4. In this metric, employment is measured in the 12th to 23rd month after graduation (in contrast to the 4th to 7th quarter after graduation used previously) and only aggregated on institutional level. This means that the metric does not provide data on programme level or on broader areas of study (for example the humanities), but only for the entire university. This employment rate is then compared to the general employment rate in Denmark (for the entire population, not just higher education graduates) after an uncertainty factor has been subtracted from it. The general employment rate is measured in a 2-year period corresponding to the two years after graduation of the graduates. If the graduate employment rate is lower than the general employment rate of the Danish population, a share of the state funding of the higher education institution is withdrawn. For example, in 2019, Aarhus University will receive 80% of the employment-dependent share of the university funding, while Roskilde University will receive only 58% (Uddannelses- og Forskningsministeriet, 2018e). The employment-dependent share of the university funding scheme is however a minor part of the total funding.

Thus, while the universities have adapted to the “Current Unemployment” metric and incorporated it in their quality systems, and while the ‘sizing’ of degree programmes based on this metric is being implemented, a new metric is introduced. The new metric categorises differently, calculates differently, and compares differently. This new metric is another example of the motions of metrics. The coming years will show what effects this metric will have on educational development and governance – for example whether some (smaller) degree programmes within a university will be allowed to stabilise at a lower employment rate, because other programmes within the same university can compensate with higher rates. Furthermore, it will be interesting to follow whether the regulatory “Sizing Model” initiative is allowed to continue or if it becomes superfluous with the introduction of employment-based state funding incentives.
Importantly, both metrics and the policies that incorporate metrics as their instruments are dependent on what previously came to matter. While each agential cut, for example the cut made by a metric, sets the world in a new way, the cut is always constrained and made possible by the historiality of matter. For example, when data are produced, they limit what politicians, managers, and university teachers can legitimately claim about education. The graduate unemployment numbers make it very hard to claim the relevance of the humanities, as the numbers have already set ‘relevance’ in a particular way. Moreover, these data paved the way for new metrics, for example by providing arguments, techniques, or power relations for them.

Barad (2007) theorises the motion of matter as non-linear and iterative. The historiality of matter (including metrics) is not a matter of a chronological succession, but rather a complex relation of iterative enfolding, where sedimentations of matter affect new matter. She illustrates this with the rings of trees in the following quote:

*As the rings of trees mark the sedimented history of their intra-actions within and as part of the world, so matter carries within itself the sedimented historicalities of the practices through which it is produced as part of its ongoing becoming – it is ingrained and enriched in its becoming.*

(Barad, 2007: 180)

As Barad phrases it, tree rings are sedimented history. They do not merely mark chronological occurrences, but become part of the tree along with the conditions under which they were made. The temporal relation between the tree ring (as a mark of history) and the future of the tree is complex. It points towards a concept of time as re-configurative rather than successive (Barad interviewed by Juelskjær & Schwennesen, 2012: 13; Schrader, 2012: 151), where the ‘tree ring’ (which is merely one configuration of the ‘same’ matter) becomes “always open to future reworkings” (Barad, 2010: 260). With every new configuration, the ‘existing’ matter is reconfigured. For example, the surface of the tree is reconfigured to become ‘part’ of the tree as well as a ‘trace of memory’ of a given year. Similarly, with metrics, a particular calculation method or data set becomes ‘old’ or ‘coarse-grained’ when reconfigured by its relation to a new metric.
The already materialised data (as well as the already materialised arguments, techniques, and power relations) affects how future data are able to emerge in complex ways.

The point of introducing the ‘motion’ of metrics is not to describe a historical development of a metric as a matter of succession in “evenly spaced moments” (Barad, 2007: 180). Rather, the point is to show how the already materialised metrics and data affect the motion of metrics through the iterative enfolding and reconfiguration of matter. When the new funding scheme draws on the notion of a “rate”, it iteratively enfolds the practice of the “Current Unemployment” metric, which also uses a rate. Simultaneously, the new funding scheme iterates the five categories of employment status used in the “Employment of Graduates” metric. Thereby, a certain dynamism of metrics is established, not as a succession of metrics, but as a recombination or reconfiguration of already existing matter (certain data and calculation models used by previous metrics) into new matter (the new “Employment Rate” metric).

The philosophical idea of iterative enfoldings appears in a particular way in the case of metrics, where the practices of reusing data and calculation models are common. Sally Engle Merry (2016) calls this particular mode of reconfiguring metrics for “data inertia” and “expert inertia”. Data inertia means that certain data (for example administrative data, as those collected by Statistics Denmark) are reused, because it is costly to produce new data. Thereby, data are developed through a slow incremental process. Similarly, the experts involved in developing the metric are trained in a particular way and draw on particular methods and ideals in their work (Merry, 2016: 6-7). These ‘intertias’ constrain the process of developing new data and new practices of categorisation, calculation, and comparison. Not anything is possible when it comes to creating a metric.

The important addition to the methodological concerns outlined in Chapter 2 is the sensitivity towards motion in metrics. When I talk about a sensitivity towards ‘motion’, I do not merely mean a chronological report on the succession of metrics within a certain field. I mean an account of the gradual transformations of metrics reconfigured in and by new metrics, and of matter (in the form of previous techniques and theories) folded into new matter (in the form of new versions of old metrics or into brand new and
different metrics). While such an analysis will cut the material in a way that does present a form of chronological succession, it shows the complex succession of matter rather than the mere succession of occurrences.

I emphasised the motion of metrics in Chapter 3A, when I compared the “Employment of Graduates” metric with the new “Current Unemployment” metric and analysed how the new metric draws mostly on the same configuration as the previous metric, but quantifies in a different way (by an unemployment rate rather than five difference categories of positively defined graduate situations). This difference in quantification technique makes a difference. The new configuration is accompanied by an ideal of 100% employment, and thereby a particular problematisation of degree programmes as well as an expectation: The strive towards the 100%.

Similarly, I emphasise the motion of metrics in the following chapter, when I analyse how a graduate survey, traditionally carried out at institutional level, has been complemented (or perhaps replaced) by a national metric that spans across not only all universities, but all higher education institutions (including also University Colleges and Business Academies). Besides encompassing more higher education programmes and institutions, thereby making them comparable on a wider scale, the new national graduate survey also displays its results in much more simplified ways, as one single number rather than a distribution of responses. Meanwhile, as the same techniques in the form of questions and partly similar response categories appear, the national metric is also a continuation of the previous local metrics. Through this attention towards continuations as well as gradual changes, the insight of a movement towards more totalising metrics emerges in the ‘metricography’.
7. Graduate surveys on skills match

Meanwhile, ‘relevance’ is also configured as a matter of ‘graduate employability’, or of how graduate skills match the ‘needs of employers’.

With the Chapter 3 and 5 configurations of ‘relevance’ in mind, both of them entangled with statistics, I now move on to a different kind of apparatus: Graduate surveys. In Denmark, most universities periodically produce a graduate survey based on questionnaires distributed to recent graduates. The graduate surveys typically include a section on the applicability of a university degree in the job context (among several other themes), which is operationalised in the surveys as a question of skills-match. The skills-match metric produces a configuration of ‘relevance’ that is significantly different from those produced by graduate employment statistics. This chapter will analyse selected examples of this type of metric.

The chapter will look at two selected graduate surveys in detail: The graduate survey undertaken by a specific university and the graduate survey undertaken by the Ministry of Higher Education and Science as part of the website “Education Zoom”. As indicated in the previous chapter, the Ministry survey is a recent iteration of the institutional surveys. The field is characterised by a variety of different metrics and related contexts of use as well as a partial overlap of surveyed skills across different apparatuses. To make these points visible, the chapter will not only analyse parts of the two graduate surveys, but also briefly compare them to surveys from other universities. Furthermore, the chapter will include analyses on research publications that are closely related to the genre of graduate surveys, namely publications that aim at identifying what skills a graduate will need to obtain to be employable. In this context, I read the included research publications as ‘data’, meaning that they can tell me something about how education is configured as skills.

As graduate surveys are currently less dominant in the Danish university context than graduate employment statistics, the particular measurement results are not present in university governance to the same extent as unemployment rates. Rather, their
importance lies in their sedimentation over the last decade. This characteristic of the metrics means that the immediate, explicitly enacted effects of the metric in the university contexts are no longer visible. Meanwhile, the surveys have produced (and continuously produce) important knowledge on what skills employers request, and this knowledge is taken into account in university practices, for example in curricular designs. The specific configuration of education that the surveys co-produce (which is the configuration analysed in this chapter) are evidently enacted into curricular development, as already hinted in Chapter 3B. However, the clear argumentative links between measurements, ideas of what should be changed to improve the measurement, and the enactments, are subtle and sometimes incomplete. Here, the analytical strategy of approaching a phenomenon through its metrics reveals a weakness, because it presumes visible links between a metric and its effects on enactments.

As the history of the metric and of the idea of skills as a constituent of graduate employability goes long back, it evades my research apparatus. Several scholars point to the transnational emergence of the knowledge economy and its competitive imperative (Naidoo, 2016, 2018), which in higher education appeared in the general massification of higher education (Boden & Nedeva, 2010; Marginson, 2016; Morley, 2001; Tomlinson, 2012) as well as in the Bologna process and its standardisation of education for the sake of mobility (Brøgger, 2019; Karseth & Solbrekke, 2016; Kristensen, 2007: 16; Sarauw, 2012). These processes are pointed out as the historical events that necessitated and enabled a skills-oriented employability discussion internationally (Boden & Nedeva, 2010; Tomlinson, 2012), which for example materialised in the Dearing report in the UK (Dearing, 1997). However, the historical cause and emergence of the metric and the associated configuration is not my focus. In other words, I am not studying the performative effects of transnational processes on educational configurations, but the performative effects of ‘relevance’ configurations embedded in Danish higher education policy on Danish university education practices. Thereby also said that the graduate surveys have not caused the configuration analysed in this chapter alone. The metrics are just as much a product of this configuration as its producer. Rather, the configuration originated from an entanglement of processes, including transnational standards, performance management regimes, and a need for a
legitimisation of higher education in the public as the costs increased along with the massification. Nevertheless, the metrics certainly reinforced the configuration by producing a particular form of knowledge that consolidated the processes of (re)thinking education in terms of skills. In an analytical perspective, I consider graduate surveys comparable to the metrics analysed in previous and consecutive chapters, even though they appear to be in a different, more sedimented stage. This sedimented stage on the one hand means that the origin of the metrics is not in focus, while, on the other hand, their widespread character across several Western contexts is.

The chapter will proceed by first analysing a university graduate survey rigorously in order to tease out the conception of skills and the theoretical concept of ‘relevance’ embedded in this survey apparatus. Next, it will relate these findings to the graduate survey embedded in “Education Zoom”. The third section of the chapter will analyse the enacted effects of the configuration. The graduate surveys share some important characteristics with the graduate employment numbers, namely the quantification and statistical calculation of education. Thus, several of the concepts introduced in Chapter 3 will recur in this chapter. In addition to the recurrence of Stanley Smith Stevens (1946), Marion Fourcade (2016), and David Savat (2009), I will also draw on concepts and analytical perspectives developed by Fabian Muniesa (2014) to show how graduate surveys work as a metric. I will furthermore draw on scholars like Laura Louise Sarauw (Sarauw, 2011, 2012) and Berit Karseth and Tone Dyrdal Solbrekke (2016) to analyse the enactment of skills in contemporary higher education practices.

7.1 Graduate surveys and generic skills

While graduate employment is considered an important matter for higher education – also among those who are critical towards the particular metrics that circulate – the employment statistics cannot stand alone as a measure of ‘relevance’. In my interview with the Ministry Official, he talked about the need to add different types of numbers to the picture, because ‘relevance’ is more than ‘employment’:
Having said that [we find graduate employment numbers more solid than graduate income numbers], it is clear that relevance is more than employment, and for quite some time we have wanted better knowledge on... if the graduate gets a job, those skills that the person has achieved – are they, then, relevant for the job the person gets? ... That is very difficult to assess. You can both ask the employers; you can ask the graduate herself... There are no solid numbers showing if you are relevant or not, but with “Education Zoom” we have taken a step closer, asking questions like: Is there an experience of compliance between the skills achieved in the study programme and the experienced demands at the labour market? So, in my opinion we are a step closer, but we would still not claim that we are able to measure relevance 1:1.

(Interview with Ministry Official, March 2017)

In the interview quote, the Ministry Official distinguishes between graduate employment statistics as one possible measure of relevance, and survey data on graduates’ (and employers’) experiences of the adequacy of their degree in relation to their job functions as another possible measure. As he explains, none of these numbers can be taken as a solid measure on ‘relevance’ on their own, but the survey genre brings us a bit closer. In the quote, the Ministry Official refers to “Education Zoom” – the website or policy device that was analysed in Chapter 3A. The website does not only allow potential students to compare graduate employment statistics and average salaries from different degree programmes, but also to compare how programmes prepare graduates for work life. I will return to “Education Zoom” later in the chapter.

Before then, I will analyse an older graduate survey. As a part of the quality assurance and the guidelines from the Danish Accreditation Institution, the Danish universities have been requested to document an ongoing dialogue with graduates for several years before the “Education Zoom” graduate survey was conducted – at least since 2010 (ACE Denmark, 2010). This ‘graduate dialogue’ involves the assessment by graduates of the ‘relevance’ of their education. Most universities have chosen to conduct this dialogue via graduate surveys (among other tools). The 2012 graduate survey from Roskilde
University (RUC) provides a good case for the study of graduate surveys and their general form, which I will analyse before I move on to “Education Zoom” in section 7.2. Like “Education Zoom”, the RUC survey measures how graduates are equipped for work life and what skills they use in their work life. Thus, I consider them both examples of the same type of measurement apparatus.

I first came across the graduate survey from Roskilde University when I googled for university documents on employability and career. Later on, the career counsellor at the university gave me a physical copy of the report, though with the comment that it was rather old by now. The report was not specifically addressed at any of the meetings or in any of the interviews that I attended during my fieldwork. However, as I got to know the report, I often heard references to conclusions from the report in the conversations. “We know that our students want more of these skills”, could be an example of a bit of knowledge that were sometimes brought into meetings. Even though the report was not on top of the agenda (anymore), the knowledge produced in it had settled into the minds of the teachers, heads of programmes, heads of studies, and career officers at the university. It was somehow still active.

The report includes information on 5,524 respondents who graduated during the years 2007-2012, or since the publication of the previous survey in the series. The survey maps comprehensive information on these 5,524 graduates, including their employment, their first job, their transition into the labour market, possible reasons for not being a part of the labour market, area of study and skills in relation to job, activities during their time of study, and their journey into the labour market (Roskilde Universitet, 2013: 3-4). My analysis will exclusively focus on the report section about the area of study and skills in relation to job (Roskilde Universitet, 2013: 87-106). I will start by examining the quantification processes of the Roskilde University graduate survey.

7.1.1 The graduate as a measurement instrument
In Chapter 3, I analysed how the movements of graduates in the labour market were quantified by sorting them nominally into different categories according to their mode or type (see section 3.1.1). From here, the number of cases (or graduates) within each category could be counted. The sorting of the graduates according to educational units
enabled a numerical comparison of these units. A graduate survey quantifies in a different way. Here, the graduates are asked to categorise themselves according to sets of predefined categories in the survey. The self-categorisations (or responses) are transformed into a data set where each response can be tracked down to the (most often anonymised) individual who responded. From there, a range of different comparisons across the data set can be made and reported, not merely according to educational units, but according to a variety of subpopulation constellations.

Quantification by self-categorisation is a key part of the survey metric. While the very uniform sorting procedures used by Statistics Denmark ensures the high credibility of statistical data such as employment and income statistics (Desrosières, 2001: 346), the credibility of survey data rests with the graduate that fills in the questionnaire. As Fabian Muniesa coins it, the graduate becomes a measuring instrument (Muniesa, 2014: 86). In his book on economy as a performative effect, Muniesa analyses an auto-ethnographic experience of being a perfume tester. He is invited into a room with the other testers to sniff 20 perfume samples and quickly, without too much reflection, fill out a questionnaire on how he perceives the perfume (Muniesa, 2014: 79-95). In the text, he describes how this enforced task of coming up with an opinion on the different fragrances is a performative achievement that brings him a new bit of subjectivity – a new preference that is not fake, but which was not a part of him before he was asked to come up with one by the questionnaire (Muniesa, 2014: 89-91).

Although the perfume case is different from filling out an online questionnaire that asks you to assess your experience with education, Muniesa’s auto-ethnographic text points to important elements of how a person (in my case, a graduate) becomes a measuring instrument. Particularly, the role of the questionnaire in the achievement of performing an assessment is crucial, as it provides a means of translation between two different sectors:

[The measurement] implies a series of operations of translation that happen within the testing device proper. For example, states provoked by the encounter between an odorant substance and the person sniffing it need to be transformed into the terms proposed by the questionnaire.
The questionnaire, by the way, is precisely the outcome of an explicit reflection on translation, so to say, since it provides a space in which the vocabulary of perfumers and the vocabulary of marketers are dovetailed by a third type of vocabulary, as indicated above. And the questionnaire does precisely that: operations of translation.

(Muniesa, 2014: 94)

In the actor-network-theory-inspired vocabulary of Muniesa, a state “provoked by an encounter” needs to be “transformed into the terms proposed by the questionnaire”. The questionnaire becomes a space of linking vocabularies from two involved sectors to each other through a third vocabulary that is not quite the same as any of the other two. In the case of the graduate survey, the vocabulary that allows for this link is a skills-vocabulary. This vocabulary can be read off one of the questions in the report. It requests the graduate to transform their states as effected by education into their current and past situation at the labour market. Here, the graduates are asked what skills [kompetencer]¹⁰ they did not achieve during higher education which their employer in their experience requests. The assessment made by the graduate makes a difference in terms of the translation of education into the labour market context via skills. The question offers a vocabulary of 23 different skills. Through the assessment of the adequacy of these skills for the job, education is configured in a particular way. Simultaneously, the graduate

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¹⁰ The English word ‘skills’ can hold both a narrow and a broader meaning. The narrow meaning can be translated into the Danish word ‘færdigheder’, which could, for example, be ‘foreign language skills’, ‘IT-skills’ or ‘oral dissemination skills’ (these examples are taken from the Roskilde University case). The broader meaning is the sense of the word that I will be using throughout the chapter (unless otherwise specified), which includes the narrow skills but also knowledge, responsibility and independence, and the ability to put knowledge and (narrow) skills successfully to use in a given situation. This definition is in line with the official definition from the Danish Ministry of Higher Education and Science (Uddannelses- og Forskningsministeriet, 2013). By translating the Danish word for competences into skills, understood in the broader sense, I want to emphasise the particular tint of the word related to the utility of the skills in work life or other contexts outside education, which is a tint also connoted to the Danish word [kompetencer]. A translation into the English competencies would imply a risk of losing the utility connotation and rather connote the professional state of being competent. But in Danish university governance, skills [kompetencer] are often talked about as units detached from the person.
configures herself as skilled (or more often un-skilled) in certain ways. By ticking a
number of skills that the graduate did not achieve during her university studies, but are
requested by her employer, the graduate becomes someone with a lack of skills in her
transition into the labour market or her current job situation. The responsibility of this
lack of skills is ascribed the university or degree programme that the graduate attended.
Thus, this section of the graduate survey resembles a survey on graduate satisfaction
with the university programme, measuring if the graduates got what they wanted or
expected in a market-driven approach (Blackmore, 2009). The measurement configures
the university as the cause of mismatch of skills acquired and needed.

The assessment made by the graduate may be affected by a range of different factors and
events outside university education. As the question is formulated, it emphasises the
opinion of the graduate. The Ministry Official talked about the experiences of graduates
and employers. Both opinions and experiences are formed in complex ways, but through
the graduate as a measuring instrument, they are simplistically transformed into a
quantifiable expression of a linear relation between two events (education and job).
Thereby, the determination of components (for example the determination of the
sufficiency of skills or graduates) that are enacted in the agential cut of the questionnaire
are a product of both the various and complex experiences by the graduates, and of the
questions and response categories of the questionnaire. The transparency of the results
is quite low in the sense that the opinions or experiences are assessed by a range of
different people in a range of different situations. Simultaneously, however, the
observations are quite evident in the sense that they are delimited to a limited number
of response categories. Thus, the results are highly quantified. Furthermore, the
responses are considered close to “solid numbers”, as discussed by the Ministry Official
in the beginning of the chapter, due to the legitimacy of graduates as measuring agents
on education and job relations.

7.1.2 Dynamic quantifications of alternating subpopulations

In the graduate survey from Roskilde University (RUC), as in most other surveys, some
of the response categories concern what is called ‘characteristics’ of the graduate,
including for example area of study, graduation year, employment rate, and parental
status. Other response categories concern the graduates’ assessments of different matters within the theme of the survey. ‘Characteristics’ and ‘assessments’ hold a different status in the reading of the survey responses. The assessments are the results of the survey, while the characteristics of the graduates are used to create various subpopulations within the data set, as the data are divided in various alternating ways. When the assessments are held up against different subpopulations, different explanatory patterns within the data set are produced.

To exemplify this, we can look at a particular question within the 2012 graduate survey. The survey asks the graduates to assess to what extent they believe that their degree from RUC in general has equipped them for their work life (Roskilde Universitet, 2013: 88). The graduates can choose from the response-categories “To a high extent”, “To some extent”, and “To a limited extent or not at all”. The responses to this question are shown in three different tables with three different sorting criteria of subpopulations, for example according to their current labour market situation (see figure 6). Here, we see that 44.7% of the graduates in employment felt equipped to a high extent, 50.3% felt equipped to some extent and 5.0% felt equipped to a limited extent or not at all. In comparison, only 28.6% felt equipped to a high extent among the unemployed while as many as 19.1% of them felt equipped to a limited extent or not at all. When sorted according to the current labour market situation of the graduates, a pattern of difference appears. This pattern is an achievement of the apparatus.
The statistical calculations on the relations between graduate assessments and a range of different subpopulations produce a detailed and complex map of patterns in the responses. The report judges the importance of patterns in relation to *significance*. Significance is a statistical notion based on a calculation of the randomness of correlations (with a somewhat arbitrary and conventional limit between significant and non-significant, according to Porter, 1996: 212). If a particular assessment response and a particular background characteristic seem to be correlated, the calculation of significance intervals will show to what extent the correlation could be random (Roskilde Universitet, 2013). In an appendix of the report, a regression analysis is included which shows correlations even more correctly. From the regression table, ‘year of graduation’ and ‘grades in the master’s thesis’ stand out as highly significant in relation to feeling equipped. Within this metric, the theory is that *skills* equip *[ruster]* the graduate for working life.

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**Figure 6:** The table shows the response categories for the question “To what extent do you agree that your degree from RUC IN GENERAL has equipped you for your work life?” distributed on employment status subpopulations (copied from Roskilde Universitet, 2013: 89)
A major difference between the graduate employment statistics produced in the “Current Unemployment” metric and the knowledge provided by the graduate survey is the vast number of possible subpopulations that can be made from the ‘characteristics’, compared to the relatively narrow subpopulations of educational units in the graduate employment statistics. The report is, however, particularly interested in subpopulations organised according to area of study, which is the far most used subpopulation. Most often, the patterns of these numbers are left to speak for themselves, or explained as a matter of the design of programmes. Thereby, the numbers most often become a proxy of the delivery of education by different departments or faculties, and thus they are used to pose a call for action. Like graduate employment statistics, graduate surveys constitute ‘relevance’ as a supply problem that should be fixed on the supply side of the distribution of graduates from university education to the labour market.

The RUC report does however include a question that opens up the potential for an alternative policy stance. The question asks the graduates to assess how they experience the relation between the needs of the companies/labour market and the skills of the graduates. The interesting opening lies in the response categories, which include: “Graduates need to be better equipped for the needs of the employers”, “The business community needs to utilize our achieved skills better”, and a response category including a combination of these two statements (Roskilde Universitet, 2013: 91). In these response categories, part of the responsibility for the mismatch is placed within the business community, rather than within the higher education system alone. While the report concludes that more graduates assess this as a university matter of preparing the graduates than a business community matter of utilizing their skills, most graduates assess the mismatch as a matter of both. By flashing a subtle light on the non-norm of calling businesses to action, this question, which is quite unique within graduate surveys, thus highlights the norm of holding universities responsible and calling degree programmes to action.

The skills that graduates can self-categorise themselves according to in the questionnaire are an important part of the ontology of the numbers produced in the metric. The list includes 23 different skills, ranging from ‘IT-skills’ and ‘foreign language skills’, over
‘theoretical knowledge within my area of study’ and ‘oral dissemination skills’, to the ‘ability to collaborate across disciplines’ and the ‘ability to work structured and meet deadlines’. Only two of the 23 skills consider the area of study, namely ‘theoretical knowledge within my area of study’ and ‘general methodological skills within my area of study’. The 2/23 ratio configures degree programmes as similar much more than they are distinct – or rather, their distinctness is primarily a matter of distinct compositions of the same skills and only to a limited extent a matter of distinct knowledge and methodologies. When the questionnaire provides the same list of possible answers to graduates from all degree programmes at Roskilde University, it seems that the generic skills can actualise themselves in relation to all areas of study, no matter the disciplinary content. Hereby, skills are configured not as something related to the discipline, but rather as a common pool of elements that can be assembled in various compositions from degree programme to degree programme (in line with Udvalg for Kvalitet og Relevans i de Videregående Uddannelser, 2014a: 29-30, where it is argued that the labour market needs more generalists and less specialists).

The questionnaire also configures skills as quantifiable. The graduates are asked whether the skills taught were experienced as being in a “suitable amount” (green), “too little” (blue), or “too much” (red) (see figure 7; Roskilde Universitet, 2013: 104-105). The display of the colourful bar chart, and the slightly awkward question formulation of “being in a suitable amount”, call for degree programmes to adjust the quantity of a skill up or down until it reaches a compatible level with what is needed. ‘Relevance’, then, lies in finding the best possible composition of skills.
Figure 7: The bar chart shows the distribution of responses to the question about to what extent the graduates experience that their skills were in a suitable amount, too little, or too much (copied from Roskilde Universitet, 2013: 104)
7.1.3 Skills as human capital

If we move a step closer to the configuration embedded in the graduate survey apparatus of skills, the theory of the metric is about *skills as a capital* (Higdon, 2016: 177-178; Tomlinson, 2010: 77; 2018). Skills are clearly defined entities that a graduate can possess in an adequate amount or not, and these skills determine the value of the graduate at the labour market. Skills are entities that employers request from graduates. They are “manifestations of human behaviour in manageable and transferable components” (Simons, 2007: 444). If the capital that employers wish to buy in exchange for a salary differ too much from the capital possessed by a graduate, the graduate will not be employed (according to this theory). Thereby, the graduate survey draws on human capital theory that defines not only money, but also aspects of the human being, as a capital:

*It is fully in keeping with the capital concept as traditionally defined to say that expenditures on education, training, medical care, etc., are investments in capital. However, these produce human, not physical or financial, capital because you cannot separate a person from his or her knowledge, skills, health, or values the way it is possible to move financial and physical assets while the owner stays put.*

(Becker, 1993: 16)

The human capital theory, as explained in this quote, emphasises skills as a *human* capital because it is not possible to separate the skills from the person. Skills are *capital*, because they improve the productivity and income of the graduate, and education thus becomes an investment in the human capital of a population. The argument is largely based on quantitative empirical findings on the relation between education and income (Becker, 1993: 17-21). This theory of skills gives content to the relation between education and productivity, analysed in Chapter 5.

Thereby, skills come to function as the immediate capital output of education, which can then be translated into money at the labour market. Thijs Bol identifies three strands of sociological approaches to *how* skills function as capital. The first strand of theory, which is in line with the human capital theory, emphasises the ‘productivity enhancing skills
mechanism’, whereby skills are understood to improve the productivity of the graduate and make him or her more valuable to the employer (Becker, 1993: 19; Bol, 2013: 22). The second strand of theory, including the position known as ‘signalling theory’, emphasises the ‘positional good mechanism’, where educational credentials become a signal of trainability that shows employers how easily the graduate can be trained into the specific job. Thus, this perspective is not about the immediate productivity of the graduate, but about the expected productivity (Becker, 1993: 19; Bol, 2013: 23-24; Tomlinson, 2018). The third strand of theory, including the position known as ‘credentialism’, emphasises the ‘social closure mechanism’, where education is understood as a sorting mechanism that limits the access of some status groups to certain occupations (Bol, 2013: 24-25).

While all these theories on how skills function as capital contribute with important points, the skills configuration of education in the survey is primarily attached to the ‘productivity enhancing skills mechanism’. The graduate survey apparatus distinguishes between skills nominally rather than ordinally (Fourcade, 2016), meaning that the skills are considered different in kind and that some skills match better than others. It does not involve any distinction in relation to the difficulty of obtaining certain skills or skill levels, and thus it does not appear as if the composition of skills is considered a relevant signal of trainability or a useful sorting mechanism. Rather, the simplicity of the idea that skills improve the productivity of the graduate in relation to certain job functions is key to the skills configuration in the graduate surveys. Some skills are better than others, simply because they match the needs better. When education provides the ‘right’ skills, it becomes more ‘relevant’ and a better investment.

7.1.4 The reach of the skills configuration
The Roskilde University graduate survey is not one of a kind. In fact, very similar questions have been addressed to graduates at most universities in Denmark, if not all (Aspekt R&D, 2013; Københavns Universitet, 2013; Aalborg Universitet, 2018a; Aarhus Universitet, 2017). Most universities produce overall reports similar to the one from Roskilde University, as well as specific reports for each programme. A detailed analysis of several similar questionnaires across the entire university context, both from
university and national policy contexts, shows that the generic skills are recurring across all university degrees in Denmark. With its 23 skills, the report from Roskilde University has the longest list, but 15 of the 23 skills are found in different variations in all the other survey examples that I have come across, except from examples before 2003. It seems like a variety of standard formulations of skills has emerged. For example, ‘the ability to think creatively and innovatively’ appears in the Roskilde University response categories, while ‘creativity and innovation’ (Københavns Universitet, 2013), ‘the ability to work creatively and innovatively’ (Aspekt R&D, 2013; Capacent Epinion, 2007; Aalborg Universitet, 2018a), and ‘creative and innovative skills’ appear in other graduate surveys (Styrelsen for Forskning og Uddannelse, 2018b). Another example is ‘to organise and manage project processes’ (Roskilde Universitet, 2013), ‘to work project-oriented’ (Københavns Universitet, 2013), ‘the ability to work project-oriented’ (Aspekt R&D, 2013; Capacent Epinion, 2007; Aalborg Universitet, 2018a; Aarhus Universitet, 2017), ‘interdisciplinary and project-oriented skills’ (Styrelsen for Forskning og Uddannelse, 2018b), and ‘project-oriented work’ (Udvalg om bedre universitetsuddannelser, 2018b). Thus, I will argue that the high degree of standardization of response categories constitutes university education not merely as a composition of generic skills, but as a composition of a limited number of particular generic skills.

This standardised pool of skills is not universal, but merely a feature of Danish universities. The configuration of education as skills, however, has a wider range than the Danish higher education system. I re-found this configuration in a body of research literature occupied with which skills make graduates employable. This body of literature entrenches the same overall theory of graduate employability as a matter of the composition of skills in the design of study programmes, and skills as a human capital that can be exchanged into jobs. The body of literature is mainly characterised by an applied science approach. One strand of research within this body of literature is occupied with what skills the labour market demands (see for example Braun & Brachem, 2015; Helyer & Lee, 2014), and whether universities provide their graduates

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11 The length of the Roskilde University is related to a number of university specific skills that appear in the Roskilde list and not the others (for example the skills ‘political understanding’ and ‘to produce academically founded knowledge’).
with those skills (see for example Marzo-Navarro, Pedraja-Iglesias, & Rivera-Torres, 2009). Like the graduate surveys analysed above, this type of research configures graduates (Braun & Brachem, 2015: 579-581), but also employers (Marzo-Navarro et al., 2009: 59), as the ones possessing the answer to what university education curriculum should look like. Helyer and Lee, who have done a survey among employers, find technical, practical, and sector-specific skills to be most needed by employers, but also more generic skills such as customer handling, problem solving, team-working, communication, critical thinking, and leadership. Thus, in their research apparatus, a combination of job-specific and generic skills are enacted as important for the employability of graduates (Helyer & Lee, 2014: 351). Some of these skills overlap with the standardised list from Danish graduate surveys, but others go beyond it. In another example, Pool and Sewell draws on various literature to argue that degree subject knowledge, understanding and skills; generic skills; emotional intelligence; career development learning; and experience from work and life in general are key skills enhancing the employability of graduates. Besides the skills listed, Pool & Sewell suggest that the graduates need a capacity to reflect and evaluate these skills, and additionally they need personal attributes like self-confidence, self-esteem, and self-efficacy (Pool & Sewell, 2007: 281; see also Tymon, 2013 for an analysis that emphasises 'soft skills'). I will return to this configuration of personal attributes as determinate of employability in Chapter 11.

Several policy actors also produce analyses on what graduate skills the labour market needs. One example of this is the policy proposal “A trip to the future of business” made by the Confederation of Danish Industry qualifications panel (Dansk Industri, 2012). The proposal is built on a survey and interviews asking companies about their priorities when employing a newly graduated candidate, and about what skills they need from employed academic graduates. Overall, the qualifications panel suggests that the graduates need higher skill levels in general, including skills within the ‘core of their discipline’ [kernefaglighed]; problem solving in a business context; IT skills; English language proficiency; and intercultural skills. A second, global level example is the World Economic Forum report (2016), which also lists categories of skills that employers will need in the future. (Interestingly, the skills highlighted in this report, such as ‘critical
thinking’, ‘people management’, and ‘complex problem solving’ (World Economic Forum, 2016: 85), were recurrently used at one university to negotiate the skills highlighted in the graduate surveys, as the World Economic Forum skills matched the critical, problem-oriented, and project-based profile of this university better than the skills emphasised in the graduate surveys). Thus, even though the graduate survey from Roskilde University analysed above is not the hot topic of every employability-related meeting like the graduate unemployment statistics, the configuration within it is quite persistent across several contexts.

In summary, the graduate survey apparatus that operates by asking graduates to assess their achieved skills in comparison to the requested skills, as well as their lack of skills and where this lack stems from, configures education as a matter of generic skills and graduate employability as a matter of the right combination of skills according to the needs of the employer. Importantly, the generic character of the skills turns degree programmes into particular compositions of the same pool of skills. Furthermore, skills become quantified forms of capital that improves the productivity of the graduate. Thereby, the skills configuration differs substantially from the configuration analysed in Chapter 3, where the (lack of) value of the graduate was ascribed the disciplinary background of the graduate.

7.2 Skills in the “Education Zoom” graduate survey

In 2017, the Ministry of Higher Education and Research added a graduate survey component to the statistical data at the website “Education Zoom” (also analysed in section 3.2 and referred to by the Ministry Official quoted in the introduction to section 7.1). This graduate survey calculates and displays the data in a slightly different way than the Roskilde University survey, and thereby it tightens the generic skills grip on degree programmes and provide potential students with yet another set of data that they can use to compare degree programmes before they enrol themselves in one. This section will analyse the particular features of the “Education Zoom” graduate survey.
7.2.1 A production of unambiguous numbers

As mentioned in section 3.2, the website “Education Zoom” both includes statistical data and graduate survey data, which allows potential students to compare a range of different numbers from selected degree programmes as a preparation for their choice of area of study. Under the headline "Applicability of the degree programme in the job", which draws on the graduate survey data, three measures unfold. The first measure shows the graduates’ assessment of to what extent the study programme has equipped him or her for the job on a scale from 1 to 5. The second one shows their assessment of the compliance between the skills achieved in the degree programme and the ones demanded by the employer, again on a scale from 1 to 5. The third one presents their assessment of skills applied in the job, shown as the five highest scoring skills from a list of 19 generic possible answers. I will first analyse the two first of these measures together since they are constructed in similar ways and then move on to the third measure afterwards.

The two first measures both use a scale from 1 to 5 to display their results. For example, History at Roskilde University scores 3.67 out of 5 on the question about how well the degree programme has equipped its graduates for their jobs (see figure 8). The value is displayed as a coloured line on a bar chart, and when you mouse over the line, the exact number shows (Uddannelsesguiden, 2018a). This number, for example 3.67, is very easy to compare across degree programmes. Recalling the analysis of the Roskilde University graduate survey, the similar question in this questionnaire included three response categories (“To a high extent”, “To some extent”, and “To a limited extent or not at all”). The responses were displayed in a table with the percentage shares within each response category of the total number of responses. Compared to that measure, the “Education Zoom” display is less ambiguous. It includes only one number. If we turn back to Marion Fourcade’s distinction between nominal, cardinal, and ordinal categorisations (Fourcade, 2016: 176-178; see also section 3.1.1), Roskilde University’s categorisation of responses is ordinal in the sense that “To a high extent” is clearly better than “To a limited extent”. The response categories have a vertical relation to each other. The “Education Zoom” categorisation is also ordinal, but it further becomes cardinalised in the sense that one single number can be compared to a similar number from another
degree programme. Thus, the intersection (Fourcade, 2016) of the ordinal and the cardinal creates a scale that clearly shows which degree programme is better. This is not equally possible in the Roskilde University case, where the responses may be distributed across the three categories in ways that does not allow an immediate judgment on which is better.

![Figure 8: The extent to which the degree has equipped the graduates for their job (copied from Uddannelsesguiden, 2018a)](image)

While nominality assumes fundamental uniqueness, ordinality assumes fundamental equivalence (Fourcade, 2016: 188). In other words, when the value of degree programmes can be compared to each other, it rests on the assumption that all degree programmes are equivalent or commensurate (Espeland & Stevens, 1998). They should be equally capable of both equipping graduates for the job and of ensuring a compliance between achieved and requested skills. The number becomes a matter of the performance of degree programmes rather than a matter of nominal differences in type. Yet, as pointed out by Susan L. Robertson, “this is a game that some can never win”\(^\text{12}\). As I will show in section 7.3, degree programmes are not equally capable of equipping students with skills, because they do not fit the skills vocabulary equally well.

\(^{12}\) Quoted from presentation slides from the keynote by Susan L. Robertson at ECER 2018.
Katja Brøgger describes the comparability feature of “Education Zoom” as a “major exposure of the performance of each university … and their specific educational programs” (Brøgger, 2018: 361). In my fieldwork, managers, administrators, and particularly interested teachers read these numbers carefully and checked their position compared to similar degree programmes. They wanted to know how they performed and were exposed. Brøgger highlights the data visuals and their role in this exposure, affecting a “tremendous peer pressure” among teachers and coordinators at the universities (Brøgger, 2018: 362). This peer pressure persuades institutions to enrol themselves in the governance of these numbers and pursue a better performance according to the measurement criteria of the apparatus.

Meanwhile, the precise numbers that enable the peer pressure are not simply there – they require calculation processes to emerge. Only a scale where we know the precise distances between the values can be used to calculate mean values (Stevens, 1946). While a scale with values from 1 to 5 is a scale with precise distances between the values, this is not actually the kind of response categories that were available to the graduates filling out the questionnaire in the graduate survey. The question “To what extent do you agree or not agree with the following statement: The relation between what I learned in my degree programme and the skills requested by my current or latest employer is compliant” had the following five expressions of agreement as its response categories: “Strongly agree”, “Agree”, “Neither nor”, “Disagree”, and “Strongly disagree” (Styrelsen for Forskning og Uddannelse, 2018b). In order to turn these five expressions of agreement into values with a precise and known distance between them, the calculations assume that the prose expressions equal the values 5 to 1. While this type of assumption is not an uncommon practice in statistics, it can be interpreted as a (controversial) strive to produce clear, unambiguous, and comparable numbers – an interpretation underlined by the use of two decimals as the level of detail in the numbers. Had the results been displayed as a bar chart with the distribution of responses according to the five response categories, it would have increased precision, but the simplicity of a simple number is presumably more appropriate for students as they are enacted in this display. Thus, sometimes simplicity is more important than accuracy.
7.2.2 Transparency in simplified forms

Moving on to the third question in the “Applicability of the degree programme in the job” section, we find prioritised lists of skills applied in the job (see figure 9). The graduates have prioritised these from a list of 19 response categories with 11 overlapping skills from the Roskilde case to the “Zoom” list. The calculation and display of the results are, however, different from the university graduate surveys, just like in the case of the questions analysed in the above section. Here, to ensure an immediate comparability of the results, only the five highest scoring skills are shown, and they are ordered from 1 to 5 with the font size shrinking as we go down the list (Uddannelsesguiden, 2018a). For example, History at University of Copenhagen shows ‘acquisition of new knowledge’ as the top applied skill, ‘communication skills’ as the second one, ‘analytical skills’ as third, ‘my ability to work structured and meet deadlines’ as fourth, and finally ‘human skills’ as the fifth.

![Figure 9: The five most applied skills in the job (copied from Uddannelsesguiden, 2018a)](image)
With only five skills displayed, the other 14 skills become invisible and thus forgotten. A job becomes a matter of five generic skills from a total of 19 skills. While a result of only five skills is easily overviewed, it is also a quite poor description of a future work life. Furthermore, the list of five skills might not be very precise. In the questionnaire, the graduates were asked to prioritise the five most applied skills from their programme in their job. The top 1 is simply calculated as the top scorer within the priority 1 responses, the top 2 as the top scorer within priority 2 responses, and so forth (Styrelsen for Forskning og Uddannelse, 2018b). The result is a harmonised list of five skills that might cover very big differences from programme to programme and from graduate to graduate. First, there could be other skills that are actually more applied than the five ones in the list. For example, the same skill may score second in each of the five priority responses, and thus be on the top 5 list of far more graduates than even the top scorer on the displayed list. This is a technical-statistical problem with the calculation method. Second, it is impossible to read any patterns from the list of five skills. The displayed list could represent data where almost all graduate respondents select the three top ranking skills, while the next two are almost non-significant. Or the opposite: The top 9 skills may score very equally, thereby making the list of five close to random. This is a sensitivity problem of the statistical method.

These problems of the calculation methods mean that the data presented to the potential students do not provide as much information as they could have. As Nancy Cartwright critically points out, simplicity often comes with a cost in the form of misrepresentation (Cartwright, 1994: 72). Other calculations and other data aesthetics (Ratner & Ruppert, 2019) could actually show interesting patterns in the skills applied. For example, a pattern of two distinct labour markets with two very different sets of applied skills could appear. Or, as another example, the diversity or monotony of skills applied in the job could appear. Instead, the data aesthetics indicate a linear relation between programme and skills required in the job – a relation which is not linear, but dependent on a complex combination of student priorities, a variety of job profiles (for some career trajectories), and individual choices made by graduates on their preferred jobs. The harmonization of data displayed at the website evens out all differences within the data and might not tell any precise story at all. The transparency tool ends up providing non-transparent
numbers and values by prioritizing a simplified data aesthetics and an average-oriented approach to statistical calculations, rather than a sophisticated data aesthetics and difference-oriented approach. (Potential) students are not enacted as capable of reading detailed, nuanced data, but only these very simplified results.

7.3 Educational enactments of the idea of skills

In Denmark, the emphasis on skills was introduced as a key part of the output-oriented qualification framework reform of Danish higher education in 2003. The reform introduced knowledge, skills (narrow) and competences (or broader skills) as the three categories of learning outcomes (Sarauw, 2011). The universities were required to describe learning outcomes for each module and each entire degree programme, with an emphasis on the broader skills. This output-oriented framework represents a particular curriculum approach that has replaced earlier input-oriented approaches rooted in the disciplines (Uljens & Ylimaki, 2017: 6). Through the process of formulating learning outcomes, education became configured as skills, while, simultaneously, the skills became measurable, matchable, and exchangeable (Karseth & Solbrekke, 2016: 218).

Thus, the idea of education as ‘skills’ has been extensively enacted into explicitly formulated learning outcomes across the entire Danish university context.

The typology of the qualification frameworks was developed in the Bologna process as a means of making degrees comparable, and thereby marketable or tradeable, across national boundaries. The marketability of a product (such as education) requires a clear definition and delimitation of it (Mol, 2008: 18-20). Thus, from the beginning, the declaration of learning outcomes was introduced with the intention of making education readable across national contexts (Brøgger, 2019: 100-104; G. B. Nielsen & Sarauw, 2017: 159). However, the learning outcomes, formulated as skills, also make education readable across the different sectorial contexts of education and labour market (whereby skills become useful as a measure of ‘relevance’ as analysed in section 7.1.1), while the vocabulary of generic skills makes education readable, recognisable, and comparable across different areas of study within the university context. Thus, the skills configuration definitely has a productive capacity for society.
Nevertheless, the *declaration* aspect of the skills configuration also meets critique in scholarly work, particularly in relation to ‘employability’. The use of learning objectives implies an orientation of students towards “technical skills and factual knowledge acquisition” rather than critical analysis (Boden & Nedeva, 2010: 50), an alignment of teaching with measurable learning outcomes and the idea of common learning targets for all students at the cost of “independent, creative and original performances” (Leth Andersen & Bager, 2012: 124-128; my translation), and a calculative behaviour among students rather than academic work driven by the disciplines and scholarly interests of the students (Madsen, 2015; see also Sarauw, 2012: 33). This critique suggests that the format of declared learning outcomes in itself has changed the focus of students away from the content and towards the targets set in the learning outcomes.

As my interest here lies in the configuration of skills as that which makes education more or less ‘relevant’, I wish to emphasise a different aspect of the formulation of learning outcomes than the one pointed towards in this critical (and very valid) literature. My point is that the particular way learning outcomes are written, as *skills*, makes a difference to university education, particularly within the humanities. In this section of the chapter, I will analyse how the idea of ‘skills’ is enacted into university education today, in an era where ‘relevance’ is on the political agenda. The idea of ‘skills’, as articulated in learning outcomes and measured in graduate surveys, continuously affects the ongoing educational development at humanist departments (and possibly elsewhere). ‘Skills’ become a means of action when universities pursue better graduate employment numbers. As such, the skills-configuration bridges the world of education and the more specifically economic measures of employment and productivity, as they can both be understood as educational content and as a ‘capital’. I will now look at how the work with ‘skills’ in humanist departments in universities affects education, both in terms of a simplified vocabulary (in continuation of the analysis in section 7.1.1), and in terms of a universalised content.


7.3.1 The universalisation of particular disciplinary content

In my fieldwork, I had a special interest in how ideas of ‘relevance’ materialised in curricular development. This interest brought me into a range of different spaces where curricular development took place: ‘Employability meetings’ between the Faculty staff and degree programmes, ‘employability project meetings’ at a managerial level, ‘Study Board meetings’ with participation of teachers and students, and ‘programme regulation working group meetings’ where new programme regulation texts were drafted and discussed. I also interviewed teachers and heads of programmes about how ideas of ‘relevance’ were incorporated into programmes. In these contexts, I saw how skills often entered the curricular work as a way of strengthening the profile of the graduates. I have already introduced one example of this in section 3.4.1, where I introduced the process of writing a new programme regulation for the bachelor’s degree in Musicology. Here, we saw how skills like ‘project management’, ‘project design’, ‘cultural analysis’, ‘oral and written dissemination’, and ‘qualitative methods’ were added to the newer specialisation of Musicology as part of the learning outcomes with the intention of making graduates relevant to a particular labour market.

Laura Louise Sarauw (2012) makes an important point in relation to learning outcomes as ‘skills’. She explains how the Danish qualification frameworks are narrowly occupied with labour market skills, and furthermore that the academic subject matter according to Danish politicians is perceived as mutually exclusive to labour market skills. Thereby the implementation of the qualification frameworks has led to a replacement of “in-depth knowledge and independent work” with “comparable generic competency goals” (Sarauw, 2012: 32). Berit Karseth and Tone Dyrdal Solbrekke provide a similar point of critique that addresses the configuration of education as skills. They distinguish between a projective orientation towards education, which primarily refers to the utility of education in contexts outside the university, and an introjective orientation, which rather refers to internal characteristics or “scientific and intellectual qualities of the discipline” (Karseth & Solbrekke, 2016: 218, their highlights). According to them, disciplinary knowledge has been subordinated to learning outcomes (formulated as skills) in the gradual transition from the introjective to the projective orientation,
including an ignorance of the importance of different kinds of knowledge (Karseth & Solbrekke, 2016: 225).

The curricular development in Musicology clearly (and legitimately) represents a projective orientation, as the orientation towards new labour markets was the main reason for making major changes to the programme regulation. The balance between the projective and the introjective orientations requires ongoing negotiations in the curricular development processes. This constant work on the balance between generic skills (crudely associated with an increased utility of education) and disciplinary content (associated with the discipline’s scientific and intellectual qualities) was clearly visible in the education development practices that I observed in my fieldwork. Both purposes were considered legitimate (in different proportions across different environments) and were seen as in the interest of the students. Meanwhile, the inclusion of generic skills was accompanied by an awareness from teachers and managers of its costs on the disciplinary content. Some teacher communities decided to stick to the ‘core of the discipline’ [kernefagligheden], and others, in contrast, worked towards including utilisable skills that were considered necessary, even though the ‘core of the discipline’ would pay the price. The interesting observation here, from the perspective of the configuration of education as skills, is that the teacher communities needed to define their educational development in relation to labour market oriented skills, even if this was done as a rejection of this configuration. Thus, the negotiation and balancing work was continuously present.

In one case, the negotiation involved a striking observation of the skills that were incorporated into the degree programmes as somehow alien to the area of study. Let me share my observation notes from the meeting where this tension was observed:

Today, I am attending my second “employability meeting”, and this time two heads of culture-related programmes and the management from the Humanities Faculty are discussing how to improve the employability of the graduates from these two degree programmes. One of the things they discuss is how they can provide the graduates with skills that open up new labour markets to them. One head of programme mentions
'culture management' as a possible labour market. The Faculty Vice Dean objects that management is more of a social science matter than a humanities one. But the head of programme argues that some sort of 'humanist project management' could be included in their degree programme and that several graduates, who had obtained that sort of profile by following courses at other faculties or universities, had gotten their job because of this element.

Later in the meeting, when the Vice Dean states that it is time to make a list of specific initiatives, 'project management' again comes up as a possible new elective course. The Vice Dean mentions that some graduates also may want to learn some statistics. This could be another way of pulling social science matter into the degree programmes, he surprisingly says. Also, a lot of employers demand survey production skills from the graduates. He suggests that they may have to let the core of the discipline go a little bit to make room for the demands from the labour market, and the heads of programme do not protest this.

(Observation notes from Employability Meeting, May 2017)

In the observed conversation, 'management', 'project management', 'statistics', and 'survey methods' are identified as skills that will improve the position of the graduates at the labour market. These are skills that are distinctively separate from the culture-related disciplines of the two degree programmes, and, as the Vice Dean says, the inclusion of these skills implies the exclusion of some of the 'core of the discipline'. Thus, the relation between the discipline and generic skills is configured as a zero-sum game. Thereby, his considerations reflect the Karseth and Solbrekke critique of the subject matter paying the price when skills are emphasised.

Interestingly, the Vice Dean changes his opinion from first being sceptical towards including 'project management' to welcoming it in the end, even though the Social Science Faculty may offer this skill as a 'core skill'. A few months after the meeting, I receive a report on the results of the series of employability meetings. Here, I read that it was decided to develop an elective course on 'project and process management', and
another one on ‘qualitative and quantitative methods’. Thus, the projective orientation prevailed in this case.

The initial doubts of the Vice Dean seem to concern the ‘discipline’ versus ‘generic skills’ distinction: Do ‘management’ and ‘statistics’ belong to a different discipline [faglighed], or are they generic skills that can be included in culture-related degree programmes? ‘Project management’, ‘quantitative methods’, and ‘general business comprehension’ are all skills included in the Roskilde University report (Roskilde Universitet, 2013) and thereby configured as generic. Simultaneously, however, they can be configured as social science disciplinary content, as in the conversation above. A similar example from the Humanities could be ‘foreign language skills’, which stems from a group of areas of study, but also are configured as generic. Meanwhile, when graduate surveys and curricular developments reconfigure some discipline-specific skills as generic, and measure or assess the ‘relevance’ of a programme according to generic skills that are assumed to make graduates ‘employable’, they simultaneously contribute to the devaluation of some areas of study that are not considered to hold generic and utilisable skills to the same extent. Through the enactments of generic skills as those that are ‘relevant’, the distinguishability of areas of study is washed out in two ways – both through the appreciation of elements of disciplinary content from other areas of study that are universalised into generic skills, and through the depreciation of distinct and particular disciplinary content.

7.3.2 The marginalisation of particular types of content

The work on the incorporation of ‘skills’ into the curriculum presented in the previous section implies an idea of ‘skills’ as curricular content. This approach makes skills something that can be learned through education and something that poses a relevant typology of educational content. Thereby, ‘skills’ become a relevant category to think and express curriculum through. Meanwhile, the typology of ‘skills’ also describes the ‘profile’ of the graduate, and is thereby enacted as a vocabulary that communicates the ‘capital’ of the graduate to the labour market. The configuration of education as skills has a productive capacity to enable the flexibility and transferability of education across contexts by delimitating particular ‘cuts’ of educational content as skills.
Meanwhile, the vocabulary of skills does not seem equally available to all areas of study or disciplines. As previously suggested, elements such as ‘methods’ and institutionalised professional skills such as ‘project management’ may be easier to articulate as skills than disciplinary knowledge and analytical approaches, for example. This reflection is not explicitly outspoken in the environments where I did my fieldwork, but the difficulty of language and communication across the educational and labour market sectors is. For example, in the 2013-2014 report of the degree programme Philosophy and Science Studies at Roskilde University, the head of programme reflects on the inputs from the then recently published graduate survey analysed in section 7.1, including the section on skills match. He explains that the results have been discussed with alumni from the degree programme, and that they...

...generally did not think that course modules in general business comprehension and similar labour market oriented elements should be included in the programme. However, there was a general agreement that the programme could do more to 1) help the students put their specific philosophical skills into words, and 2) advantageously could provide more opportunities to try out the philosophical skills on specific cases.

(Internal note: Head of programme report, Philosophy and Science Studies 2013-2014, my translation)

As noted in the report, this educational environment (unlike the one presented in section 7.3.1) actively chose not to implement skills alien to their subject matter into the degree programme. However, the interest in putting ‘philosophical skills’ into words and, moreover, trying them out on cases shows that the resistance towards changing the curricular content does not exempt the programme (and the students) from handling ‘skills’ as a vocabulary. It seems, however, that in relation to these particular skills, the skills vocabulary is difficult to activate as an infrastructure across the education and work contexts. This raises a question about what counts as skills, and whether some disciplinary contents (for example ‘methods’) are more easily translated into the generic skills terminology than others.
The theme of activating the skills vocabulary was an ongoing theme in some of the conversations that I observed in my fieldwork. Here, a group of heads of study recurrently talked about teaching the students how to translate their educational outcome into the skills language, which indicates that the skills-vocabulary does not automatically or easily transfer educational outcomes into a vocabulary that is readable for employers. If we recall the above discussion of the roots of some generic skills in social sciences, it becomes relevant to ask if the skills vocabulary enables a readability and transferability of the educational content equally in all areas of study. Thereby, some programmes emerge as having not only a ‘relevance’ problem, as their contents do not appear in skills-match surveys, but also a communication problem, as their contents do not easily conform to the widespread configuration of education as ‘skills’.

7.3.3 The simplification of the needs of employers

The group of heads of study sometimes used the notion employer language for the vocabulary that they needed their students to learn. The ‘employer language’ and skills vocabulary can be understood as particular apparatuses that can be mobilised to cut the world in a particular way – for example to enact degree programmes as ‘relevant’, both for employers and for society more generally. First, it can be used by the individual graduate as a documentation of the ‘capital’ the graduate can bring into the workplace. Here, the formal character of the learning outcomes and the graduate profile included in programme regulations makes this a declarative form of documentation, rather than a documentation of measured skills. Second, it can also be used by the degree programme in university governance (for example in the approval of programme regulations and new programmes) as a documentation of the ‘relevance’ of the programme in line with the ‘needs of the labour market’.

Thereby, the formulation of ‘skills’ taught in a programme can serve as an infrastructure for the flow and exchange of the educational ‘capital’ across different spaces, such as education and labour market (Larkin, 2013: 328). Meanwhile, the ‘needs of the labour market’ that the skills taught in programmes are formulated up against are infrastructured by the graduate surveys and other types of surveys measuring this need. As argued in this chapter, and as pointed out by Helene Ratner and Christoffer Gad
(Ratner & Gad, 2018: 2), infrastructures (such as the vocabularies provided in response categories) can have (multiple) organising effects. Through the infrastructure of the questionnaire and its response categories, the ‘needs of the labour market’ are organised in a certain way, according to the skills vocabulary. Interestingly, this vocabulary doesn’t fully stem from or fits neither the vocabulary intrinsic to the labour market nor the vocabulary intrinsic to the disciplines. The graduate surveys emerge as ‘vocabulary alignment machines’ that bridge the worlds of education and work.

The language of the employers that I spoke to and listened to during my observations was a lot more various than the ‘skills vocabulary’. When employers expressed their needs (or their anticipations of future needs of the labour market more broadly), they mentioned that they wanted graduates who are able to author and programme sound (such as podcasts and product sounds), to do business communication, to navigate a politically led organisation, to possess and express personal values, to be passionate, to present complex problems in a simple way, to write in correct Danish (and possibly foreign languages), and graduates who have studied abroad. This list is not included because of its content, as it is not exhaustive and hardly representative (not even for my own material). Rather, it is included because of its diversity. Some items in the list regard skills, certainly, but some of them rather regard personal maturity and personality traits, particular products that the graduate should be able to produce, and particular experiences on the CV of the graduate. My point is that while the universities discuss how to teach their students to speak the language of employers, this language does not necessarily correspond to the standardised skills vocabulary used to write learning outcomes. Thus, while the graduate surveys constitute the ‘needs of the labour market’ as a matter of skills, this is a simplifying move that does not necessarily fit the expectations a graduate will meet when applying for a job (Tomlinson, 2018). Thereby, an important knowledge base for the curricular development of university education (i.e. the graduate surveys) may have become too impoverished in its simplification.

7.3.4 Chapter conclusion and diffractive readings

In summary, graduate surveys configure education as a composition of generic, delimitated, and clearly described skills, and ‘graduate employability’ as a particular
composition of skills that matches the ‘needs of employers’. Thereby, ‘skills’ emerges as a concept that connects ‘relevance’ and ‘graduate employability’, as it can be a property of both programmes and graduates. The ‘needs of employers’ are configured through apparatuses such as the graduate survey metric. Skills become a form of individual human capital that defines the value of the graduate at the labour market. This configuration is productive in that it enables a transferability or mutual readability of educational content across different contexts, including the labour market context. However, it also unequally allows different educational content to appear in the vocabulary of skills, which affects both the distinguishability and possibility of ‘good numbers’ for some degree programmes.

The graduate survey is an example of a metric with a configuration that is widespread across the Western countries, including Danish universities. As indicated in the previous chapter, it is also an example of a metric in motion. While graduate surveys were previously produced at the universities, they are now produced at a national level, where their results become part of the forecasts of work life in “Education Zoom”, analysed in Chapter 3A. Thereby, the constitution of the ‘needs of the labour market’ becomes even more comparable and all-encompassing.

The problem of the theory of generic skills, and of curriculum design based on this theory, is that it incites programmes to target and steer their contents towards a particular and predictable labour market. In some fields, however, the labour market is diverse and fragmented. To overcome this problem, the metrics take the starting point of the broad average, and this starting point risks equalising skills to the point where no graduates are sufficiently equipped. The organisation of data according to degree programmes makes the surveys optimised for governance and attempts of control. But that does not make them optimised for producing knowledge on ‘graduate employability’. The question is if the average profile of skills needs of graduates within a degree programme is relevant to navigate from. The simplicity of the numbers may reduce their value.

Read diffractively, the survey apparatuses of generic skills dismisses the disciplinary content as determinant of the graduate employment situation, while the calculations of
the “Sizing Model” and the “Current Unemployment” metric configure unemployment as a function of the area of study. Thereby, these two measures are complementary in their configurative work.

Read diffractively with the wage gain metrics, this and the skills-match metric emerge with two different capital-concepts, namely financial versus human capital. The financial capital that appears as return on investment in education is measured as a one-time (or lifetime) financial return of education, while the human capital that appears as skills is measured as a durable resource that sticks to graduates and can be carried into other contexts. The durable ‘skills’ may add content to the theoretical concept of ‘productivity’ as it give some explanation of how education can make graduates more productive, though not in a very elaborated sense. Meanwhile, these three metrics can not only be read diffractively, but also as a conglomerate of economist governance metrics.
Conjointly, these various policy metrics operate to improve the efficiency of higher education.

In this intermezzo, I will analyse the commonality of the three metrics analysed so far. Even though they configure ‘relevance differently, they share the same purpose. They all belong to what the sociologist Luc Boltanski and the economist Laurent Thévenot (2006) call an ‘industrial’ justificatory regime or ‘world’:

The ordering of the industrial world is based on the efficiency of beings, their performance, their productivity, and their capacity to ensure normal operations and to respond usefully to needs… The industrial form of coordination […] supports an equivalence between present situations and situations to come, and constitutes a temporality. Tomorrow is what counts: the “machines of tomorrow,” the “worker of tomorrow,” “the organization of tomorrow.”… People are in a state of unworthiness when they produce nothing useful, when they are unproductive, when they fail to do much work … [or] are inactive, unemployed, handicapped…

(Boltanski & Thévenot, 2006: 204-205, their emphasis)

The quoted excerpts of Boltanski and Thévenot’s description of the ‘industrial world’ only represent a few of the many words associated with this ‘world’. A ‘world’ is a “more or less secularized theological order” defined by particular principles of equivalence (such as efficiency in the case of the ‘industrial’ world). The world governs the actions of people. Boltanski and Thévenot describe a plurality of common worlds that govern the actions of people according to different principles (Boltanski & Thévenot, 2006: 127-136). I take the worlds as analytical devices that can be used to conceptualise particular practices, such as policy, governance, and management practices. The ‘industrial’ world described here is characterised by efficiency, performance, productivity, capacity,
normality, and the adaption to needs. It is oriented towards tomorrow. It values active, productive human beings, and deem the unproductive, inactive, and unemployed unworthy. Furthermore, it employs objects (including the human body as well as measurement instruments) as tools for an optimised productivity (Boltanski & Thévenot, 2006: 206-208). Numbers become means for the management and control of an unpredictable future (Hacking, 1991: 185; Rose, 2000: 12).

I hope that the reader can already see the parallels between the description of the ‘industrial world’ and the metrics analysed so far. In these metrics, the ‘relevance’, or in other words the efficiency, of education is measured. ‘Relevance’ is configured as a matter of the employment and productivity of graduates, as a matter of the performance of degree programmes, and as a matter of the efficiency of the tools (or skills) that graduates are provided and thereby the optimisation of human resources. ‘Relevance’ is related to probable futures through a number of forecasts that various actors navigate from. And the ‘relevance’ measures are incorporated into policy initiatives aimed at control and optimisation of education in the light of the probable futures. The Danish higher education policies on ‘relevance’ are thus deeply entangled with an industrial configuration of the world.

Obviously, the policies and metrics also incorporate elements of the ‘market world’. This is a world where individuals and their desires are at the centre, as well as the competition between these individuals. The value of ‘objects’, including individuals and their skills, is in this world defined by the price of the objects. The price is determined in a free market of supply and demand. There are clear correspondences between this ‘market world’ and the theories built into the metrics, such as the ‘supply and demand’ of graduates, the ‘rational’ human being, the ‘wage formation’ of graduate wages, and the acquisition of ‘human capital’.

The ‘human capital’ theory is particularly interesting in relation to education. As Gritt B. Nielsen highlights, Miriam Henry, Bob Lingard, Fazal Rizvi, and Sandra Taylor have elaborated the human capital theory by distinguishing between a macro-approach and a micro-approach to the theory (Henry, Lingard, Rizvi, & Taylor, 2001: 99; G. B. Nielsen, 2015: 172). The macro-approach was at play in the graduate income metrics analysed in
Chapter 5, where ‘relevance’ was configured as a matter of the economic gain of investments in education on a societal level. In contrast, the micro-approach to human capital intermingles with the idea of the ‘rational’ human being and places both the investment and gain of education at the individual level, much like an individual wage-gain measure would (for example Skaksen & Andersen, 2018: 52-62). In this economy, the particular and unique skills composition of the individual makes up the starting point for success. Thereby, the individual students are made “personally responsible for making themselves attractive in the job market” (G. B. Nielsen, 2015: 172). The job market becomes a space of competition between individuals, why the composition of skills matters to the individual as a way of gaining ‘positional advantage’ (G. B. Nielsen, 2015: 173; Tomlinson, 2012: 420).

Meanwhile, in Danish higher education policy, the market forces are not allowed to operate on their own. Rather, these elements from the ‘market world’ are used to determine the efficiency of the state investment in education and to determine the future needs for workers. The ‘market world’ measures do not actualise a state of competition, but are rather deployed as hierarchical devices for the evaluation of the ‘economic’ efficiency of the programmes or of the graduates. They only appear as assistant test devices for the purposes of the ‘industrial world’. The quest for efficiency and control dominates the policies that the metrics serve (Boltanski & Thévenot, 2006: 333-334).

Thereby, I also argue that contemporary Danish higher education policy and governance is not first and foremost characterised by competition, like much of the international literature suggests in relation to other contexts. In my reading, not all performance metrics install competition. Thus, the ‘competition fetish’ that Rajani Naidoo emphasises (Naidoo, 2016, 2018), the installed ‘rivalry’ that Roger Dale emphasises (2017: 183), and the universalisation of social competition suggested by Steffen Mau (2019: 6-7), do not sufficiently characterise the governance model analysed in the dissertation so far. I do not see programmes or students compete against each other, as this literature would suggest. They compare themselves to other programmes or other students, for sure, and they do reform themselves on this basis, but they do this in order not to ‘loose’ (for example closure of a degree programme or unemployment of an
individual graduate), and not ‘win’. Rather than competition, the policies, which do allow for some variation in performance (for example in graduate unemployment numbers), install what John B. Krejsler calls a ‘fear of falling behind regime’ (Krejsler, 2018) for programmes or, for individuals, what Sam Sellar and Lew Zipin term “worries about ‘staying afloat’” and attempts to avoid downward mobility (Sellar & Zipin, 2019: 573, 580). If this is competition, it is first and foremost a competition against yourself to achieve a sufficient level of success.

The distinction between ‘competition’ and ‘optimisation’ that I hereby highlight is allowed by the theory of Boltanski and Thévenot (2006), who allocate ‘competition’ to the ‘market world’ and ‘optimisation’ to the ‘industrial world’. The distinction suggests that the scholarly literature beneficially could operate with a more sensitive vocabulary, where the notion of ‘competition’ does not necessarily follow from the use of indicators. The reason why this distinction becomes visible in a Danish case may be due to the Danish universalist welfare-state model (Esping-Andersen, 1990), which may be in decline, but nevertheless still ensures relatively equal living standards despite unemployment. The marketization of particular areas of society, such as the educational ‘market’ and the ‘labour market’, may not be as ‘pure’ and thus competitive in Denmark as in a range of other countries. If the university context was governed with marketised forms of governance, the governing agencies would leave the enrolment of students across different areas of study and the composition of degrees and skills to the market forces of student choices. But as shown in the analysis of the “Sizing Model” in section 3.2, the Danish government prefers a hierarchically governed optimisation of university education, at least when it comes to the supply of graduates. Similarly, it prefers a hierarchical governance when it comes to the composition of skills, as these are organised in hierarchically quality assured programmes rather than left to the free choice of the students13. Conclusively, contemporary policy initiatives and governance and management practices are characterised by ‘industrial’, efficiency-obsessed forms of governance (at least the initiatives and practices relating to the Danish policies of ‘relevance’).

13 Far the most content of the programmes that I followed was mandatory.
A variety of critiques can be raised towards the ‘industrial’ mode of governance implied in the Danish ‘relevance’ policies. First, the particular metrics can be criticised for the insufficient knowledge they produce. For example, the limited use of variables in the graduate unemployment rate (analysed in Chapter 3A) neglects a range of other factors than area of study that may co-determine graduate unemployment. Similarly, the limited use of response categories in terms of ‘skills’ (analysed in Chapter 7) neglects a range of skills, knowledges, and analytical approaches that may also be part of the ‘needs of the labour market’.

Second, the use of the metrics can be criticised. The determination of a cap on the future graduate production within some areas of study based on statistics from the past may not take a sufficient number of (possibly hidden) factors into account, as well as the fact that these may change due to time or to the intervention itself (Cartwright & Efstathiou, 2011: 225-233). Maybe we will see an increased demand for the humanities in the future years, where a growth in technology and derived needs of ethical and human considerations might be relevant (as discussed by Mads Tofte in Oxvig, 2018, and as assumed by the student Elizabeth). Similarly, the use of the graduate unemployment rate as a performance indicator in quality assurance, with its significant data delay and weak relation between initiatives and their effects on the numbers, may be a problematic use of metrics. These modes of critique (which I have provided throughout the analysis) are about ‘revealing’ or exposing the insufficiency of the numbers and the use of numbers (Decuypere & Simons, 2016) aimed at enabling a ‘greater care’ in the use of the numbers (Gorur, 2013).

We might, however, also imagine a third critique, not so much concerned with more refined numbers and a better use of them, but rather with the problematic idea of rational, standardised (Tsing, 2015: 28) human beings, or ‘unmarked citizens’ with “no gender, no tastes, no history, no values, no opinions or original ideas, no traditions, and no distinctive personalities” (Scott, 1998: 346). This critique could emerge as an affirmative critique (Staunæs, 2016) that proposes a recomposed version of reality (Decuypere & Simons, 2016). It could for example draw on the idea of an ‘ecological rationality’, which acknowledges that the definition of a rational decision may vary from
context to context, dependent on the ‘choice or decision environment’ (Berg & Gigerenzer, 2010: 149). Such a critique would want to leave behind the ‘partial closure’ provided by numbers (Hammer, 2010: 91) and instead open up a greater space for interpretation of numbers.

This ‘greater space for interpretation’ could be established through a diversification of numbers, so that students, programmes, and ministries are not left with only a few simplified numbers, but gain access to a variety of data that can be interpreted in different ways, allowing for many different readings of the numbers. Hereby, the numbers would call for judgment and interpretation in relation to the environment, rather than mere accounting (Readings, 1997: 131). For example, more detailed information on the variations within the data could show potential students both best and worst case scenarios from the past in relation to various circumstances, rather than just the pattern of the average (Hacking, 1990: 145). Also, patterns of successful paths into the labour market for graduates from an area of study exposed to a relatively high graduate unemployment could be helpful for diversified interpretations of graduate employment numbers. This would involve a statistical move beyond the comparison of programmes, towards comparison of ‘successes’ and ‘failures’ within a programme. Students, or potential students, might have an idea about their own capacity towards achieving the best (or worst) case scenario and the tools they can employ to get there, and thus be able to make right choices for themselves informed by a richness in numbers – and not merely simplified numbers. Not only (potential) students, but also programmes could benefit from a richness in numbers, as these may show viable ways of improving the ‘relevance’ of the programme rather than just the current status of the programme. In this type of engagement with metrics, in the words of Marion Fourcade, the ordinal judgment would become detached from the cardinality of the numbers (Fourcade, 2016) and their simplifications and ‘partial closures’ (Hammer, 2010) would thereby become less totalising.

This proposal could be in line with Alfred Hirschman’s notion of possibilism. With possibilism, Hirschman suggests an “approach to the social world that would stress the unique rather than the general, the unexpected rather than the expected, and the
possible rather than the probable” (Hirschman, 1971: 28; see also Lepenies, 2008). Even though Hirschman was developing his approach in a different time and field, and with a different purpose, I find the approach inspirational and relevant in relation to my research, especially since the question of probability takes such a prominent role in the statistical apparatus of graduate unemployment and many other metrics. With an increased richness in numbers, for example including correlations between employment successes and particular subpopulations (other than merely the subpopulations of area of study) rather than just the average unemployment rate, the unique opportunities that might be unexpected but still possible can become part of the patterns that potential students can make their choices from. Thereby, the approach enables a different type of questions that could be built into metrics than the question of probability and patterns of the average graduates.

From the analysis of the interview with the Ministry Official, as well as the reading of commission and committee reports, it seems fair to conclude that the “Current Unemployment” metric and the national graduate survey of skills match are nevertheless considered the most effective tools currently available for the governing of Danish higher education. In line with the logic of Boltanski and Thévenot’s ‘industrial world’ (Boltanski & Thévenot, 2006: 203 ff), these tools are deployed as long as the Ministry deem them useful for the ongoing improvement of higher education. However, the quest for efficiency would not necessarily be obstructed by a greater richness in numbers and a greater space for interpretation. The notion of ‘efficiency’ would still be available, though in a different, more pluralistic version. This proposal would not overcome the mode of governance where actors are invited to govern themselves through “complex practices of calculation” (Hammer & Tvedten, 2010: 220), but it would allow the actors more freedom to do so in multiple ways.

Hereby also said that while the ‘industrial’ approach to higher education policy, governance, and management can be criticised for its instrumental and objectifying approach to human beings (Boltanski & Thévenot, 2006: 211), I also consider it legitimate. As cleverly theorised by Laura Bear and Nayanika Mathur (2015), the principle of ‘efficiency’ has become a ‘public good’ in the sense that ‘efficiency’ is not
merely a bureaucratic ideal that is accompanied by coercive techniques, but an ideal that is “considered universally beneficial for everyone” (Bear & Mathur, 2015: 21). In spite of its potential harmful effects on the various actors involved in university education, the improvement of efficiency is generally considered a legitimate and indispensable quest. Perhaps it would become less harmful with a more open approach to the improvement of it.

Meanwhile, the ‘industrial’ logic of efficiency is not the only logic present in the governance of the ‘relevance’ of university programmes. In the next chapter, I will introduce a very differently organised metric that relies on very different concepts of worth.
9. Accreditation as a bureaucratic metric

In a different (bureaucratic and qualitative) policy metric, ‘relevance’ is configured as a processual matter of being responsive to data and to the ‘general will’ of employers.

The next metric that I will examine is accreditation of ‘programme relevance’. Unlike the metrics examined so far, accreditation is a qualitative metric of assessment (rather than measurement), and it differs from quantitative metrics in profound ways. Still, I categorise it as a metric, because it assesses the ‘relevance’ of higher education in a standardised and simplifying way. The accreditation of ‘programme relevance’ can be considered a kind of ‘meta-metric’, as it incorporates several of the already analysed quantitative metrics, as well as the assessment of ‘employer involvement’ that I will analyse in the second part of this chapter, in its operations. As a ‘meta-metric’, its main focus is on the processes of assuring ‘programme relevance’, or in other words of how the data and information provided by the other metrics are used by the universities. Meanwhile, the assessment of processes involves intricate bureaucratic procedures and technologies.

Throughout this chapter, I will study accreditation reports from the Danish Accreditation Institution in order to analyse how the accreditation metric is composed. The metric uses rather different technologies than quantification and commensuration, namely the technologies of standard bureaucratic procedures, processual criteria, and documentation. I will begin by analysing the operations of accreditation and the processual criteria that universities (and other higher education institutions) are assessed by. Next, I will look into the accreditation criterion on ‘programme relevance’ and its components, with a particular focus on ‘employer involvement’, which has not already been introduced in another chapter. The configuration embedded in ‘employer involvement’ suggests that ‘relevance’ is determined as the ‘general will’ of a ‘community of employers’, which is carried into the university by the members of the advisory boards, who act as representatives of this ‘community’. More broadly, however, the ‘programme relevance’ criterion configures ‘relevance’ as a processual matter of working with data.
and information in a particular, linear way. In the final and third part of the chapter, I will (with inspiration from Anna Tsing (2005)) characterise the enactments performed in accreditation as a ‘bureaucracy of appearances’ that can only assess processual trails of a willingness to improve the ‘relevance’ of programmes, and analyse how managers and heads of programme are enabled to appear responsible within this bureaucracy.

The analysis will draw on all my encounters with quality assurance during my fieldwork, including interviews with a Chief Executive from The Danish Accreditation Institution, interviews with quality workers, managers, and heads of programme at universities, and observations of the various meetings I participated in where quality assurance and accreditation came up. The analysis is furthermore based on two accreditation reports, both publicly available. The two reports analysed are produced several years apart. Yet, the modes of assessment appear quite similar. The first one is from the 2014 accreditation of University of Southern Denmark (Danmarks Akkrediteringsinstitution, 2014), and the second one from the 2017 accreditation of Aarhus University (Danmarks Akkrediteringsinstitution, 2017). The third university in my fieldwork, Roskilde University, has not yet been accredited within the new approach of institutional accreditation at the time of writing, and thus there is no report to analyse.

Conceptually, I will draw on the notion of ‘objectivity’ theorised by Lorraine Daston and Peter Galison (2007), the study of ‘audit’ by Michael Power (1999) and Peter Miller (Miller & Power, 2013), and return to the work of Boltanski and Thévenot (2006) to make use of their notion of the ‘civic world’. I will furthermore draw on the work on documents and meetings by Annelise Riles (Riles, 2000, 2006), as well as a special issue on the ethnography of meetings edited by Hannah Brown, Adam Reed, and Thomas Yarrow (Brown, Reed, & Yarrow, 2017). Finally, I will draw on the work by Anna Tsing (2005) to conceptualise how accreditation becomes a ‘bureaucracy of appearances’. First, however, let me start from the operations of accreditation.
9.1 The operations of the accreditation metric

The accreditation of higher education institutions is a qualitative assessment that, roughly speaking, defines the rights of higher education institutions to quality assure their own programmes and make changes in their provision of higher education. The Danish Accreditation Institution follows the paradigm of ‘institutional accreditation’. From 2013 and onwards, this paradigm has replaced the previous ‘programme accreditation’, where individual programmes were assessed directly by the Accreditation Institution. With ‘institutional accreditation’, the responsibility for the quality assurance of individual programmes is handed over to the institution (for example the university), which is then accredited on the policies, procedures, and practices it uses to do this.\footnote{At the time of writing, a new accreditation guide is being developed. Here, ‘relevance’ is no longer a separate criterion of accreditation, and the focus will be on quality assurance practices rather than on policies and procedures. The analysis in this chapter is based on my fieldwork, which took place before the redesign of the guide began.}

In the first section of the analysis, I will conceptualise how the assessment performed in accreditation (a qualitative metric) gains validity and authority. I will argue that its validity is dependent on particular bureaucratic practices that closely resemble the required procedures for the production of ‘objectivity’ (Daston & Galison, 2007). As Thomas Yarrow (2017) and Daston and Galison (Daston & Galison, 2007) propose, objectivity should not be considered an external parameter that can be used to judge knowledge, but rather a result of a range of activities or actions. Objectivity is achieved rather than pre-existing (Yarrow, 2017: 105). The analysis will show how the report establishes its assessments as valid through a particular configuration of the people involved in the assessment, as well as through the use of bureaucratic procedures and realist methodologies. After the analysis of how something close to objectivity comes into being in a qualitative metric, I will analyse the particular ‘object of assessment’ that is established in the accreditation metric.

9.1.1 Accreditation as an ‘approximately objective’ form of assessment

Accreditation is in Denmark performed by different groups of people. The assessment (in the form of a report) is prepared and nominated by an accreditation panel of peers.
The panel is supported by The Danish Accreditation Institution (the public agency warranted to administrate accreditation in Denmark), who appoints the panel, writes the draft report, ensures the legality of the process (see below), and organises the work of the panel. The final decision on accreditation, which can have three difference outcomes (‘positive’, ‘conditional’, or ‘refusal’), is made by the Accreditation Council (Uddannelses- og Forskningsministeriet, 2018b).

Like the graduates participating in the graduate surveys were enacted as ‘measuring instruments’ (see Chapter 7), the accreditation panel becomes the ‘assessment instrument’ in the accreditation metric. As the panel is made up of peers, typically top managers from other Danish or Nordic universities as well as experienced figures in Danish public administration and a student representative, it represents the ‘higher education community’. Over the years, some peers participate in several accreditation processes and thereby become more professionalised. The peers progressively become experts. Thereby, the assessment made by the panel is performed as a kind of ‘trained judgment’ rather than a purely objective assessment (Daston & Galison, 2007: 18, 371).

‘Trained judgment’ as an epistemic virtue is a result of judgments made by experts who interpret what they observe and recognise patterns across the entire material (in this case the documentary material). This epistemic virtue differs from objectivity, as objectivity is a product of a mechanical representation that for example is found in quantification. However, while objectivity, or the avoidance of subjectivity (Porter, 1996: 85), is achieved through aspects such as ‘emotional detachment’, ‘automatic procedures’, and ‘the belief in an independent reality’ (Daston & Galison, 2007: 29), these aspects, or variations of them, are also found in the ‘trained judgment’ performed by the accreditation panels.

The first of the aspects mentioned by Daston and Galison, ‘emotional detachment’, is secured through the establishment of what Boltanski and Thévenot call a ‘collective person’ in the form of the accreditation panel (Boltanski & Thévenot, 2006: 185). A ‘collective person’ acts according to a ‘general will’. The notion of the ‘general will’ replaces ‘emotional detachment’ with a form of attachment that receives its legitimacy from its assumed ‘commonness’ across the Danish (and Nordic) ‘higher education
community’. Thereby, it transcends the individual wills of its members. An important aspect of ensuring the legitimacy of the panel is the procedures of hearings, which give the higher education institutions an opportunity to object if they find the assessment unfair or the panel members unsuitably involved or too close in some way.

The ‘collective person’ is characterised by a clear mandate. In the case of the Accreditation Institution, the mandate of the panel to perform the ‘professional assessment’ [den faglige vurdering] is clearly distinguished from that of the Accreditation Institution agency, who ensures the legality of the process (see below). Moreover, the mandate of the Accreditation Institution is independent from the Ministry, which cannot interfere in the professional assessment (Uddannelses- og Forskningsministeriet, 2018b). This division of mandates ensures the legitimacy of the ‘collective person’.

Second, the ‘automatic procedures’ required for the achievement of ‘objectivity’, as found in ‘quantification’, are here replaced by standard bureaucratic procedures. The procedures of accreditation include a completely standardised process of document circulations, meetings, visits, and hearings, as well as a completely standardised report format. Accreditation draws on a comprehensive amount of written material that is distributed between the involved agencies (the university, the panel, the Accreditation Institution officers, the Accreditation Council, and the public) in a particular order. It also involves meetings between these involved agencies at particular times, and these meetings follow specific agendas that are most often made up from a catalogue of agenda item templates. The standardised procedures ensure that differences in the results of assessments are not a product of differences in the methods (much like a standard calculation method makes different numbers comparable).

In addition to the standard procedures, an accreditation report is structured in a standardised way. The recurring patterns across these documents (Riles, 2000: 78) reflect a material installation of equality before the law in the assessments, where higher education institutions can be confident that they are assessed in exactly the same, and thereby fair, way as other institutions. The uniform graphic design, where colours, fonts, footer, and even the front-page photo recur in all reports, have the same effect of
signalling the rule of law that can be expected from an official institution within the public administration. The Accreditation Institution as a ‘collective person’ materialises in these recognisable forms (Boltanski & Thévenot, 2006: 188-189). The standard procedures enable the assurance of consistency of the assessments across panels. The Accreditation Institution furthermore ensures consistency by educating the panel, by participating in the panel’s discussions, and by drafting the accreditation reports. Thus, while the assessments are made by peers, their standardised character is ensured by the public agency of the Danish Accreditation Institution.

The final aspect, the ‘belief in an independent reality’, is no less apparent in the accreditation metric than in quantitative metrics. The report pursues a realist epistemological ideal, where representation poses the relation between the reality of quality assurance ‘out there’ and the assessment in the report. By referring to different sources that document or represent the reality ‘out there’, including written policies and procedures, clarifying comments, minutes from meetings in advisory boards and Study Boards, and quotes or paraphrases of interview statements from panel visits, the report seeks to establish a realistic account of the assessed quality system. The representational link between reality and assessment is strengthened by the very tangible examples included in the text. (However, like quantitative processes of classification and commensuration, the inclusion of qualitative sources highlights some aspects of reality and shadows others (Leonelli et al., 2017)).

The realist epistemological ideal is also embedded in the methodology of the metric. The use of particular penetrative methodological standards seeks to ensure that it should not be possible to hide what could be considered dysfunctional practices at the higher education institutions. The detailed analysis of quality assurance practices in the report builds on a sample of degree programmes (in the analysed examples four or five) whose practices are scrutinised in detail. These programmes are often selected as examples of programmes with problematic key figures, and thus as examples of programmes where there are problems to handle. Thereby, the panel searches for instances where the universities can show themselves capable of taking care of problems, but also where the quality assurance practices might not quite follow the policies and procedures of the
institution. The system is supposed to function with only minor and clearly delimited problems (Akkrediteringsrådet, 2018: 3). The principle of the sample allows for the panel to obtain ‘adequate proof’, including some ‘risky’ cases (Power, 1999: 71-72), without having to double the entire quality assurance done by the university.

All these steps, which make the expert assessments made by the panels (and eventually the Accreditation Council) resemble objectivity, help establish and maintain the Danish Accreditation Institution as a ‘collective person’ or institution (entangled with, but also separate from the ‘collective person’ of the panel of peers). The ‘signature’ of the Danish Accreditation Institution as the author of the report, formalised by the logo, brings legitimacy. The author name links the process of assessment described above with the written product (Biagioli, 2006: 127) and moreover the written product with the reputation of the author as a competent bureaucratic agency that follows certain well-established bureaucratic procedures. The logo (which represents the credibility of the ‘author’) and the processual and methodological approach mutually enhance each other, as the sound bureaucratic craft of accreditation strengthens the reputation of the institution, and vice versa.

Thus, through the deployment of the ‘general will’ of the ‘higher education community’ in the form of separate panels, of standardised bureaucratic procedures, and of a particular epistemology and methodology, a valid assessment is achieved. In that sense, accreditation is a form of ‘audit’ or ‘judgment’ (rather than an automated process), characterised by “independence from the matter being audited; technical work in the form of evidence gathering and the examination of documentation; the expression of a view based on this evidence; [and] a clearly defined object of the audit process” (Power, 1999: 5, 74).

Both the notion of the ‘collective person’ and the ‘general will’, as well as the vocabulary of procedures, legality, reports, and logos, are associated with a different conception of ‘worth’ than the previously analysed ‘industrial world’ (see Chapter 8). Procedures and logos belong to the ‘civic world’, where the membership of a particular ‘collective person’ representing a particular ‘general will’ (such as that of the ‘higher education community’) authorises the exercise of power and judgment. The difference in ‘worlds’ between the
accreditation metric and the ‘industrial world’ metrics is profound. However, as a metric, accreditation is able to assess a different aspect of universities and their programmes than the quantitative metrics can measure. It assesses processes of knowledge flows and problem solving.

9.1.2 Assessments of processes

The Danish Accreditation Institution frames the processes of quality assurance at the universities in a specific linear way. In its guide to institutional accreditation, the Accreditation Institution emphasises the requirement of a “connection between ends, means, knowledge and following up” (The Danish Accreditation Institution, 2013). The guide describes this connection in the following way:

> The accreditation panel will decide whether your quality assurance is performed on an ongoing, systematic basis so that it is always possible to assess and develop the quality of the institution’s activities. An important element in this connection is whether you receive knowledge about problems and challenges in connection with programmes at the institution on an ongoing basis, evaluate questions and attempt to solve problems in a well-founded manner.

(The Danish Accreditation Institution, 2013: 19-20)

As the quote shows, the quality system should ensure a linear relation between ‘receiving knowledge’, ‘evaluate challenges’, and ‘attempting to solve problems’. The capacity to identify and solve problems defines a good quality system, according to The Danish Accreditation Institution. It is through this capacity that degree programmes and their leaders show themselves responsible and thus worthy.

The ‘knowledge flow’ ‘upward and downward’ is described in the guide as a prerequisite for discussions across various formal bodies and roles at the university, and for the responsibilisation of the management in relation to the quality of programmes (The Danish Accreditation Institution, 2013: 20-21). Key figures are considered a very important element in this ‘knowledge flow’, as they fit the linearity of the process. The quantified (coloured) knowledge (see Chapter 3B) enables managers and other key role
inhabitants (student representatives, teachers, quality staff, and so on) to know degree programmes differently than they otherwise could (Winthereik & Jensen, 2017: 258). As Wendy Nelson Espeland and Michael Sauder express it, “[numbers] make a messy and dangerous world easier to manage” (Espeland & Sauder, 2016: 21). The numbers reduce the available information, and thus the available differences, according to the metric (Espeland & Sauder, 2016: 29). This is why numbers are “useful simplifications of complex realities” (Espeland & Sauder, 2016: 8), but also selective simplifications that highlight certain aspects of the degree programmes that they measure, while other aspects of sameness and difference become invisible in this formal ‘knowledge flow’.

The transparency enabled by the thresholds and the colour coded key figures invites managerial decision power and action power of the teaching environments, and thus it creates a space for showing oneself responsible. The simplicity and ‘apparent straightforwardness’ (Espeland & Sauder, 2016: 22) of the produced knowledge makes it easy for the management to ‘evaluate challenges’, or in other words identify degree programmes with continuous problems that are eligible for management decisions. As already indicated in Chapter 3B, it is important to show ones capacity to take action and solve problems, not only for programmes, but also for top managers. In a conversation on our way to a meeting that I was invited to observe, a head of programme told me about such a situation of management decisions. Since my last visit to the university, the Rector had recommended eight degree programmes for closure, including his (which was also the one that I was following in my fieldwork) as it had three “red lights” over a continuous period of time with. The head of programme and the Faculty management had been working ‘at high pressure’ to avoid the decision by producing more recent numbers that showed an improvement and ‘turned off’ one “red light” (observation notes, May 2017).

Meanwhile, the significant delay of the measureable effect of the actions (see section 3.3.2) means that the evaluation of actions (including management decisions) cannot be a simple, quantitative evaluation, but necessarily becomes more indirect and dim. Rather than evaluating the direct effects of the actions, the actions are evaluated in terms of their substantiations and their probable effects. The Danish Accreditation Institution explains this in their guide to universities:
As part of [the accreditation panel’s] assessment of the cohesion of your quality assurance system, the panel will also focus on whether an attempt is made to solve problems in a well-founded manner. If, for instance, the institution changes its intake in connection with a given programme to solve the problem of a low rate of employment among graduates, the panel will consider whether the solution was well-founded in the light of the problem and whether it appears probable that the measure will be effective – although the results may only become evident some years after the measure was implemented.

(The Danish Accreditation Institution, 2013: 20)

As pointed out in the quote above, ‘the results may only become evident some years after the measure was implemented’. Therefore, the Accreditation Institution evaluates the ‘attempt’ made to solve the problems rather than the effectuated problem solving. The ‘solutions’ (or actions) should be ‘well-founded in the light of the problem’ and their effectiveness should ‘appear probable’. According to the Chief Executive from the Accreditation Institution that I interviewed, they assesses probable effects on the basis of “the norm within the sector”, which I read as a matter of ‘best practice’. Thereby, the substantial assessment of action plans potentially favours an alignment of initiatives across universities and programmes. Most importantly, however, the timeliness and adequacy of actions is assessed, and action plans are thereby seen as a self-reliant valuable product. The Chief Executive exemplifies this in the following quote:

...if you had an issue with high unemployment in 2012 [after several years with high unemployment], and know that you had a problem, then you had a meeting on it where you changed an optional course module. But then the unemployment is still high, and in 2013 you see the same picture, and again in 2014, and nothing really... there are no new initiatives from those who are responsible. Then we would say, from this process consideration, that the issue has maybe not been met in a sufficiently serious manner.

(Interview with Chief Executive from the Danish Accreditation Institution, May 2017)
In the quote, the Chief Executive speaks about a ‘process consideration’. As it becomes obvious in the example, the ideal process is a process of adequate, timely initiatives in the response to problematic key figures. As the Danish Accreditation Institution (as well as higher level managers) operate from a distance, they are compelled to rely on appearances of timeliness and adequacy when they assess ‘programme relevance’. Thus, indications of a linear process of gaining knowledge, evaluating it, and taking adequate and timely action at all levels of the organisation is the ‘object of assessment’ in accreditation. Key figures are an important source of knowledge in the knowledge flow. However, as I will now show, other types of knowledge are also required.

9.2 The accreditation criterion on ‘programme relevance’

While institutions in the current paradigm are responsible for designing their own quality systems, their systems will be assessed according to five accreditation criteria according to a government decree (Uddannelses- og Forskningsministeriet, 2018d) and further outlined in the ‘Guide to institutional accreditation’ (The Danish Accreditation Institution, 2013). The guide indicates the type of information that should be circulated in the ‘knowledge flow’. Thereby, the ‘apparent freedom’ for universities to select their own measures is “counterbalanced by the existence of externally-imposed inspectorates … which in turn necessitate the standardisation of statistical indicators and assessment procedures” (Shore & Roberts, 1995: 12). This also goes for the fifth criterion called ‘programme relevance’.

As quoted in Chapter 3B, a higher education institution should have “a practice which ensures that new and existing programmes reflect the needs of society and are continually adapted to societal development and the changing needs of the Danish labour market” (The Danish Accreditation Institution, 2013: 16). As indicated in this quote and the wording of ‘programme relevance’, the programme is still the indirect unit of assessment, which is also why the Accreditation Institution assesses a random sample of programmes in order to test the assessment made by the institution. Thus, the ‘knowledge flow’ at the universities primarily concerns knowledge on programmes.
In the details listed below the criterion, the following specifications are included:

*that programmes reflect the needs of the labour market and that students acquire relevant competences,*

*that relevant external stakeholders, including potential employers and graduates, are continually and systematically included in the dialogue on programmes, including their objectives, content and results, and that the results of this are applied to the adaptation of programmes,*

... 

*that the circumstances of graduates with regard to employment and developments on the Danish labour market are monitored on an ongoing basis and that the results of this are systematically evaluated with the aim of arriving at a more detailed establishment of when the employment situation gives rise to separate initiatives.*

(The Danish Accreditation Institution, 2013: 16)

As these specifications first state, programmes should reflect the ‘needs of the labour market’, which in the specifications are linked to ‘competences’ (or what I call broader ‘skills’) of the graduates. The graduate surveys analysed in Chapter 7 are normally used as a source of information for this part of the criterion. Second, ‘potential employers and graduates’ are to be involved in a continuous and systematic dialogue on the objectives, content, and results of existing programmes (as also stated in European Association for Quality Assurance in Higher Education (ENQA) et al., 2015: 11). This work takes place in advisory boards, which also produces information about the ‘needs of the labour market’ and ‘relevant competences’. Third, ‘circumstances of graduates with regard to employment’ and the labour market should be monitored and evaluated, and possibly followed up by initiatives. This work uses the graduate unemployment key figures analysed in Chapter 3B as the source of information. In this section of the chapter, I will
unfold the ‘dialogue’ with ‘potential employers and graduates’\textsuperscript{15}, as this source of information has not yet been introduced (unlike the graduate surveys and the graduate unemployment ‘key figure’ or ‘performance indicator’).

The dialogue with employers takes place through ‘advisory boards’ [aftagerpaneler] (Danske Universiteter, 2011; Uddannelses- og Forskningsministeriet, 2018c). In some cases, the advisory boards cover one single programme, while they in other cases cover an entire school including a range of programmes. At one of the universities in my fieldwork, where the advisory board covers a substantial number of degree programmes, it is complemented by ‘advisory fora’ where the degree programmes from each department within the school meet their advisory board members to discuss these programmes in more detail than what is possible at the broader advisory board meetings. The members of the ‘advisory boards’ are (potential) employers from the various business fields where graduates are usually employed. The boards also sometimes include graduates from the programmes covered by the board, who are now employed outside the university. Besides these ‘advisors’, heads of programme and sometimes teacher and student representatives participate in the ‘advisory board meetings’, which are the sessions where most of the work in the advisory boards takes place.

Let me kick off this section by inviting the reader into an advisory board meeting through the following ethnographic note:

\begin{quote}
It is a normal day in the office – so normal that it would normally be long forgotten. But right after the lunch break, an email pops up in my mailbox. It is an email from a head of school (one of three within the Faculty), who replies to my request of permission to follow his school as part of my fieldwork. The answer is positive. A mixture of thrill, excitement, and panic hits my body as I read the final part of the email: “Actually, we have our annual meeting with the advisory board today at 4pm-9pm. You can receive the minutes, but you can also observe the
\end{quote}

\textsuperscript{15} Throughout the rest of the dissertation, I will call this activity ‘involvement of employers’, as the universities do not explicitly distinguish between ‘potential employers’ and ‘graduates’ in their work with the advisory boards.
meeting. I assume that it is not relevant on this ultra-short notice, but I would not abstain from mentioning it, since the next meeting in our general advisory board is in a year.”

I say “wouw” out loud and reply that I can attend the meeting today. Later in the afternoon, I enter one of the iconic buildings at the university, where these kinds of meetings with external participants often take place (my first time in this room, but definitely not my last). The room is kept in its original design and furnish. It is not fancy and comfortable, but exudes with an aura of importance. It makes me speculate that the university is rather proud of its history and want to show off this aura to the external guests.

A woman in the room reaches out to every new person entering the door to identify them and match them with a nametag (including a characteristic blue key hanger with university insignia). After a while, the whole room is full of people wearing the same blue key hanger, marked by the university colours. We are about 40-50 people present. Most people are dressed in a casual and professional way. Men wearing jackets and women dresses and carrying discrete jewellery and make-up. A few people are dressed in a more formal way and stick out in their expensive jewellery.

After a bit of small talk and people waving at each other as they enter the room, the meeting begins. I pick a seat at the back, invisible in the crowd of people where no one knows everyone. Stefan, who carries the title ‘head of studies’, talks for a while about the setting of the meeting, the structure of the advisory board, and the theme of the meeting (internships), while the rest of the participants listen. He and his colleague Anders, who are leading the meeting together, look a bit different from most of the other participants – their haircuts seem less strictly managed, one of them wears an un-ironed denim shirt, and their bodies look a bit bent over from years of reading. At the end of their talk,
one of them introduces the first speaker: A person from a design company, who has a lot of experience with student interns. He is wearing a casual t-shirt with long sleeves and gold-rimmed glasses, leaving an impression of a groovy type of person. His mac supports this impression along with catchy slides. In the slides, he shows photos, a world map of the company offices, a collage of customer logos, and single words in the centre of the slides. He uses words like “customers”, “global reach”, “implementation”. He talks about students as interns and asks provocative questions about the university framework for internships, while subtly promoting his company’s way of educating the interns.

Next, Anders (the other ‘head of studies’) talks for a while about the structural frames that restrict the university in how internships are designed. He speaks with a slowness and carefulness characteristic of the half academic, half bureaucrat that he is. He then introduces a panel with the speaker from before, another employer representative, and Stefan. They, and the rest of the audience, discuss internships and how they can be improved. Everyone are listening carefully to the person speaking, whether it is someone from the panel or one of the many other participants. The university representatives generally ask for elaborations and take notes, while the employers seem to be the ones who hold valuable knowledge about how things should be. At the end, Stefan rounds up the discussion and shows his appreciation by saying “I am so glad to hear that there is still a need for humanities skills out there”. Then the formal part of the meeting is over, and we are all directed to the lobby, where lively discussions take place while the dinner is arranged in the meeting room. It is already dark outside.

As we re-enter the room, a long buffet table has been arranged with a variety of tiny plates with food, including duck breast, shrimps, deserts, and cheese, as well as a main dish of roast, potatoes, and gravy. There
is also a selection of soft drinks, red wine, and white wine. Soon, department leaders and potential employers within their area of study gather up in smaller groups at the tables as they like. I join one of the tables but remain invisible, as someone unknown and irrelevant to the others at the table. As they eat their food, they talk about personal matters as well as the current developments within the specific labour markets of these particular employers. As employer representatives at my table eventually stand up and say goodbye, the department head maintains eye contact with them, while she reminds them of their next contact. “I really hope you can attend the meeting in November”, or “I expect that we are going to look at this course soon, and then I will contact you again”. Before the room is empty, Stefan and Anders give each other a thumb up, agreeing that the meeting went really well, and that they should make sure to follow up to use the debate as a leverage for a strong advisory board in the future.

(Observation notes from Advisory Board Meeting, September 2016)

This was the end of my field notes, as I also left the meeting and hurried back home in the dark to write everything down. I included the observation notes here to illustrate the work of advisory boards. During my fieldwork, I observed eight advisory board meetings (including the one described above) and interviewed nine advisory board members that I visited at their workplaces during my fieldwork. While these observations and interviews have provided me a general insight in their work, the role of advisory boards in the accreditation of ‘programme relevance’ is not in particularly visible in these observation and interview materials, but rather in the work ‘behind the scenes’. Therefore, the analysis below relies mostly on my general fieldwork, as well as on the reports presented in the chapter introduction. I will first provide an account of how the ‘dialogue with employers’ can be characterised, and then move on to look into the technology of ‘minutes’ as a way of documenting the work in the advisory boards. In the third and last part of this section, I will analyse how ‘relevance’ is configured in the ‘dialogue with employers’ sub-criterion.
9.2.1 The ongoing ‘audit’ by employers

The ‘dialogue’ with employers embedded in the ‘programme relevance’ criterion does not produce quantitative, simplified knowledge like the other sources of information used in this criterion. The dialogue in principle results in a local and very specific knowledge about the exact programmes that the advisory boards cover. The advisory boards should be included in a dialogue on the ‘objectives’, ‘content’, and ‘results’ of the programmes. Interestingly, the dialogue (which is subject to the ‘audit’ of the accreditation panel) can in itself be seen as a form of audit. As indicated in the cited work of Michael Power, an audit is characterised by independent auditors, evidence gathering, a judgment or assessment of the evidence, and a clearly defined object that is assessed in the process (Power, 1999: 5). In relation to this definition, the work of the advisory board can be characterised as a judgment of the ‘relevance’ of programmes based on different types of evidence and carried out by the external employers.

This characteristic closely relates to the assessments of the dialogue with employers as it is presented in the two analysed accreditation reports. From these reports (Danmarks Akkrediteringsinstitution, 2014: 60-61; 2017: 79-83), we learn how ‘satisfactory’ employer dialogue is assessed in practice. First and foremost, it is important that advisory board meetings actually take place. Second, it is important that advisory boards can discuss specific programmes, and that the board members have expertise in relation to these programmes. This becomes difficult to ensure if the board covers too many programmes. Third, an advisory board should spend its time discussing items like the skills needs of the labour market and graduate unemployment, rather than discussing the mandate and organisation of the board. And fourth, these discussions should be based on unemployment numbers and other quantified data. Particularly, the focus on specific programmes, based on preferably quantified data around the needs of the labour market and employment situation of the graduates relates to the ‘evidence gathering’, ‘judgment’, and ‘object’ involved in audits.

The advisory board members are configured as actors with a particular expertise on labour market demands. This configuration recurs in the work of scholars who claim that employability (and the perceived value of higher education) has become a matter of the
labour market demand (Boden & Nedeva, 2010: 46). Furthermore, it is in line with the research apparatuses on the skills need of employers (introduced in section 7.1.4), which all used employer surveys to defined the ‘skills need’ (for example in Dansk Industri, 2012; Marzo-Navarro et al., 2009; World Economic Forum, 2016). Thereby, the dialogue with employers is entangled with the other policy metrics in higher education, where education is considered a supply to the labour market, whether in the form of graduates from various disciplines or in the form of skills. The judgments made by employers add to the configuration of ‘the needs of the labour market’ produced in graduate surveys (analysed in Chapter 7).

Meanwhile, the ‘dialogue’ differs from an ‘audit’ in the sense that the work of the advisory boards is not sufficiently external. Of course, the graduates and potential employers who are members of the advisory boards are external to and independent from the university, but they do not make up an independent unit. The unity of an advisory board is established by the university, and in practice the universities themselves most often decide what kind of ‘evidence’ they want the advisory boards to assess and base their judgment upon. Thereby, the ‘employer dialogue’ emerges as a very loosely mandated audit-like process, not loosely mandated in terms of the responsibilities of advisory boards, but in terms of their organisation (which may be a reason why the organisation and mandate is continuously discussed by advisory boards even though the Accreditation Institution assesses this type of meeting content negatively). While the advisory boards can express their opinions, they are limited to do this by the agendas and presented evidence, predominantly decided by the universities. In my experience, the universities are most often considerate and careful when they decide upon meeting agendas and information that is made available for the advisory boards. Nevertheless, the lack of decision power on the agendas and ‘evidence’ limits the possibilities of the advisory boards.

9.2.2 The technology of ‘minutes’

Meanwhile, the outputs of the advisory board meetings are important sources of information in the ‘knowledge flow’ of the quality systems at the universities. The outputs from the ongoing advisory board ‘audits’ are supposed to feed into the quality
work. The knowledge flow is indicated by the appearance of the outputs of advisory board meetings in other documents, for example in the minutes of other fora, such as the Study Board, or in action plans. The ‘traces’ of the outputs in other documents prove that they have been used. The meeting minutes thus constitute an important technology that facilitates the assessment of the dialogue with employers.

As Abram notes, “minutes link meetings together, sift the consequential talk from the circumstantial, and record only those elements of the meeting that identify action to be taken, or points of principle to be recorded for future reference” (Abram, 2017: 34). The minutes are a “kind of literary technology” that can be used to remove incidents at the meeting from posterity (Alexander, 2017: 85), or rather extract particular elements for posterity. The important work of ‘extraction’, as Annelise Riles calls it (Riles, 2017: 194), is performed by an administrative staff member who thereby becomes configured as an ‘outsider’ within the meeting, who can observe and document the meeting, and who holds the particular expertise of extracting or ‘objectifying’ the output of the meeting (Riles, 2017: 194-195). For example, the administrative staff member should know how to document the circulation of key figures in the meeting or the statements made by employers on the ‘relevance’ of particular programmes.

The work of ‘extracting’ the output of the meeting and of ‘evacuating’ some parts of the meeting from posterity is clearly visible in the minutes from the meeting that I described in the observation note above. These minutes look very different from my field notes. The minutes-document is marked as official by the university logo in the header and by the university font, and the document reflects the formal parts of the meeting. In fact, only very few traces of the informal parts of the meeting recur in the minutes in the form of the “break” and the “dinner and informal discussions in programme-approximate groups” as points on the agenda without any documentation of the discussions taking place during these agenda points. Furthermore, any ‘redundant’ talk during the different presentations, such as jokes, introductions, and elaborated explanations, are left out of the minutes. Only the points of the presentations are extracted, as in this brief quote: “[The ‘head of studies’] welcome the participants at the joint meeting between
department leaders from [the relevant school] and the advisory boards and advisory fora” (minutes from advisory board meeting).

The points are extracted with specific purposes in mind. First, the points document that the meeting took place, and that particular topics were discussed in the meeting (ie. not merely their mandate and structure, but also the ‘relevance’ of degree programmes). Second, the points document the opinions of the employers on the ‘audited’ programmes. An example of an opinion is the statement made by an employer: “Another big challenge is that the study progress reform means that all graduates exit education simultaneously” (minutes from advisory board meeting). This statement problematises the ‘study progress reform’ (a Danish reform that governs the timeliness of graduation) in relation to the employability of graduates, and it legitimates a slow transition into the labour market of the graduates: If they all enter the labour market simultaneously, while jobs become available over the course of the year, some of them will not be able to find a job immediately.

As the meeting is transformed into minutes, it enters the language of bureaucracy. By quoting Weber, Gillian Evans (2017) points out that bureaucracy prefers the dehumanised, impersonal, rational, and non-emotional (Evans, 2017: 124). In order to reach this bureaucratic ideal, minutes “purify the written record” and eliminates emotional content and “the subjective vagaries of interpersonal dynamics” (Evans, 2017: 126). As analysed in section 9.1.1, an ‘audit’ should be emotionally detached and represent the ‘general will’. The same goes for the employer ‘audit’ of ‘programme relevance’ that takes place within the advisory board meetings. Thereby, the technology of minutes contributes to the formalisation and bureaucratisation of the outputs from the advisory boards, who are otherwise characterised by a (relatively) low degree of formalisation.

9.2.3 The ‘general will’ of employers

By having a dialogue with employers, the ‘relevance’ of the programme is assumed to be enhanced. In this dialogue (or ‘audit’) on ‘relevance’, the legitimate ‘experts’ are not peers, but employers or external stakeholders. Thus, the ‘general will’ emerging in this bureaucratic order is not the will of the ‘higher education community’, but the will of the
‘employer community’ (which is hardly a homogenous community, but nevertheless assumed to express a common ‘will’ through what could be called a quasi-democratic process of debate at the advisory board meetings). In the context of advisory boards, the potential employers are the ones authorised to exercise judgment and to legitimately gain influence (Boltanski & Thévenot, 2006) on the design of education based on their (anticipated) needs.

The configuration of ‘relevance’ in this metric equates ‘relevance’ with the influence of this ‘general will of the employers’ in the development of programmes. The statements from employers are important means of proving the ‘relevance’ of a degree programme. This was explicitly explained to me by a head of studies that I interviewed:

... ‘Relevance’, in the sense of the Accreditation Institution, is very specific. It is labour market relevance, it is not why it is a good thing that some people in our society are philosophers, for example. And labour market relevance is not merely that I could imagine that it would be suitable to know something about philosophy if you were employed to do whatever in a non-traditional philosophy job. That was made clear to me right away, that it was a too fluffy approach to ‘relevance’. So, ‘relevance’ is labour market relevance, and in reality it is... it is something that in reality only can be proven by pointing to people actually getting a job, or by having statements from employers who say that “these are people that we want to hire”, right?

‘Relevance’ means something particular. ‘Relevance’ means that you need to be able to quote, verbatim, preferably human resource managers in [major companies] who say that “these [kinds of graduates] are needed – I will be glad to employ them if [this university] produces this kind of graduates”.

(Interview with Head of studies, January 2017)

While the example of a statement provided by this head of studies is different in nature from the statement quoted from the minutes above, it has the same function of
documenting the opinions or ‘will’ of employers in a useful way. The particular type of opinion illustrated by the head of studies expresses an assessment of the ‘relevance’ of a programme.

With the accreditation of ‘programme relevance’, ‘university education’ is configured as a (legitimate) political arena determined by the actors or ‘stakeholders’ involved, and therefore an arena that requires a careful balance in the influence given to various actors. Thereby, the requirements of employer involvement in the form of advisory boards affect university education in interesting ways. Particularly, it affects the politics of higher education. Susan Robertson and Roger Dale conceptualise the politics of education as *the formal institutions of government* (Robertson & Dale, 2015: 154) and *the rules of the game* which frame what is considered attractive about education (Robertson & Dale, 2013: 434). In the case of advisory boards, the rules of the game (their legal status as mandatory and their necessity in a satisfactory quality system) ascribe them a role in the governance of degree programmes in spite of their lack of decision-making power. They gain this role as representatives of the ‘general will’ of employers and thereby ‘auditors’ of ‘relevance’. This role was visible in the advisory board meeting that I described above, where the employers were invited to state their opinions on how different educational contents and structures should be improved, while the university staff members mainly asked questions and took notes.

As a final note, I observed that outputs from advisory board meetings did affect the design of education, at least to some extent. I observed employer statements on labour market demands travel into educational development, for example as elements to include in a new bachelor’s programme regulation in Musicology, as themes of optional courses on ‘quantitative methods’ and ‘project and process management’, or as the concept of a ‘Career Booster’ week for master’s students as they wait for their master’s thesis to be assessed. The ‘voice’ of potential employers was often present in meetings where the potential employers themselves were not present. Thus, while the process was not as linear as generally expected in the accreditation metric, the dialogue with employers did affect the enactments of education into curricular changes.
9.3 Enactments: A ‘bureaucracy of appearances’

In the final part of the chapter, I will return to accreditation as bureaucratic assessment more generally and to how such a type of assessment, beyond its sub-criteria of graduate surveys, employer dialogue, and key figure monitoring, affects how ‘relevance’ and ‘employability’ is configured. I will first analyse the bureaucratic assessment of accreditation as a ‘bureaucracy of appearances’, and next the ways actors such as the Danish Accreditation Institution, teachers, and heads of programme may emerge within this bureaucracy.

9.3.1 A spectacle of orderly process

In a peculiar way, the bureaucratic assessment of ‘programme relevance’ focuses upon the processual aspects of quality assurance, while ‘programme relevance’, as expressed by graduate surveys, employers, and key figures, is only assessed indirectly. Data production, knowledge flows, advisory board meetings, and actions plans emerge as an end in themselves. They indicate that data and employers have been consulted and that action is taken. All these actions should lead to an improvement of the ‘relevance’ of programmes, but like it is not in practice possible to prove the effects of actions via changes in relevance indicators, it is also not possible to prove that outputs from ‘employer dialogues’ have been translated into actions with effects on the employability of graduates. Only processual signs of the improvement of relevance can be assessed.

Accreditation emerges as an external ‘audit’ (Blackmore, 2009; Power, 1999) of the internal quality assurance processes – though in the case of advisory boards, an external ‘audit’ of another external, but loosely mandated, ‘audit-like’ process. System processes and chains of abstract procedure rather than actual outcomes (in the sense of a substantial improvement of ‘relevance’) are evaluated (Power, 1999: 85-88). Thereby, the indication of an adequate process becomes a proxy for the desired result of ‘relevant’ programmes. The accreditation assessment necessarily takes the form of what I call a ‘bureaucracy of appearances’.

The term ‘bureaucracy of appearances’ is borrowed from Anna Tsing (2005), who writes about the ‘economy of appearances’ in relation to the accumulation of investments in a goldmine in Indonesia that eventually turned out to be barren. She calls the mechanism
of this accumulation of investments based on only questionable and exaggerated proofs of gold an ‘accumulation spectacle’. The conjured up spectacle or performance of a dream of profitable gold ores is necessary to attract investors. The dream enables the accumulation of capital that is needed to actually find gold (Tsing, 2005: 62-63). In the ‘bureaucracy of appearances’, the aim is not to accumulate capital, but to conjure up a ‘spectacle of orderly process’. The spectacle of orderly process is not built from exaggeration and dreams, but from the stitching together of separate events into a linear and orderly sequence. A ‘bureaucracy of appearances’ assesses the strength of the links in these orderly sequences of events. The accreditation metric becomes a ‘process streamlining machine’.

The indications of orderly process in terms of the circulation of data or information responded by initiatives or actions is the object of assessment. The semblance of order contrasts the messy reality at the universities, where initiatives could just as well have been thought out and implemented independent of the performance indicators; where potential employers may just as well influence the university through informal contacts or collaborations (such as a joint hosting of a doctoral student or personal relations to university managers); and where the advisory board meeting might not always discuss the employability of graduates, but sometimes the joint task of producing successful internships (as in the example in section 9.2). For example, not all the actions that emerged during my fieldwork were conceived during the action planning phase of the quality cycle. Often, the actions added to the action plan were already planned in advance. Thus, they were not produced as a result of the idealised, linear cycle, where actions are planned as a response to particular numbers, but rather as a result of the ever-present agenda of graduate employment that the combination of the “Sizing Model”, “Education Zoom”, the performance data, and the broad media attention to graduate unemployment has raised within the university.

Minutes from several types of meetings, as well as other bureaucratic documents such as reports and action plans, form an entanglement of documentation that can provide a site for the stitching together partly unrelated events into an orderly process. These documents document knowledge circulations, employer dialogues, and action planning.
According to Annelise Riles, minutes and other bureaucratic documents are not meant to be ‘read’ but to be used in other contexts (Riles, 2000: 89). The flow of minutes from one forum into other fora in the university, such as management units and the Study Boards, can be stitched into yet other documents. A lack of an appearance of linear and orderly sequence of events in the documents is commented by the Danish Accreditation Institution:

*In light of the fact that the SDU key figure memorandum emphasises the importance of the monitoring of graduate employment statistics, and that it in the Humanities Faculty implementation memorandums from 2012 and 2014 is clarified that the individual Study Boards and heads of programme should engage with the question, it is remarkable that none of the examined Study Boards in 2013 have discussed unemployment/employment based on this key figure. The accreditation panel is however aware that the minutes from the Study Board meetings in the concerned period of time in several cases are brief summaries of decisions.*

(Danmarks Akkrediterings institution, 2014: 69, my translation)

In the case addressed by the Accreditation Institution in this quote (which is one of several), the minutes have not sufficiently documented the orderly process of knowledge flows, evaluations, and actions. These events should be traceable across different types of document material. Similarly, the site visits carried out by the accreditation panel provides a site for the demonstration of orderly process (though more difficult to control than documents, as it relies on the selected interview persons and their statements in the moment of the interview) with the risk of turning the visits into ‘managed performances’ (Blackmore, 2009: 859). In both these sites, the (linear) links between moments of quality work can be forged – not as an act of fraud, but as an act of adhering to the logic of the accreditation metric.

**9.3.2 Enactments of the ‘responsible’ leader**

Based on these analyses, the ‘responsible’ person in a quality assurance system emerges as someone with a particular attitude. In my interview with the Chief Executive of the
Danish Accreditation Institution, he states that they “look at the intentions” (in line with the ‘attempt [...] to solve the problems’ in the accreditation guide quoted above). The ‘intentions’ and the ‘attempt’ relates to the attitudes of heads of programme and other managers. They need to appear responsible and ‘serious’, which involves a responsiveness towards advisory board members, the motivation and capacity to improve and follow best practices, and the will to make decisions. They need to appear affected, or set in motion, by numbers and employer statements. They need to appear rational in accordance with the ‘performance management’ theory (introduced in section 3.3.2), as staff who are encouraged by ‘performance indicators’ to hit the targets (Pollitt, 2013).

All of these appearances are assessed through a documentation of processual rationality, timeliness, and adequacy in employer dialogue, action planning, and knowledge circulation. Teachers and heads of programme are invited to enact themselves as responsible, agentic, and as motivated to improve the numbers. Miller and Power theorise the ‘subjectivising’ of agents in an audit context as a “society of auditees” who are shaped by the “need to create trails of evidence of proper performance” (Miller & Power, 2013: 587).

The programme staff are thus invited to constantly take action, even though they operate in a system void of quantitative proof of improvement and overloaded with new initiatives. The data delay, both in terms of the bygone programme regulation of the measured graduates, and the delay between actions and their effects in the numbers, makes this continuous action planning in response to problematic numbers arbitrary. Thus, the continuous strive to appear responsible when facing problematic key figures could lead to consecutive action plans with numerous actions before the effects of the initial actions become visible in the numbers. This may lead to an action overflow. The overflow may be quite significant, depending on the actions taken. Meanwhile, the ‘stitching work’ must remain sufficiently hidden in order not to appear as pure appearance in front of other actors. The advisory board members, for example, demand more than an ‘appearance’ of influence to participate. The ‘bureaucracy of appearances’ is a mode of assessment, but within the university (including its external relations) the
bureaucracy involved in accreditation needs to fade into the background to maintain the legitimacy of the actors and their actions.

9.3.3 Chapter conclusion and diffractive readings
Conclusively, while the accreditation metric must reach a simple assessment result (‘positive’, ‘conditional’, or ‘refusal’), the chapter has shown that the work behind reaching such a result is far from simple. The assessors (the Danish Accreditation Institution) do the work of scrutinising the universities in order to identify satisfactory and problematic procedures and (not least) practices, and assess if actions have been taken in case of problems. They furthermore do the work of deploying a strictly standardised process in order to assure an assessment that approximates objectivity and expresses the ‘general will’ of the ‘higher education community’. The assessed (various actors within the universities) do the work of ‘stitching’ together key figures, graduate surveys, and advisory board meeting outputs into a linear process of knowledge flow, evaluation, and timely and adequate action.

The configuration of ‘relevance’ embedded in the dialogue with employers equates ‘relevance’ with the influence of the ‘general will of employers’ on the development of university education. This ‘will’ is extracted from meetings and documented in minutes. Meanwhile, in order to become a legitimate ‘will’, the outputs need to be transformed into a bureaucratic language and enter bureaucratic processes of ‘orderly sequence’. Thereby, the bureaucratic mode of assessment is doubled into the matter that it assesses. In order to be considered ‘satisfactory’, the ‘employer dialogue’ taking place in the advisory boards needs to resemble the bureaucratic process deployed to assess it. Leaders and managers need to create a trail of responsiveness towards employers in the documentation provided for the Accreditation Institution.

Accreditation is the last of the analysed metrics deployed in the Danish university context in the governance of degree programmes. While the metrics operate in highly different ways, they share their focus upon degree programmes and areas of study as the measurable or assessable, and thereby governable, unit. As shown in the chapter, the accreditation metric relies on a different conception of ‘worth’ than the other national metrics, namely worth in terms of a common or ‘general will’ rather than in terms of
‘efficiency’. The ‘general will’ produced in employer dialogue is the will of the ‘community of employers’. Thereby, the metric serves the ‘industrial metrics’ (analysed in Chapter 8), as these metrics rely on specified ‘needs of the labour market’ they can work efficiently towards, which the dialogue with employers establishes (though on a very local scale). The accreditation metric stands out methodologically and teleologically, but because of its mutual entanglement with the other national governance metrics, it does not clash with them.

While I have now come to the end of my analysis of the officially deployed ‘relevance’ metrics embedded in Danish higher education policy and governance, still more metrics are at play outside the official national governing of universities, and these metrics offer yet other configurations of ‘relevance’ or ‘graduate employability’ and of education. Before we move on to these metrics, however, I will lift the gaze and make some more general points on metrics.
10. Intermezzo: Affected by metrics

*Numbers and bureaucratic assessments affect human beings differently.*

Making metrics intelligible can, with inspiration from multispecies ethnography (Pacini-Ketchabaw, Taylor, & Blaise, 2016), also (in addition to the detailed analysis of the operations of metrics) be thought as a matter of animating metrics and thereby recognising their role in metric-human-relations. The animation of metrics is another way of being attentive to their particularities, and thereby enlarging our space for responsiveness to them. The animation of metrics include an attentiveness towards how they affect. A scholar in cultural geography, Sarah Whatmore (Pacini-Ketchabaw et al., 2016: 157; Whatmore, 2006), suggests “a shift from an onus of meaning to an onus on affect” as a commitment for research affected by materialist turns attentive to the materiality or embodiment of relationality (Whatmore, 2006: 604). Whatmore describes it this way:

*The bodily register of current work reopens the interval between sense and sense-making, and multiplies the sensory dimensions of acting in the world and the milieu of inter-corporeal movement. Affect refers to the force of intensive relationality – intensities that are felt but not personal; visceral but not confined to an individuated body. This shift of concern from what things mean to what they do has methodological consequences for how we train our apprehensions of ‘what subjects us, what affects and effects us’ or ‘learn to be affected’.*

(Whatmore, 2006: 604)

In my reading, Whatmore both suggests that a focus towards affectivity multiplies how we can understand agency, and that an attention towards being affected (and effected) as a researcher can be a methodological tool to apprehend the affective capacity of others, including the ‘more-than-human’ metrics. Including affectivity in the multiplicity of the agentic work of metrics helps open up the “myriad of forces” (Dixon-Román,
that condition the configurative capabilities and effects of metrics. Affective forces emerge from the attentiveness towards the intensities and relations in the human-document-intra-actions, spreadsheet-press-release-intra-actions, and human-human-intra-actions that are affected by the metrics. Thus, the affectivities involved in these relations can be added to the notion of the effects of the metrics, both quantitative and qualitative ones (Sellar, 2015a).

Take for example statistics. Statistics, when they appear as pure numbers, are most often perceived as cold, sober, rigid beings. They stand firm, black on white, and judge the past actions or future destinies of human beings. As numbers, statistics are inconvincible and unchangeable – they are what they are. Their special consecutive, serial temporality make them everything but fluid. When a number entered the world, it cannot be altered, only replaced by later versions of the same number. Numbers do not adapt to the social relations they enter into. In contrast, human beings and their affectivities are far more fluid. Sometimes, human beings become so entangled with numbers that they take on a little bit of the coldness and rigidity of the numbers. When allied with unquestionable, fine-grained, unambiguous, fixed, comparable numbers, ministries become authoritative and legitimate, but also untouchable. Numbers can make human beings hostile, as can human beings who carry numbers.

Some numbers are more humble. These are the precise, meticulous numbers found, for example, in quantitative research. They are technical, perfectionist, and strict, with all their decimals, significance levels, and disclaimers. These numbers cause less hostility. More often they affect human beings with overwhelming brain activity, as their precision and disclaimers makes them much harder to comprehend. While the black on white policy and management numbers send a clear message, the detailed, complicated numbers found in research send very narrow messages that are hard to understand.

In other versions, numbers become colourful and cheerful. These are numbers organised as shares in pie charts and bar charts, coloured and made two-dimensional. Such numbers are flashy, easy to glance over, but also intrusive in their clarity. Sometimes the colouring in itself invokes particular affectivities such as calmness or danger. In such
cases, the flashiness implies a crudeness, as the details of the numbers are roughly translated into a few colours.

Numbers have the capacity to invoke responsibility. They call for decisions and actions. Thus, when human beings enter into relations with numbers, they are expected to be set in motion by numbers. They are expected to respond, take action, make choices that affirm that they have been set in motion and affected by the numbers. When decisions are made and actions taken as a response to numbers, ministries, managers, teachers, and (potential) students emerge as serious and rational. When numbers are ignored or not given the weight they demand, they affect human beings with anxiety, guilt, and stress.

Nevertheless, numbers are somehow also trustworthy. You can count on numbers, so to speak. In comparison, assessments made by human beings can be perceived as penetrative and intimidating. When an accreditation panel comes to visit, it scrutinises, investigates, and digs deep. In contrast to numerical agencies, human assessors can mask their immediate impressions and work in subtle ways. Human assessment causes the assessed to protect their flanks and hide their less flattering sides. Human assessors are met with distrust, because so much is at stake. A yes/no is often more consequential than an 18%. The human assessors can be convinced to change their perception, but their fluidity comes with an unpredictability that makes the assessed unsafe.

In comparison, numbers are limited in their scope and highly predictable. They only consider what is built into them, and nothing more. To some extent, they are dismissible. But can they also be racist?
11. Sociological employability metrics and the management of ‘difference’

But what if ‘graduate employability’ is more a matter of graduate aspirations and behaviours, grounded in social and cultural differences, than of ‘relevant’ education?

In the previous chapters, I have analysed metrics that in different ways are entangled with the policy and management practices in the university context in Denmark, from policy initiatives like the ”Sizing Model” and ”Education Zoom” to the quality work within the Danish Accreditation Institution and at the universities. These metrics have been ascribed a significant and clear role in the policy and management practices and are broadly acknowledged across the universities, even though they are also met with resistance and negotiation in some contexts. However, there are also metrics at play that take on a more subtle and hidden role, and have not (yet) been transposed into policy and management practices. Even though they may seem less important in relation to these practices, I find it crucial to bring them to the table. Therefore, these metrics will be the focus of this chapter. They challenge the policy configurations of ‘relevance’ and ‘employability’, and contribute to the diffractive reading of the results of the metrics that follows in Chapter 13.

The main challenge posed by these more hidden metrics is their different configuration of ‘relevance’ and ‘employability’, not as a property of education, but as a property of people. This different configuration explains the less significant role of these metrics, as they are not immediately useful for governing education. The metrics look for explanations of higher or lower success at the labour market in the social characteristics of the graduate and in the differences in behaviour possibly emerging from these social characteristics. They are often found in sociology and employability studies, but also appear in political analyses produced at arm’s length from the policy generating processes. Furthermore, they tentatively materialise in universities as an emerging awareness of the characteristics of the desirable student enrolment population and of desirable graduate behaviour. However, the metrics do not appear in official strategies,
policies or management processes, and thus their configurations remain an afterthought in the ‘relevance’ and ‘employability’ work at the universities. While the sociologically inspired configuration of employability challenges and adds to the theories embedded in the economically oriented metrics of graduate unemployment and skills, it furthermore enters into a strong alliance with the self-reforming practices analysed Chapter 3A in the individualisation of the responsibility for one’s future as a (potential) student.

The chapter examines a report as well as various studies that are treated as empirical material in order to show how ‘graduate employability’ is configured in a selection of research. The chapter also examines university enactments of the sociologically inspired configuration as they appear in my observations or in written material. In the analysis of the configuration of ‘employability’ as a matter of the social characteristics of graduates, I will mainly draw on a 2016 report from the Danish independent, non-profit think tank DEA (Tænketanken DEA, 2016), but also use a similar older report from DEA (Junge, Nygård, & Ramsløv, 2012). I will furthermore draw on the quantitative sociological study by Marina Jacob, Maria Gerth, and Felix Weiss (2018), as well as a qualitative study by the employability-scholar Michael Tomlinson (Tomlinson, 2007). As analytical devices, the chapter draws on critical sociological literature (Balka & Rodje, 2010; Blackmore, Thomson, & Barty, 2006; Clough, 2016; Gillborn et al., 2018; Sellar & Zipin, 2019; Walter, 2010) as well as the already introduced quantification scholars (Cartwright, 1994; Fourcade, 2016) and social science theorists (Adams et al., 2009; Appadurai, 2004; Boltanski & Thévenot, 2006).

11.1 Graduate employability as a socio-historical matter

The 2016 DEA report analyses the Danish cohorts of graduates from 2001 to 2013 in terms of their distribution across broader areas of study, their distribution across the labour market, their match between education and job, and the characteristics of the graduates that do not find a matching job. I will analyse the report sections that describe how match is measured and calculate how different social characteristics are related to mismatch.
I first became aware of the report when one of the managers in my fieldwork told me about it. The report, fresh from print, concerned him a lot because of the graphs showing how the humanities lag behind on the match between education level and job type, and he immediately added a few mismatch graphs from the report to his power point slides for a meeting later that day. Meanwhile, the explanations of the relatively large mismatch of humanist graduates were not included in the power point slides. This tiny ethnographic story illustrates how social explanations of mismatch are not immediately useful for the currently dominant practices of educational development and management, which are concerned with the performance of programmes. Still, they are important in the understanding of ‘relevance’ and ‘graduate employability’. Let me begin by taking a close look at the category of ‘match’ and the explanations provided when a ‘mismatch’ occurs.

11.1.1 ‘Vertical’ match and mismatch

In the report, employment success is understood as a ‘vertical match’ (or hierarchical match) between the degree and the job (as opposed to a ‘horizontal match’ between area of study and area of work). The ‘match’ is measured in two ways: An ‘academic match’ and a ‘wage match’. The match metrics provide yet another set of measures of ‘relevance’ in the line of graduate unemployment rates, graduate income measures, and skills-match surveys. I mainly introduce the ‘vertical match measures’ here to be able to analyse how match is related to social characteristics later in the section.

The ‘academic match’ draws on the DISCO classification, made by Statistics Denmark, of all employees in Denmark according to their job titles. This classification is the Danish version of the International Standard Classification of Occupations (ISCO). It includes 563 occupational groups such as ‘administrative management in the public sector’ and ‘ordinary office work’ (Danmarks statistik, 2011). These occupational groups are sorted according to the equivalent skills level, based on the typical skills level of employees within the groups (Skaksen & Andersen, 2018: 104). The category ‘administrative management in the public sector’ is defined as an occupational group that requires a master’s degree, while ‘ordinary office work’ is not. The statistical data are collected among work places with 10 employees or more, who are required to submit data on their
employees. From these statistical data, a calculation is made on the share of graduates who are classified in occupational groups with educational requirements equivalent to a master’s degree one and five years after graduation (Junge et al., 2012: 13; Tænketanken DEA, 2016: 13).

The other measure, the ‘wage match’, calculates the average wage of all employees in an occupational group with a higher education degree, and compares the wage of the university graduate with this average (which includes graduates from lower-level higher education degrees than a master’s degree). If the university graduate has a wage that is 10% above the average of all employees in the category, there is a wage match. Or, in other words, if the salary is more than 10% above the average, the employer is assumed to pay the graduate for the extra skills achieved from the master’s degree (Junge et al., 2012: 13; Tænketanken DEA, 2016: 13). Both measures of match use a ‘realised match’ method and thereby describe a ‘market equilibrium’ rather than an absolute definition of match (Skaksen & Andersen, 2018: 104). The DEA report combines the two different measures of match so that only graduates that match neither via the ‘academic match’ method nor the ‘wage match’ method are considered to be in the mismatch category, which enables a binary categorisation into ‘match’ and ‘mismatch’.

Like the graduate unemployment and income statistics, the ‘match’ measures configure ‘relevance’ as a macro-economic phenomenon of supply and demand, though sharpened compared to the unemployment statistics. A high level of academic mismatch within a field of study indicates an over-supply of graduates within that field, necessitating graduates to take jobs with lower educational requirements. A high level of wage mismatch indicates that the graduates are not as valued or demanded at the labour market as their educational level would suggest. Thereby, the two match measures differ from the graduate employment statistics in the sense that mere employment is not enough for a degree to be relevant – matching employment is required. Furthermore, while the differences in unemployment rates almost disappear in the course of 10 years after graduation, they remain significant over time when it comes to mismatch. 5 years after graduation the combined match for humanist graduates is 81% while it is 90% on average and above 89% in the second lowest field of study (natural sciences). Thus, in
the match metrics, the humanities appear to stand out from other fields of study within university education.

11.1.2 Correlations between (mis)match and social characteristics
The two measures of match are interesting in themselves, as metrics that have not (yet) surfaced as highly relevant policy instruments compared to the graduate (un)employment statistics and skills-match surveys. However, in the course of this chapter, they become particularly interesting when the mismatch is sought explained by the social characteristics of the graduates. This quest for possible explanations indicates that not (only) the areas of study can explain mismatch. By looking into the population of non-matching graduates, the supply-and-demand theory’s idea of the area of study as a proxy of the ‘graduate supply’ is challenged and accompanied by a range of other ideas of what characterises the ‘graduate supply’ and of who is demanded.

Specifically, the DEA report looks at gender, age, children, immigrant status, and employment sector as possible characteristics of the mismatching graduates (Tænketanken DEA, 2016: 37). The graduates are sorted into subpopulations according to these characteristics, and the subpopulations are again divided into sub-subpopulations according to match/mismatch. Thereby, the metric is a ‘stratifying machine’. The report finds that the subpopulations of graduates above 30 years of age, graduates who immigrated or descend from immigrants, and (humanist) graduates working in the public sector encompass a larger share of the mismatch-subpopulation, while neither gender nor parental status make a difference to the share of mismatching graduates. No interpretation is added to these results, and thus the report is not able to provide any further explanation on the relation between the social characteristics and mismatch. As Nancy Cartwright argues, a statistical correlation requires “strong assumptions” and several types of knowledge to provide knowledge about causal relations between the correlated factors (Cartwright, 1994: 13-14; see Goldthorpe, 2000: 150 for a similar argument). These assumptions and references to previous knowledge are completely absent from the DEA report.

However, even though (or maybe because) the report does not include any explicit interpretations of the connections between findings and causes, the sorting according to
subpopulations still tells a particular story. The categories configure particular groups of graduates as less employable or less in demand. Even though the assumptions of causal relations are absent in the report, they are present in the particular selection of categories, which indirectly indicates the characteristics invited to hold the causal power of explaining mismatch. Neither geography, socio-economic background, parent income, grades, part-time work experience during the studies, nor main language, is invited into the analysis as a possible explanation of mismatch. Some of these factors are most likely left out because there are no available data on them, while others are left out despite previous studies showing their significance. For example, DEAs own 2012-report shows that, in addition to age and origin, the average grade from the qualifying exam (most often upper secondary school) is significantly related to the match (Junge et al., 2012: 21). A Danish Evaluation Institute memo from 2018 shows that higher grades from the qualifying exam are also significantly related to the unemployment rate (Danmarks Evalueringsinstitut, 2018: 15). Another report from The Danish Evaluation Institute shows that a part-time job relevant for the area of study during university studies is correlated with lower unemployment and increased wages for humanist graduates (Danmarks Evalueringsinstitut, 2016). These factors on qualifying grades and job experience, both possible indicators of graduate skills, could be relevant to look at when it comes to the mismatch presented in the 2016 DEA report, as skills are traditionally associated with graduate employability (see Chapter 7). But they are not included.

Instead, the factors included (besides the ‘sector of employment’ factor, which I will return to in Chapter 12) are all related to general life circumstances (gender, age, parental status, and origin) and not immediately linked to skills. The inclusion of these factors in relation to job match establishes a link between life history and employability. So how do these social factors relate to employability? Since no interpretations are provided, it is left to the readers to assume why. Whether the lack of interpretation and analytical gaze is a reaction to unpleasant results, as Walter indicates as a reason for “simple presentations” and “undemanding interpretations” in relation to her case (Walter, 2010: 50), is not possible for me to know. However, some possible patterns of interpretation can be drawn from the literature. Gillborn, Warmington and Demack (2018) discuss how results relating to social characteristics (in their case: race) can be
interpreted in different ways. One causal theory could be that particular groups, for example immigrants and descendants, are discriminated by employers who prefer a “Danish” graduate supply. The “Danish” preference could be an preference for best fit for the position, or it could be a more ‘unconscious’ preference affected by homosociability, which is the selection of people that are like oneself (Blackmore et al., 2006: 309, 310). Another causal theory could be that these groups are “less able to achieve” (Gillborn et al., 2018: 172). The ability to achieve employment can, then, be interpreted as lower either because of biological or other ‘natural’ reasons – for example that immigrants are less capable of handling a particular job – or because of ‘structural’ reasons, such as a life-long discrimination or lack of opportunities. Scholars argue that some social groups are less skilled in reading the demands of employers and less able to utilise their cultural capital and social connections than others (Delaney & Farren, 2016; Tomlinson, 2012: 415), which would be an argument of the social structures affecting the ability or behaviour of particular groups. Without any explicit interpretation in the report, the readers are likely to interpret the numbers in a way that fits their pre-conditioned understanding of the world (Walter, 2010). Thereby, employability becomes a phenomenon that is deeply entangled with everyday notions of age and origin (for example a glorification of youth and a scepticism towards the possibility of a successful integration of immigrants), and a phenomenon that may even strengthen the categories such as “immigrant or descendant” by adding yet another layer of dis-ability to them (Dixon-Román, 2017: 435).

Let us take a look at the different categories that are said to be correlated to mismatch. First, age. When age is invited in as a possible causal factor explaining the mismatch, it installs an expected and desirable life pattern in relation to education. However, the report does not show exactly when it becomes harder to get a matching job, and whether the correlation increases gradually or ‘jumps’ at a particular age. The age characteristic may be related to other factors that can explain the mismatch, but this possibility is not discussed in the report. There is no theory about the correlation, and the binary operationalisation (below and above 30) of a matter that is most often considered gradual (as a series of ages), hides any illuminating patterns that may be present in the numbers. This makes it difficult to utilise the analysis in policy development or
university management. But the measurement display tells a story about the optimal life trajectory, where higher education is supposed to happen in the 20’s for a positive outcome.

Likewise, the category of ‘origin’, where graduates are divided into “Danish” and “immigrants or descendants”, translates a complex matter into a binary. This cut is interesting, because it groups immigrants and descendants of immigrants into the same population without providing an explicit reason for this. The commonality across the group of “immigrants or descendants” that differentiates them from the “Danish” graduates is unclear. “Descendants” do not share the immigration history of “immigrants”. As the group may cover many differences among different ethnic groups, cultures, or life histories (Gillborn et al., 2018: 172), they probably also do not share a common culture or ethnicity. In fact, the category of “immigrants and descendants” may cover a range of other underlying factors and variables (Balka & Rodje, 2010: 104). The people assigned to the category do however possibly share a common history of discrimination in the Danish society.

Hereby, I do not mean to indicate that the category is completely arbitrary. As Dixon-Román argues, a category has a history (Dixon-Román, 2016b: 164). To create the category of “immigrants and descendants”, there had to be an interest in knowing something about those particular graduates, and this interest was formed by historic discourse. Knowledge on the relation between social characteristics and inequality, when produced through quantitative methods, holds the potential of highlighting the structural barriers and inequalities that affect a particular group (Gillborn et al., 2018: 160). But, as Gillborn et al argue, statistics are often used in ways that further legitimate inequalities. This “misuse” of statistical data is particularly possible when the data are left to speak for themselves and not accompanied by a theoretically informed explanation (Gillborn et al., 2018: 160).

While the homogeneity of the categories (Cartwright, 1994: 102) is questionable, the interpretation of the correlation between origin and mismatch is also absent. However, two main interpretative directions emerge, one relating the correlation to labour market structures, such as discrimination, and one relating it to different behaviours of different
groups of origin, whether due to cultural differences or differences in dispositions related to different education experiences, different socio-economic possibilities, and so forth (Balka & Rodje, 2010: 107; Gillborn et al., 2018). In the case of the DEA-report, the lack of explicit interpretation is interesting, because it opens up the results for political interpretation. However, the ‘market equilibrium’ method used to calculate match suggests that these factors affect the ‘market value’ of the graduate.

11.1.3 Employability as a product of motivation and identities

Other studies emphasise the ‘different behaviours’ configuration of the relation between social characteristics and employability, rather than ‘market forces’ and discrimination. One example of this is the sociological study by Marina Jacob, Maria Gerth, and Felix Weiss (2018), who measure how social origin is related to four different aspects of student employment (or part-time jobs during the studies). In their particular operationalisation, the highest occupation held by the parents of the student, which is a factor not included in the DEA-report, is a proxy for ‘social origin’. The scholars find that there are inequalities associated with ‘social origin’ in relation to the quality of student employment, especially when it comes to how the job relates to the area of study, and thus how likely students from different social groups are to “occupy jobs that potentially equip them with assets for their later working careers” (Jacob et al., 2018: 97). These social differences are explained by different student motivations to work during the studies, where students from lower classes to a higher extend work because of financial necessity than to gain work experience compared to higher classes (Jacob et al., 2018: 98). Thus, the employability loss, caused by inequality in the quality of student work, is not explained by barriers in the labour market, but rather by the students’ own motivation for working and possibly by their performance in higher education (Jacob et al., 2018: 98). Motivation is related to social characteristics or social histories. The relation between social characteristics and employability is theoretically informed and thus closer to providing a causal explanation, even though there may be other social factors (possibly unobservable ones) beneath the correlation (Jacob et al., 2018: 98).

Like the DEA analysis, the study configures employability as a matter of the social characteristics of the individual. This theoretical concept configures the graduate as a
socially embedded individual with a certain unified set of characteristics that make up the person. The social, cultural, and educational histories of the individual, which can even include events before the birth of the individual (the parents’ immigration history or educational or occupational level), make up ‘employability’. These characteristics make certain patterns of events more or less likely. As such, the characteristics, such as age or origin, stick to the person as determinants of the person’s chances in life. Thus, employability in some ways becomes a part of the destiny of a person. While the DEA report indirectly suggests that the patterns of match are related to the ‘market forces’ of the labour market, the analysis by Jacob et al however suggests that the patterns of being well equipped for work life through student work are related to different motivations and thereby behaviours associated with social histories.

While the study by Jacob et al links employability to motivation, employability scholars (Delaney & Farren, 2016; Tomlinson, 2007, 2010) configure the employability of graduates as constituted by their labour market identities. In this perspective, labour market orientations and particular labour market identities affect the ways graduates perceive and position themselves in the labour market, and thereby (again) their labour market behaviour. Here, graduate employability becomes a processual phenomenon that gradually emerges and continuously changes as students and graduates gain experience from the labour market and other contexts, and consequentially change their self-perception in relation to the labour market (Delaney & Farren, 2016: 196; Tomlinson, 2010: 80). The labour market identities are however also (partly) a product of the social histories of the graduates.

For example, Tomlinson (2007) created a model of four ideal-types of labour market orientations or attitudes from semi-structured interviews with 53 final-year students from the UK. The graduates located in the first ideal-type, the ‘careerists’, oriented themselves towards work and career as a ‘life project’ and developed strong, confident, and proactive identities around their future work. They were characterised by a pragmatic and flexible approach as a means to overcome initial challenges and changing needs of the labour market, and behaved proactively and instrumental, with a willingness of personal investment, to reach their goals (Tomlinson, 2007: 293-297).
graduates located in the second ideal-type, the ‘ritualists’, were more passive than the careerists, and preferably only did what was needed to gain a sufficient income later in life. As a career was less central to these students, they tended to lower the stakes and ‘scaled down’ their aspirations (Tomlinson, 2007: 297-300). The third type, the ‘retreatists’, detached themselves from a future at the labour market because of its non-appealing prospects, and instead oriented themselves towards a prolongation of their youth and of the “relatively loosely regulated lifestyles they had so far experienced” (Tomlinson, 2007: 300). The fourth type, the ‘rebel’, was not actualised in the empirical material but emerged in the study as a hypothetical construct, where students would “abandon labour market goals” and “be active in their approach to this” (Tomlinson, 2007: 293). The ideal-types involve very different approaches to the labour market, and these approaches affect the employability of the graduates as they lead to different behaviours (Tomlinson, 2007: 292; 2010: 81).

While Tomlinson finds that the students themselves tend to overlook the social and economic structures affecting their chances at the labour market, he is also able to relate their labour market identities or orientations to their social backgrounds, particularly in relation to ‘class’, where ‘careerists’ tended to belong to the middle-class, while lower-middle class students tended to lower their expectations and thus were allocated to the ‘ritualists’ (Tomlinson, 2007: 289-294). Thus, this study produces an example of a ‘metric’ that understands employability and labour market behaviour as a product of personal aspirations and dispositions, very much socially influenced. Thereby, the study and the configuration that is embedded in it also critiques the ‘universalistic’ view of students “as rational investors in education who approach the labour market in uniformed and stereotypical ways” embedded in the ‘rational choice theory’ (Tomlinson, 2007: 286).

11.1.4 Aspirations as a ‘human capital’

The concept of *aspiration* can help substantiate the notion of ‘labour market identities’ metrified by Tomlinson (2007), as well as the motivations studied by Jacob et al (2018). Aspirational work is about linking individual wishes and wants with wider social scenes and contexts through “justifications, narratives, metaphors, and pathways” (Appadurai,
These social scenes and contexts, which I understand as the life circumstances that are expressed in the ‘social characteristics’ analysed above, are associated with particular norms and beliefs that thereby define appropriate aspirations, for example for future labour market positions. As Appadurai highlights,

...aspirations form parts of wider ethical and metaphysical ideas which derive from larger cultural norms. Aspirations are never simply individual (as the language of wants and choices inclines us to think). They are always formed in interaction and in the thick of social life.

(Appadurai, 2004: 67)

Aspirations, as formed in interaction, emerge in relation to a complex of ethical ideas and cultural norms that may differ across different social contexts within a society. The aspirational work enables a person, for example a student, to produce a coherent picture of a justified desired future in line with these ideas and norms, and to navigate from it in the presence (Appadurai, 2004: 69).

In the study by Jacob et al (2018), different cultural norms appear in the socially influenced motivations for a student job. Whereas students from higher classes navigate their student work from their work-life aspirations, the students from lower classes (or ‘social origins’) navigate their student work from their present monetary needs. In the study by Tomlinson (2007), the cultural norms similarly appear in the ‘down-scaling’ of work-life aspirations by ‘ritualists’ (associated with the lower middle class) due to other priorities in life, such as creating a family. Thus, I do not read the ‘cultural norms’ associated with aspirations as norms that first and foremost direct aspirations, but more as norms that allow differently for aspirational work and for prioritising (or even conjuring up) wishes and wants for one’s future. In my reading, motivations and labour market identities (and thereby also behaviours) of students mainly differ because the students orientate themselves towards their future aspirations to different extents, and only secondarily differ in terms of their particular content.

During my fieldwork, the differently enabled drive towards aspirational work appeared in a situation where a student expressed her difficulties with the navigation of the
present. The ‘Student Development Interview’ (SDI) that I observed was a local initiative in one of the degree programmes that I followed in my fieldwork. It was organised as a group interview conducted by the head of programme and with three to four master’s students in their second semester as participants. The two interviews that I observed included several topics, such as the general well-being of the students and their reflections about optional courses in the following semester in relation to their aspired and desired futures at the labour market. I will now present a brief observation from one of these interviews:

The head of programme asked the students questions about their future plans, which invited some students to identify with a particular labour market position, such as “I want to work in the museum sector”. Meanwhile, one of the participants said that she did not know what she wanted to do, and that she found it very hard to figure out. As she said, she needed a “structured framework”.

(Observation from ‘Student Development Interview’, February 2018)

For the female student in this interview, there was no aspirations to navigate the present from. As I interpret the situation and the student’s expression, she preferred a “structured framework” to navigate from over aspirations that were not available to her. Therefore, she found it difficult to decide how to organise the upcoming third semester of her studies, which was open for different options and electives. This example illustrates that aspirations are productive because they allow people to mobilise themselves and to navigate the present according to future pathways (Appadurai, 2004).

Thereby, aspirations are closely entangled with ‘employability’, because students with work-life aspirations are more inclined to make choices and make an effort in the present with reference to these aspirations. Sam Sellar and Lew Zipin (2019) add to this that motivation and aspiration are also economically productive character traits in themselves. They point towards how human capital, in the current crisis of capitalism, is expanding into ‘psycho-emotive territories’ to include ‘positive’ emotions into the possible self-investments of individuals (Sellar & Zipin, 2019: 573). This conceptualisation suggests that aspirations are both intertwined with ‘employability’
because they allow for students to mobilise themselves and navigate the present, and because they are part of the ‘psycho-emotive capital’ of students, explicitly valued by employers. This conceptualisation implicates that while social characteristics may affect measures such as the ‘vertical match’ due to discriminatory practices at the labour market, they may also affect these measures due to the aspirations that they enable or prevent students with different social histories to have, and thereby the navigational capacity and ‘psycho-emotive capital’ of the students.

11.2 ‘Relevance’ as a matter of aggregated ‘graduate employability’

The configurations of ‘graduate employability’ analysed above locate ‘employability’ in the individual, either in the form of social attributes or in the form of aspirations and behaviours possibly formed by the social histories of the graduate. Thereby, the ‘relevance’ of a programme, as reflected in employment, wage, and match numbers, can be read as aggregates of the individual ‘employabilities’ of the graduates enrolled in the programme.

11.2.1 University enactments of ‘graduate employability’

The configuration of ‘employability’ as a property of the individual leaves a distinctive field of possibilities for universities to improve their ‘relevance’ within. ‘Relevance’, as an aggregate of student ‘employabilities’, becomes a matter of governing the subpopulations of students in risk of mismatch or unemployment, or a matter of ‘managing difference’ (Clough, 2016: 436). According to Patricia Clough, the ‘population’ is a technical and political object of management and government, which can be understood as an effect of statistical analysis and not merely an input from ‘reality’ into statistics (Clough, 2016: 437). With the crafting of subpopulations, subjects become constituted through difference – a difference that is installed in the subjects as a particularised history connected to their probabilities for life (Clough, 2016: 436). The interesting point posed by Clough is that while the social sciences started producing quantified knowledge on social differences among subpopulations in order to overcome these differences, the subpopulations were simultaneously reproduced and made an object of management. Through the metrics of social explanations for mismatch or
unemployment, as the one found in the DEA-report, the governmental and managerial levels of Danish universities are provided with material for governing and managing these subpopulations and their (relatively) high level of mismatch.

Universities can, however, most likely not legitimately manage difference through a differentiation between students belonging to different subpopulations. If we return to the notions of nominal and ordinal classification principles (Fourcade, 2016), the socially defined subpopulations are based on nominal classifications according to kinds. However, from within a liberal democratic government paradigm that idealises objectivity and blindness towards difference, the nominal classifications are illegitimate (Fourcade, 2016: 182-183). The liberal paradigm comes with an egalitarian promise that everyone in principle can obtain any position, and thus it prefers a meritocratic classification (Young, 1996) according to performance rather than kind. As Fourcade points out, the liberal classification principle stems from “a radically individualist and anti-elitist philosophy” and a “human capital view of the world” (Fourcade, 2016: 185) that are reflected in, for example, classification systems such as grades. The idea seems to be that anyone can enter the university if he or she can meet the entry grade level, and that any student can succeed if he or she is able to perform well. As part of the liberal democratic ideal, students are considered commensurable no matter their social history.

The meritocratic ethical point of departure prevents the university from a differentiation of students according to classifications by kind.

Thus, the universities do not officially incorporate this type of metric as an accountability figure, as they do with the metrics analysed in Chapter 3 and 7. The few signs I have seen of this metric in university practices materialise as an awareness of how the cap on admission numbers (caused by the “Sizing Model” and possibly “Education Zoom”) implies that the social diversity of students as a consequence might decrease with a positive effect on the unemployment rate. In a few conversations, this awareness progressed into a strategic idea of controlling the enrolment through other criteria than merely the grades (for example a motivated application or an interview), but these admission procedures are not yet widely implemented. The idea of improving graduate
employability by enrolling the *already employable*, from a probability perspective, is only just emerging.

Rather, universities (sometimes) enact the individualised ‘graduate employability’ configuration by inviting students to ‘manage their own differences’ and by handing over the responsibility for ‘becoming employable’ to the individual student. The students are repeatedly invited to develop work-life aspirations and manage their employability. Meanwhile, as shown, students need aspirations to take on the individual employability work, as they need a narrative or pathway to navigate the present and justify their choices in relation to. In my fieldwork, the universities took several initiatives to encourage students to develop aspirations.

I have already partly shown how students were facilitated towards managing their own employability in section 3.4.2, where I described the ‘Career Management Skills’ course that students at one university are obliged to follow as part of their final year. This course was analysed as a way of enhancing the ‘connectivity’ of the graduates, but as the name suggests, it is also about managing one’s career. But the students are also facilitated in many other ways, for example in career counselling interviews, course modules, ‘career days’, extra-curricular ‘Design your life’ courses, and (as shown above) ‘Student Development Interviews’. In these activities, students are asked about their dreams, passions, interests, values, strengths, weaknesses, contributions, performance, and well-being, and confronted with alumni from their own programmes, who give talks about their own path from education into employment, including their hopes, fears, difficulties, and successes. The activities seem experimental and confined, and are often placed in little pockets of curricular or extra-curricular activities outside the academic learning content. In these activities, the students are not only invited to aspire, but also to *align their aspirations with their anticipations*. Thus, the universities seem to be inclined to engage students in the development of their own employability.

### 11.2.2 Individual enactments of the ‘management of difference’

As pointed out by Tomlinson (2007), the students that he interviewed tended to overlook the social and economic circumstances for their success at the labour market, and instead developed an individualised narrative in relation to their employment
aspirations (Tomlinson, 2007: 289). A similar tendency appeared in my interviews with students. Some of these students did refer to their (social) background, but not in relation to the extent of their aspirations. Rather, they used the narratives around their backgrounds to explain their interest in a particular area of study and work. For example, one female student explained her interest in culture in relation to her family situation:

*I come from a dual family, culturally speaking. My parents are divorced, and while my father is an academic and married to someone from [a wealthy area in Denmark], who took me to the opera and ballet and all those highbrow events, my mother has a professional bachelor degree and is married to a man who works in an unskilled job, and they both work on reduced hours. And then I grew up in [a multicultural area]. So a lot of distinctive cultural differences emerge here, and I think it has been very interesting to watch myself and how one can embrace both cultures, and also how many prejudices there are.*

(Interview with student, February 2018)

In this interview, the female student does not use her background within (at least) two different cultural settings as an explanation for a particular (more or less ambitious) labour market aspiration. Rather, she uses it to justify a particular field of interest, namely ‘culture’. Meanwhile, in accordance with Appadurai (2004), the narrative can also be seen as an alignment of her future desires with particular norms and beliefs inherent in her social context. The narrative relates to both social contexts and thereby justifies a future job within the field of ‘culture’ in relation to both. Likewise, other students that I interviewed related their aspired futures to social contexts during their upbringing, including particular norms and dispositions of their families or wider communities, as well as experiences from education (for example previous studies that they dropped out of or experiences from a Danish folk high school [Højskole]).

The students emphasised their individual dispositions and desires for the future at least as much as their background. Several students referred to “something I am good at”, like this male student:
Well, I want to do something that I am really good at, and I feel that I have found that here [in this area of study]. That is something I did not find at [two other areas of study].

(Interview with student, March 2018)

The male student dropped out of two other programmes in very different areas of study before ending up in his current programme. The relation between the area of study and his own dispositions is an important part of his narrative. While this narrative may in itself express a social norm (that it is important to work with something that you are good at rather than, for example, to work with something with a high salary), it does not directly show the student as someone who manages social differences.

In general, the students that I interviewed justified and narrated their labour market aspirations in relation to various elements, including their social contexts as well as their individual dispositions and desires for the futures, but not specifically to social circumstances and limitations caused by social categories. The students did not ‘manage their differences’ in terms of social differences related to employability, but enacted employability in terms of individualised differences and capacities. Thereby, ‘graduate employability’ appears (for the students) as an individual problem, rather than a problem related to social categories such as those included in the DEA report (2016).

As I did not include questions that enable me to do a social stratification of the interviewed and observed students, I am not able to analyse the relations between social factors and aspirations any further. Since I am interested in the study of metrics rather than of human beings, I did not find it relevant or appropriate to make the students intelligible to me in terms of their social status. However, it would be possible to conduct such a study, in line with the work of Tomlinson (2007). Perhaps it would show differences in aspiration patterns, for example in relation to the ‘safe choice’ of ‘high school teacher’, ‘librarian’, or ‘museum inspector’, all belonging to an ‘industrial’ organisation of work, in contrast to the more unpredictable careers in the project-oriented labour market (Boltanski & Chiapello, 2005b). Perhaps, the ‘safer choices’ tend to be related to certain social groups compared to the less safe choices.
Nevertheless, the individualised enactment of ‘employability’, overlooking social differences, makes the resulting ‘level’ of ‘employability’ a matter of the individual performance of students. ‘Employability’ becomes a *malleable performance* (just like the ‘relevance’ of programmes analysed in Chapter 3B), and the students are therefore inclined to take on the responsibility for a potential ‘failure’ at the labour market in the form of unemployment (and possibly also vertical mismatch). The choice of programme (as analysed in Chapter 3A) becomes one enactment of the ‘employability performance’ of students, as the “Sizing Model” and “Education Zoom” initiatives are aimed at regulating and supporting the ‘employability’ of students in terms of their area of study. Hereby, the graduate unemployment rates emerge as a ‘performance of the state’, which can be disaggregated into the individual performances students in their choice of a ‘relevant’ area of study. The state is thus conceived as dependent on ‘micro-economic dynamics’ and behaviours of individuals (Desrosières, 2010: 45-46).

Meanwhile, the students themselves also enact ‘employability’ as a matter of their own performance and thereby something malleable. Student jobs, internships, particular educational choices (such as the choice of specialisation in the Musicology bachelor programme), collaborations with companies on study assignments, studies abroad, and voluntary work were all experienced as ways of improving ones performance of ‘employability’ in the light of future aspirations. As discussed by Gritt B. Nielsen, students become “small enterprises”, as individuals with a strategically developed unique educational path (G. B. Nielsen, 2015: 169) both within and outside the curriculum and extra-curricular activities offered by the universities. Svein Hammer points out that new connotations emerge as associated with the ‘homo economicus’, who becomes a “working “entrepreneur” of everyday life and through continuous calculations and choices seeks to maximize the effects of his actions” (Hammer, 2010: 87). Thereby, individuals rather than populations (and programmes) are territorialised into ‘spaces of calculation’ (Miller & Power, 2013: 579) in the enactments of this configuration.

11.2.3 Chapter conclusion and diffractive readings

The metrics analysed in this chapter do, as indicated, not play a main role in university governance practices. I brought them in from the DEA report (Tænketanken DEA, 2016),
from the research literature (Jacob et al., 2018; Tomlinson, 2007), and from glimpses in my ethnographic material to show the simplified assumptions of the metrics deployed in university governance and policy. The governance and policy metrics assume that ‘graduate employability’ is merely a matter of education – or more precisely of ‘relevant’ education. The policy notion of ‘relevance’ thus reflects a particular overall configuration of graduate employability as a property of degree programmes. Meanwhile, the metrics analysed in this chapter locate the ‘employability’ of the graduate in his or her social characteristics and aspirations, which are only partly affected by education. Here, the sociological configuration of employability as a matter of social characteristics (immigrant background, socio-economic background, age, gender, and grades from the qualifying exam) reduces university influence on graduate employability significantly, and so does the individualised configuration of employability as a matter of behaviours of the individual, rooted in the socially formed aspirations of the graduate, to some extent. Instead, it enhances the individual influence on graduate employability with a huge individual task to perform ones ‘employability’ as a result.

Turning back to section 7.1.4, where I introduced various research literature that studied what skills employers requested, one of the examples was a meta-study by Pool and Sewell (2007). In their study, they identified a number of skills that employers across a range of studies indicated as relevant for employability, and these included emotional intelligence as well as personal attributes like self-confidence, self-esteem, and self-efficacy (Pool & Sewell, 2007: 281). While these psychological or personal attributes could have been included in the analysis in this chapter, I did not find any ‘psychometrics’ to analyse in the Danish university context. Nevertheless, the ‘metrification’ of these attributes, which does happen on the global scene (Sellar, 2015b), contributes to the configuration of ‘employability’ as a matter of individual attributes, and extend these to encompass ‘positive psychological traits’ and not merely skills (Sellar & Zipin, 2019: 575).

The analysis in this chapter suggests the tendency to interpret the ‘employability’ of graduates and the ‘relevance’ of programmes respectively as a matter of performance, rather than as a matter of (societal, social, and economic) circumstances. As
performances are malleable, while circumstances are perceived as out of the hands of individuals, the performance interpretation enables action but also implies an individualisation of the responsibility for ‘failure’, and thereby tendentially invokes a state of stress among the individual students or programmes. There may furthermore be a tendency of an increased ‘stress-level’ in cases where the labour markets that the performances of students and programmes should be directed towards are relatively unknown or diffuse. I believe that there is a job to do here. I will make a proposal for this job and how it can be done in the next chapter.
12. Entanglements of ‘relevance’, ‘employability’, and labour market differentials

*Or what if it is a property of the job?*

I have now analysed how relevance can be a property of an educational unit (Chapters 3, 5, 7, and 9) and a property of the individual graduate (Chapter 11). While these overall configurations are radically different, they both concern the supply-side of the relation between education and the labour market. Perhaps, there is something different to be found if we look at the demand-side – new perspectives, new opportunities for policies and local initiatives, and not least new knowledge.

I already briefly touched upon this in Chapter 7, where I analysed the graduate survey of Roskilde University (2013). Here, one of the questions about the relation between the needs of the companies and the skills of the graduates came with the response category: ‘The business community needs to utilize our achieved skills better’. In this tiny sentence, as a needle in a hay stack, the report opens up for the responsibilisation of the demand-side of ‘relevance’ and ‘graduate employability’. Furthermore, it opens up for the idea that the practices of the workplaces matter, as workplaces handle different issues differently (such as the utilisation of graduate skills).

This focus on the demand-side is not entirely new. It has been indicated in previous research, for example by Alex Tymon (2013) and by Michael Tomlinson (2012, 2018), who suggests that employers play an important role in providing graduates positive identities and ways of being at the labour market, as well as a successful integration into the labour market (Tomlinson, 2012: 425). Furthermore, this perspective has been pointed out to me repeatedly by some of my collaborators in the Danish university context, who insistently claimed that differences between different employment sectors affected the possibilities to score well in the numbers. Labour market differentials matter in the match of graduates and jobs (whether in terms of employment match, skills match, academic match, or wage match).
Essentially, the point of this chapter is to propose a third concept in addition to the already two-fold concept of ‘relevance’ and ‘graduate employability’. This affirmative-critical proposal involves a ‘territorialising’ of the job as a third ‘space of calculation’ (Miller & Power, 2013: 579), in addition to programmes and individual graduates. I will argue that the concept of what I call ‘access texture’ is a necessary and useful addition to the question of relevance. ‘Access texture’ is a property of the job. Different ‘access textures’ of different jobs affect the transition of graduates differently. The proposed concept thus emphasises the heterogeneity of workplaces (Tomlinson, 2018).

The notion of ‘access texture’ sums up a range of labour market and occupational differentials, including not only the labour market needs of skills and knowledge, which are already to some extent a focus of existing higher education policy, and the “sets of rules, value systems and behavioural codes” related to specific occupations or ‘organisational fields’ (Tomlinson, 2018), but also a range of other factors. My list is not comprehensive, but it includes entry modes (what are the terms and conditions of entering the field); degrees of specialisation required (does the job require generic or specialised skills and knowledge); degrees of standardisation (to what extent is a particular educational profile automatically coupled with particular tasks and types of positions); modes of job formation (how and when is the content of a job defined); modes of wage formation and other value systems (how are different resources and benefits distributed); hierarchical patterns (how are decisions on promotion made); patterns of discrimination (the desired employee in the sector or occupation); and ongoing macro-transformations in the relation between types of graduates and the jobs they are employed for (for example the partial replacement of office assistants and secretaries with academic administrative staff in parts of the public sector, as illustrated by Bjerre, 2019). All these differentials may vary from sector to sector, and from job to job.

Arguably, Danish higher education policy and governance could benefit from a detailed knowledge on the ‘access texture’ within different labour markets. Such a knowledge could contribute to policy initiatives and assessments within higher education, to the development of support initiatives for students and graduates in universities, and to the transparency information available to potential students in their choice of area of study.
Combined with other metrics, a metric on ‘access texture’ would provide an expanded space for interpretation and richer data.

I will return to the interesting question of how the ‘access texture’ of different parts of the labour market affects the measures of ‘relevance’ and ‘graduate employability’ in the next chapter. In this chapter, I will support the claim of ‘access texture’ as an important addition to higher education policy and as a possibility for making workplaces or sub-labour markets the unit of measurement for future metrics. I do not have a great variety of means to support the claim. But there are a few tentative metrics in the materials analysed throughout the dissertation that point towards labour market differentials (mainly between the private and public sectors). There are also theoretical and empirical indications of labour market differentials. After presenting these, I will provide an analysis of the configuration of ‘relevance’ (or ‘access texture’) and of education embedded in this idea, and show how it plays a crucial role in the enactment of ‘graduate employability’ as an individual project (as analysed in Chapter 11). As we in this chapter are reaching the borders of the existing metrics, and of what is thinkable within contemporary higher education policy, these few indicative examples will have to do.

12.1 Tentative metrics on labour market differentials

The few tentative metrics that touch upon labour market differentials are found within reports as one among various ways of sorting the data. Thereby, they are not dominant metrics within the reports. The following analysis draws mainly on metrics presented in the two DEA reports on match (Junge et al., 2012; Tænketanken DEA, 2016) and in the report made by the Committee on Better University Programmes (Udvalg om bedre universitetsuddannelser, 2018b). None of the metrics are currently used in any formal policies or quality assurance practices.

The metrics focus on the divide between the public and the private sector as a labour market differential. The divide emerges as a product of different regulations of the two labour markets, where the public sector labour market is severely regulated and negotiated collectively while the private sector is subject to individual negotiation. We
have already seen a consequence of this difference in Chapter 5, where a discussion on the utility of the wage measure was presented.

A first example is the DEA report (Tænketanken DEA, 2016) that shows how the employment sector has an effect on the match: Graduates from the humanities or technical sciences working in the public sector have a larger share of mismatch compared to graduates from the same fields working in the private sector (Tænketanken DEA, 2016: 41). The 2012 DEA report (Junge et al., 2012) shows some more detailed data, where the public/private share of graduates is displayed according to ten different groups of humanities degrees. It shows, for example, that while 72.5% of the graduates who graduated in education in the years 2001-2008 work in the public sector, only 44.2% of graduates within media, communication, and information studies and 45.7% of the graduates within cultural studies worked in the public sector. This shows great differences in labour markets according to areas of study.

On a more general level, the report from the Committee on Better University Programmes (2018b) also displays data sorted on the private and public sector. These data include the “wage gain” of university graduates compared to graduates from business academies and university colleges. The data are sorted according to the five broader areas of study (health, social, technical, and natural sciences, and the humanities) in one set of tables and according to the more fine-grained programme clusters in another set. Both sets of data are displayed in two tables: One for the private sector and one for the public sector (Udvalg om bedre universitetsuddannelser, 2018b: 105-107). In the tables, it becomes visible that some programme clusters have a ‘negative’ “wage gain” in the private sector but a positive one in the regulated public sector, where the link between the ‘vertical’ degree level and wage is more standardised and automated.

According to these metrics, the private/public divide appears to be a differential that affects the ‘access texture’ of the workplaces. It seems that the two sectors absorb different proportions of graduates with different profiles, and furthermore that they allow for different levels of match and different possibilities for a wage reward in case of
a high productivity. The private/public divide is significant and contributes to the ‘access textures’ that graduates will face when they enter the labour market.

12.2 ‘Industrial’/’project-oriented’ labour market differentials

However, there are also other differentials that play an important role in the ‘access texture’ of different jobs or labour markets. The advisory board members that I interviewed indirectly pointed me towards some of these differences when I asked them about what an ‘employable’ graduate was. Tellingly, one advisory board member, when I asked him this question, immediately answered “That completely depends on the job”. His awareness of sectorial and occupational differences recurrent in the differences across the interviews. These differences are of course limited to the humanities labour markets where the advisory board members worked, including the ‘culture sector’ (museums, music venues, municipality culture departments), the ‘media sector’ (TV stations, newspapers), and the high school labour market.

For example, high school rectors emphasised the combination of the two subject areas of the graduate, as well as his or her distribution of ECTS across various topics within the two subject areas, as crucial for access to the high school labour market. Most often, it is not possible to get a job as a high school teacher with two ‘smaller’ subject areas, as there is then not enough work hours to compose a full position. Furthermore, a degree from programmes similar to, but not quite identical with, the standard programmes for becoming a high school teacher would most often mean that the degree did not live up to the institutionalised Professional Minimum Standards [Faglige Mindstekrav] of the subject. Then the graduate would need extra education to obtain the sufficient extra amount of ECTS to be able to cover the different topics that the high school subject includes. Besides this primary concern, the high school rectors also mentioned a minimum of teaching experience as a preferable prerequisite, but the composition of the degree was essential to gain access in this labour market.

The ‘access textures’ of other labour markets were completely different. In relation to the occupation of ‘communication officer’, an advisory board member preferred vigorous
graduates with a personal attitude towards their discipline and a range of practical tools. An advisory board member from a commercial cultural institution mentioned that it is important to be able to ‘speak the language’, meaning a commercial language. And an advisory board member from the media sector answered the question of how to become employable in the following way:

_Do an internship, I would say. Because that is an easy way in. Here, we often do it like this: We have 126 employees in [this company], who are paid, right, and then we have five university interns every six months, and the best of those become employed. So [the internship] is some sort of screening opportunity. You take someone in, teach them the environment, teach them the style of writing... And are they clever, do they show a commitment, do they contribute to the invention of something new maybe – not big things, but something – then... Yes, for those who fit the best, they end up with a job afterwards._

(Interview with advisory board member, April 2018)

While the statements mentioned above the quote mainly relate to the ‘skills’ or attributes of the graduates (which was what I asked the advisory board members about), this quote expresses a different aspect of the ‘access texture’, as it points out a typical way into a job in this occupation. According to the quoted employer, the employers rarely had enough time to write a call for a new position, so if they had an attractive candidate among their former interns, they would pick one of those. This ‘access texture’ differs significantly from the occupation as ‘high school teacher’, where the personal demonstration of capacities plays a minor role compared to the educational content of the graduate’s degree.

The different ‘access textures’ highlighted by the advisory board members can be conceptualised with the help of Boltanski in collaboration with Thévenot (2006) and Chiapello (2005a) respectively through the notion of the ‘organisation of work’, which is related to the already introduced ‘worlds’ (see Chapters 3B and 8). As we saw in section 3.4.1, where I presented the case of the new programme regulation for Musicology, there may be different types of organisation of work at play. The ‘high school teacher’ labour
market can be related to an ‘industrial’ organisation of work, where the graduate benefits from the acquisition of the exact skills needed in that labour market (which may be quite predictable and stable over time). Meanwhile, the quotes from the other advisory board members, working in the less institutionalised parts of media and culture labour markets, seem to refer to the ‘project world’ organisation of work, where the graduate benefits from a broad variety of experience and connections that allows for a flexible and adaptable career (Boltanski & Chiapello, 2005a: 105 ff).

These were a few examples that I am familiar with from my fieldwork (where I unfortunately did not address the matter of ‘access texture’ specifically, as the analysis had not progressed far enough at the time). My research apparatus has not provided me with comprehensive empirical data on these different sectors, partly because of the delimitation of my research project to ‘higher education’, partly because of the lack of ‘access texture’ metrics in the field. I hope, however, that it is possible to imagine how labour market and occupational differentials may affect the possibility to get access to a job, receive a high salary, and match the skills need and the academic level required for the job. The job partly determines what makes a graduate valuable and how it shows.

12.3 The configuration of ‘access texture’

In the above two sections, I have pointed towards the ‘private’/‘public’ sector differential (visible in a few metrics) and the ‘industrial’/‘project-oriented’ organisation of work differential (visible in interview quotes). Meanwhile, a range of other differentials could potentially be measured. This could be the relation between ‘access texture’ and company size, business model (from where and how the company/organisation receives its income), business, job type (as indicated by the DISCO classification presented in Chapter 11), and level of regulation. If different types of ‘access texture’ are related to these differentials, and then also related to the areas of study that typically provide them with graduates (if they typically employ a particular kind of graduates), the Ministry and the universities could design much more targeted initiatives to improve the match generally. Furthermore, the accountability for match could become shared among
Thereby, this metric would be a ‘circumstance differentiating machine’.

Such a metric does not exist, however. Therefore, the analysis of the configurations embedded in it will be tentative and speculative. There are no exact arrangements of a metric apparatus to analyse. Rather, the idea of the metric is generated from the configuration. Thus, ‘access texture’ of the job makes up the configuration of ‘relevance’ and ‘employability’ in this proposed metric, as a concept that makes the match a property of the job, based on the theory that jobs are different and that these differences define what makes a graduate employable and a degree programme relevant. The idea that employability varies with the job, and thus that employability is not necessarily the same thing across all sectors or occupational groups, challenges the supply-oriented policies entangled with the graduate employment statistics and skills oriented metrics. Possibly, not all areas of study are commensurable when it comes to employment or employability.

We do have sociological theory available that to some extent addresses this configuration. According to ‘job competition theory’, the productivity of an employee is rather an attribute of the job than of the individual occupying the job. More precisely, a particular job allows for a certain level of productivity that the person holding the job can then fulfil (Bol, 2013: 23). So when different graduates are shown to have different levels of productivity, this is rather due to their competitive position in the battle for high-productivity jobs than due to an inherent productivity-ability of the graduate. Thereby, the difference in match according to sector can be understood as a product of competition over jobs, where the lower matching jobs in the public sector reflect a lower hierarchical position in the labour market of the graduates, and where area of study provides a (more or less beneficial) competitive position for the acquisition of high-productivity jobs. I will however argue against this ‘job competition theory’ as it builds on a unilateral understanding of positions in the labour market. In my perspective, different labour markets hold different advantages and disadvantages that cannot be externally defined but depend on the graduates and their aspirations (although these may be socially formed). Therefore, the pluralist view embedded in the notion of ‘access
texture’, which emphasises a range of labour market differentials rather than mere hierarchies, is more relevant.

The ‘access texture’ configuration of ‘relevance’ is accompanied by a configuration of education as a supply factor (as we have seen in the configurations embedded in most other metrics), but perhaps a supply factor that needs to be viewed in a more plural and less standardised way than it is today. Education does not merely become a pre-sorting mechanism of graduates into more or less beneficial competitive positions according to areas of study. Education becomes a phenomenon that needs to be diverse. For example, if labour market differentials pose different needs for education, there may be some programmes that need to be ‘sized up’ and others that need to be ‘down-sized’. The idea of an optimal student population size of a sustainable programme perhaps needs to be left behind. In the same line, some areas of study perhaps need to be specialised, and others more generalised. Some may require a high degree of practice learning with internships, while others may need more scholastic learning. Some may require an active participation of students in curricular or extra-curricular projects and other activities in collaboration with different actors, while others require a more focused acquisition of theory and methods. Of course, these variances are already widely present in Danish higher education, but the particularity of programmes could become even more fine-tuned if we had more available knowledge on the link between education and jobs, and if fewer standards restricted the possibilities for specialisation.

It is of course an important counter-argument that it is not possible to predict the future in this way. If universities adapt their programmes even more precisely to the labour markets, the risk of miseducation becomes too high in a globalised world where labour market patterns can change rapidly. As a response to this argument I will nevertheless point out that universities are already held accountable on their ability to adapt their programmes to the needs of the labour market. Thus, I can only see it as an advantage to enable an even better understanding than the one provided by existing numbers. From the point of view of the ‘affirmative critique’, additional metrics on ‘access texture’ can contribute to ‘relevance’ policies by making employers co-responsible and accountable
for the success of graduates, and by cutting the world differently in a way that will allow for new potential initiatives and actions.

12.4 Enactments: Navigating the present with(out) the notion of ‘access texture’

As argued throughout this chapter, knowledge about the ‘job textures’ of the labour markets that a graduate aspires to enter is necessary to navigate appropriately in the present. The project of building ones ‘employability’, or of navigating from aligned aspirations and anticipations, is complicated by the lack of a clearly defined notion of ‘employability’ that takes the notion of ‘access texture’ into account. For example, the differences in the organisation of work imply (at least) two applicable, co-existing (but differently relevant in different cases) modes of navigation. The two modes of navigation can be conceptualised with the notion of ‘justificatory regimes’ (Boltanski & Chiapello, 2005a; Boltanski & Thévenot, 2006). In the ‘industrial’ justificatory regime, actions are judged in terms of their efficiency (Boltanski & Thévenot, 2006: 203-213). Here, the individual employability project can be understood as a way of ensuring the efficiency of the transition from education into the labour market. The choices of area of study, acquired skills, and other elements of the programme are about ensuring the most optimal match to what a future employer will need. In this justificatory regime, it is important to have a clear and realistic plan of the future, and to optimise the tools needed to reach that future. Not only the acquired discipline and skills, but also the optimisation of the self becomes important. The ‘industrial’ approach to employability seems to be supported by the universities as they facilitate the effective management of the student self in the transition to work, for example by helping the student develop a CV, make an action plan, and do networking (see also the analysis of the Career Management Skills programme in section 3.4.2).

Meanwhile, the individual employability project can also, and perhaps most fruitfully, be understood from the ‘project world’ justificatory regime (Boltanski & Chiapello, 2005a: 105 ff). In the ‘project world’, educational activities (as well as other activities) can be understood as part of the ‘portfolio of activities’ or ‘succession of projects’ that make up the employability of the individual (Boltanski & Chiapello, 2005a: 110).
Thereby, education is not about matching a need at the labour market, but more about maintaining a level of activity and connectivity that justifies the enrolment in future projects. Boltanski and Chiapello write the following about this justificatory regime:

People are appreciated if others want to make their acquaintance, to meet them, call upon them, or work with them. Those from whom nothing is to be expected are avoided, kept at a distance or, more simply, ignored... [In] the logic of this world, existence itself is a relational attribute: every entity, and human persons by the same token as the rest, exists to a greater or lesser extent depending upon the number and value of the connections that pass via it. [...] It follows that in such a world the mechanisms of justice are essentially preventive. They must anticipate the possibility of failure by relying on predictive indicators.

(Boltanski & Chiapello, 2005a: 126)

The main justificatory principle here is to be attractive to others and stay connected. Boltanski and Chiapello specifically relate the concept of ‘employability’ to this world (Boltanski & Chiapello, 2005a: 111). Here, the capacity to aspire and anticipate, and thereby the tool for navigation, is interestingly not so much about reaching a particular future, but about ensuring a sufficient level of relevance to others in the future. Thus, while ‘graduate employability’ in the ‘industrial’ justificatory regime requires a controlled navigation towards a particular end, the requirement is more open, but also never-ending, in the justificatory regime of activity and connections. Here, there is a constant uncertainty about the sufficient number of projects and connections needed to remain attractive. Skills are also needed in this justificatory regime, but the question of which skills is not a pre-given, predictable matter.

The difference in justificatory regimes may explain why a decision about a future as ‘high school teacher’ made the students introduced in section 3.2.5 feel more calm, while other students experienced ‘anxiety’ and ‘stress’. The ‘high school teacher’ future relates to an ‘industrial’ mode of navigation in relation to a relatively known future, while a future within the more open-ended labour market of the cultural sector (and other less institutionalised sectors) implies a navigation in a less predictable landscape. A third
justificatory regime could be that of the ‘market world’, where actions are judged in terms of their price, but I consider this less relevant in my analysis of humanist students, as they obviously did not justify their actions in terms of their future salary. If they had done this (and if that was an opportunity in relation to the humanist degree programmes that I followed), they would not need the more complex navigational models of efficiency or activity and connectivity, but would rather need to anticipate the future development of labour market pricing.

The relevance of each of the two modes of navigation depends on the organisation of work characteristic of the sector that any given graduate may enter (or anticipate to enter). As we saw in section 3.4.1, where I presented the case of the new study regulation for Musicology, there may be different types of organisation of work at play. Whereas employability in the ‘high school labour market’ may be understood from an ‘industrial world’ perspective, where the graduate benefits from the acquisition of the exact skills needed in that labour market (which may be quite predictable and stable over time), employability in the ‘culture sector’ may be understood from a ‘project world’ perspective, where the graduate benefits from a broad variety of experience and connections that allows for a flexible and adaptable career. Thereby, the most relevant configuration of ‘graduate employability’ seemingly depends on the anticipated job.

While ‘graduate employability’ in this individualised configuration becomes a project of the individual student and graduate, the universities still play a role in supporting the students. The two different modes of navigation, with their associated justificatory regimes, seems to be supported differently by the universities. Arguably, the ‘industrial’ mode of navigation is reflected in the traditional curriculum, including its learning outcomes. Here, the particular skills (and other forms of content) matter, as they are assumed directly applicable in a future job with a relatively predictable content. When a set of Professional Minimum Requirements are developed, the skills and knowledge required to match the job become institutionalised and thus manageable in curriculum development. Meanwhile, the support of student navigation in the ‘project’ constellation seems to dominate the development of employability-supporting teaching methods across the universities. In my fieldwork, apprenticeships, case work, case competitions,
business visits, external lecturers from the practical life, and the possibility to write the master’s thesis in collaboration with a company or an organisation were mentioned as ways of enhancing the employability of the students. In some cases, the teachers themselves developed these building blocks of educational designs, while they in other cases were imposed on degree programmes from the leadership in the recognition of a need to improve the employability of the graduates across most degree programmes. These methods involve projects and connections. Also, the ‘applied’ research on graduate employability seems to focus on the ‘project world’ configuration of employability. Here, apprenticeships programmes (Cranmer, 2006; Ehiyazaryan & Barraclough, 2009; Helyer & Lee, 2014; Mason, Williams, & Cranmer, 2009; Rae, 2007; Thune & Støren, 2015), student participation in undergraduate research conferences (Hill & Walkington, 2016), or the incorporation of social entrepreneurship teaching where problems defined by partner organisations are used to facilitate work-based learning (Huq & Gilbert, 2013) are suggested as relevant teaching methods. These proposed employability-enhancing activities correspond with the Roskilde University graduate survey, where the graduates were asked how they believe the students can become better equipped for the labour market, and the top-scoring response categories included ‘problem-solving in collaboration with companies’, ‘longer apprenticeships or better possibilities for apprenticeships’, and ‘the inclusion of more specific cases in the teaching’ (Roskilde Universitet, 2013: 96). All these types of activities may contribute to the experience and ‘project portfolio’ of the students, or establish connections that can be used in future projects.

12.5 Chapter conclusion

In this chapter, I have proposed a new concept of ‘access texture’ as an addition to ‘relevance’ and ‘graduate employability’. The new concept indicates that ‘relevance’ is partly a property of the job, rather than merely a property of education and the graduate. I have argued that the ‘access texture’ configuration of ‘relevance’ is missing in higher education policy, both as an idea and as a metric. The configuration draws on the ‘theory’ that workplaces are different in a range of ways that may affect how the match between
graduates and jobs can become visible. These differentials not only affect numbers of other metrics (as I will show in the next chapter), but also how graduates need to navigate the transition into the labour market and the kind of support they need to do this in a successful way. The configuration brings with it possibilities to make employers co-responsible for this transition, and different calls for action. However, it does not provide a tool for the governing of university education.

While the notion of ‘access texture’ is not (yet) a part of the university context, there are no enactments directly related to this configuration to analyse. The suggestive character of the configuration and potential metric on ‘access texture’ entails a limited effect of the configuration in educational practice.
13. The voices of metrics – a re-turn

*Can we produce metrics that voice sector and occupation-specific relations between education, students, and work?*

Throughout the dissertation, I have presented my analyses of a range of metrics: Graduate unemployment statistics, graduate income statistics, skills-match surveys, assessments of employer involvement, accreditation, match statistics including statistics on social characteristics, ideal types of labour market orientations, and proposed labour market statistics. The analyses have shown how each metric is entangled with particular techniques, histories, and contexts of use. Furthermore, they have shown how the metrics configure ‘relevance’ and ‘graduate employability’ as well as ‘education’ differently. Now, it is time to let the metrics speak ‘for themselves’ and to each other; to listen to the voice of the metrics, take them seriously (Barad, 2011: 447), and discuss their findings, though necessarily in a way that ‘colonises’ their voice (Petersen, 2018: 12) according to my purposes (as outlined in section 1.2 and 1.3).

As described in Chapter 2, the dissertation has drawn on various models of diffractive readings. The previous analysis chapters have read metrics through conceptualisations as well as through each other. The analysis in this chapter will read the data produced by the metrics through each other. In this reading, new patterns emerge as the analysis engages and entangles different sets of data with each other. This analysis is not a statistical analysis, but a diffractive analysis drawing on a face-value reading of the results. A truly quantitative diffractive reading of different data through each other is beyond my capacities, but surely a very exciting proposal for future research. Meanwhile, the face-value reading still poses new questions and opens new possibilities regarding the results of the metrics.

The diffractive reading concerns the ‘relevance’ of the *humanities*: How can we understand the results of the metrics and their (immediately negative) evaluation of the humanities? No metric can give a complete answer to this. As metrics make particular cuts when the measure or assess, they are only partial and complementary (Barad, 2007: 123).
By reading the results through each other, an alternative configuration of the humanities than the one produces by each metric individually appears. The humanities are momentarily cut and propertied differently. Thus, the chapter offers an affirmative-critical recomposed configuration, which proposes structural complexities rather than poor performances of the humanities as the reason for their low score in the numbers. Thereby, the reading moves beyond the question of ‘relevance’ and into a question of the circumstances that the humanities operate within.

This move particularly distinguishes an agential realist analysis from analyses that seek to dismantle the practices they study, such as the practices performed by metrics. It involves a return to Barad’s notion of realism, which considers the reality enacted by an agential cut real within that entanglement or phenomenon. Phenomena are real, understood as entanglements of matter and apparatus, as things-in-phenomena. Thus, each metric actually says something about reality, given the specific apparatus of the metric. This does not mean that the results are deterministically determined by causes (Barad, 2007: 135-148; 333-337). As Barad says,

...the agential cut enacts a causal structure among components of a phenomenon in the marking of the “measuring agencies” (“effect”) by the “measured object” (“cause”). It is in this sense that the measurement can be said to express particular facts about that which is measured; that is, the measurement is a causal intra-action and not “any old playing around”. Hence the notion of intra-action constitutes a reworking of the traditional notion of causality.

(Barad, 2007: 140, her highlights)

As Barad here says, her notion of causality challenges traditional notions where the cause is understood to precede the effect (Beebee, Hitchcock, & Menzies, 2009: 414 ff), and where the agency or power to determine the effect is a deterministic property of the cause (Barad, 2007: 176). Rather, in her notion, both cause and effect are enacted simultaneously in the agential cut, however constrained and enabled by the histories of matter. The world is more complex than singular one-way effects.
This notion of ‘effects’ is relevant in the study of metrics, as it implies a rethinking of how the results of metrical measurements or assessments emerge. When a unit, such as the university or a specific degree programme, is enacted as the cause of an effect, such as graduate unemployment, this causal relation emerges within the phenomenon, which is partly defined by the apparatus used to measure or assess the effect. The causal relation does not pre-exist the phenomenon, but emerges from the questions asked by the metric, the practices of differentiation performed by the metric, and the histories of mattering of for example the university or the programme. However, in this understanding of causality, changes in the enacted cause, for example in the degree programme, will show an effect on the graduate unemployment numbers. Matter matters, and the metric is affected by the situations of those human beings that it defines as graduates.

The important point made in the reworked notion of ‘effects’ here is that the apparatus plays a crucial role in defining what emerges as ‘cause’ and what emerges as ‘effect’. My move here is thus not to return to a rational reading of the findings produced by the metrics, but to engage in a strictly apparatus-sensitive reading of the them. This reading follows from the recognition that we cannot read the world from outside entanglements, but are bound to know the world in its agentially cut state, including the state of education and ‘relevance’ and ‘employability’ as cut by these metrics. Knowing a phenomenon in this state is not a second best that we are left to settle with – it is valuable as a particular way of knowing from within.

13.1 Graduate supply and demand metrics
The first data that I will read diffractively through each other are different kinds of data on the supply and demand of graduates, both in terms of their area of study and in terms of their skills. While these data are all produced by metrics that draw on economic theories, they still configure education and ‘relevance’ differently, and thus they can add and subtract meaning to and from each other. In this section, I will present different data and go through different possible explanations that the data sets add to each other.
The data included below are merely very crude versions of the often much larger data sets. I have selected data that are sorted according to the five broader areas of study in order to be able to relate the data sets to each other. This implies that the data represent broad averages that cover up a range of differences between degree programmes within these five categories of degree programmes. I have chosen simple data in order to avoid the extra complexity of detailed data. Thereby, I contribute to the reproduction of the material-discursive practices of reading simplified numbers comparably in recognition of the usefulness of comparability. As far as possible, I present the numbers in neutral tables, because the focus in this chapter (in contrast to the previous analysis chapters) is numbers rather than the materiality of the display of numbers.

If we ask the metrics analysed in this dissertation, the humanities stand out negatively. Thus, from the perspective of the metrics deployed in the Danish national policy context within higher education, the humanities appear less relevant than other areas of study. This will become apparent from the collection of results presented in this section. I will throughout the chapter refer to these immediate results as a group of ‘bad numbers’. From the analyses of these metrics throughout the dissertation, however, we know that the different metrics do not point towards the same configuration of ‘relevance’, which means that the different low numbers are expressing different things. The question is how the collection of ‘bad numbers’ can potentially be explained by reading them together. I will start with the graduate unemployment rates analysed in Chapter 3.

<table>
<thead>
<tr>
<th></th>
<th>Humanities</th>
<th>Natural sciences</th>
<th>Social sciences</th>
<th>Health sciences</th>
<th>Technical science</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>16%</td>
<td>9%</td>
<td>7%</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>2014</td>
<td>20%</td>
<td>11%</td>
<td>9%</td>
<td>3%</td>
<td>9%</td>
</tr>
<tr>
<td>2015</td>
<td>19%</td>
<td>11%</td>
<td>8%</td>
<td>3%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Table 1: The graduate employment rates are copied from the “Current Unemployment” spreadsheet published at the Ministry website (Uddannelses- og Forskningsministeriet, 2018a)
My table of graduate unemployment rates represents one of the many possible options of combining subpopulations related to educational units with unemployment rates. The table immediately shows that the graduate unemployment rate is higher within the humanities than within the other four areas of study. While the organisation of data into these five subpopulations suggests that the higher graduate unemployment rate is the result of something related to the areas of study (for example the demand for graduates or the performance of degree programme providers within these areas of study), the metric does not actually voice this. It does not test if the distribution of unemployment is simply related to education, or if the subpopulations of broader areas of study correlate with other subpopulations.

Starting from these graduate unemployment statistics, one explanation of the ‘bad numbers’, as suggested by the policies initiated to improve the numbers (the “Sizing Model” and “Education Zoom”), is a mismatch of supply and demand of graduates holding most kinds of humanities degrees. We can potentially explain this mismatch in terms of several different types of relations. One explanation could be the growth in graduates from the humanities. The humanities included 14,000 more students in 2006 than in 1990 and was in 2016 the second largest producer of graduates, after the social sciences (Udvalg om bedre universitetsuddannelser, 2018b: 74). The growth explanation is in line with the policy response of reducing the number of graduates, partly through ‘down-sizing’ based on the unemployment rates, partly through the provision of transparent information to potential students. The growth explanation mainly places the cause of the mismatch in the numerical changes of the graduate supply. Meanwhile, reading the unemployment statistics through graduate income statistics (analysed in Chapter 5) a further elaboration to this explanation emerges.
The graduate income chart shows the annual income 1-10 years after graduation in DKK for graduates from 2004-2015 with one graph per broader area of study. Thus, the grey graph represents the social sciences, the dark blue graph the humanities, the yellow represents the technical sciences, the pink represents the natural sciences, and the light blue the health sciences. The black graph represents the average. The chart visualises a lower annual income for humanist graduates than other graduates – a difference that only numerically increases with time. The report interprets this result as a matter of the productivity of the graduates.

When we read the unemployment numbers through the annual graduate income statistics, an elaborated explanation on the graduate unemployment emerges. Then, the relatively high rate of graduate unemployment may be read not merely as a quantitative question of supply minus demand, but more complexly as a matter of the value of the graduates in a graduate labour market, expressed in the price of the humanist graduates.
Here, a low value may not only affect the ‘price’ (=wages) of the humanist graduates, but also leave a surplus of ‘goods’ (=graduates) that are not considered cost-effective for the employers. In this explanation, both the surplus (=unemployment) of graduates and the relatively low graduate income becomes a complex function of price development.

Reversely, the low wages may be read as a result of the extended supply that decreases the value of the graduates in a market where the graduate wages depend on their scarcity (as suggested by Produktivitetskommissionen, 2014: 40). As analysed in section 5.2, however, different actors within higher education policy disagree whether the productivity explanation is equally relevant for graduates working in the public sector as for the private sector (Produktivitetskommissionen, 2014: 39; Udvalg for Kvalitet og Relevans i de Videregående Uddannelser, 2014b: 16-17). A further elaboration becomes possible when we add data on the skills match between education and job, as analysed in Chapter 7.

<table>
<thead>
<tr>
<th></th>
<th>Humanities</th>
<th>Natural sciences</th>
<th>Social sciences</th>
<th>Health sciences</th>
<th>Technical science</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>3.5</td>
<td>3.8</td>
<td>3.7</td>
<td>4.0</td>
<td>3.8</td>
</tr>
<tr>
<td>2018</td>
<td>3.5</td>
<td>3.6</td>
<td>3.6</td>
<td>3.9</td>
<td>3.8</td>
</tr>
</tbody>
</table>

**Table 2:** Data on skills match are copied from the spreadsheet of the national graduate survey data from 2016 (Uddannelses- og Forskningsministeriet, 2019a) and 2018 (Uddannelses- og Forskningsministeriet, 2019b) at the Ministry website.

The table shows that the humanities have the lowest average score of skills match in both rounds of surveys (not taking into consideration if the difference is ‘significant’). These results may suggest that the humanities are less adapted to the needs of the labour market that other graduates, but since the results are produced from graduate surveys, there may also be other factors affecting the responses of humanities graduates (for example the image of the humanities among the graduates or different experiences of
belonging in their jobs). The survey results do not include responses that can qualify the distribution of responses.

When the graduate unemployment statistics are read through the graduate surveys and their questions about skills match between education and job, a third explanation of the ‘bad numbers’ emerge, besides the ‘growth’ and the ‘value’ explanations. This reading suggests that the mismatch is not merely a matter of a high supply of graduates, but also of a low demand of these graduates caused by the composition of skills they carry from their degree programmes. If humanist graduates had acquired more of the skills requested by employers, their employment situation would improve. This could be named a ‘demand-based’ explanation. When we read the graduate income statistics through these numbers, the relatively low annual income may be explained as a matter of low ‘productivity’ due to a lack of productivity-increasing skills.

<table>
<thead>
<tr>
<th>Graduates in non-matching jobs one year after graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
</tr>
<tr>
<td>Academic match</td>
</tr>
<tr>
<td>Wage match</td>
</tr>
<tr>
<td>Combined mismatch</td>
</tr>
</tbody>
</table>

Table 3: Data on the combined academic and wage mismatch (analysed in Chapter 10) are copied from a report made by the Danish think tank DEA (Tænketanken DEA, 2016).

Finally, we can add the match and mismatch numbers. I included both the match data on academic match and wage match and the combined data, where only the graduates with a vertical mismatch both according to the academic match model and to the wage
match model (described in section 11.1.1) are included. While the humanities have relatively low match numbers in both of these models, the mismatch is particularly stark when they are combined as shown in this table. These results indicate that most graduates from other areas either match the required academic level of their jobs or are rewarded with a wage that matches their level of education, while this is not the case for more than half of the employed humanities graduates.

In spite of the different apparatuses of wage match deployed in these numbers and the annual graduate income statistics, the two sets of data may be assumed to be closely related and express similar relations. Therefore, it does not make sense to read the match numbers diffractively with neither the income statistics nor the unemployment numbers, which only relate to employed graduates. Meanwhile, the low academic match may be read through the skills match numbers to suggest that humanist graduates are in mismatching jobs to a larger extent because of their relatively lower share of demanded skills (according to the ‘demand-based’ explanation). Reversely, the graduates may assess their skills as less relevant for their jobs because they are in jobs where their academic degree level is not needed.

In summary, the data presented so far show a bleak image of the value of the humanities in the job market. It looks like the humanities are doing something wrong – either producing too many graduates, or giving them the wrong skills, or not enhancing their productivity sufficiently. The various suggested explanations point to different reasons why. Two of these, the ‘growth’ explanation and the ‘value’ explanation represent the ‘relevance’ of the humanities as a respectively simple or complex function of the quantity of graduates. The relation between education and chances at the labour market is in most of the indicators presented above merely statistical, without any clear connections to neither the content of education nor the content of the labour market.

The idea of ‘skills’, however, provides such a possible connection. ‘Skills’ become the capital that is added to the graduate during education, and thereby the thing that makes the graduate valuable, as in the ‘demand-based’ explanation and the ‘productivity’ explanation. Meanwhile, the apparatus used to generate knowledge about skills has
considerable uncertainties built into it about the link between the measured reality and the measurement results.

13.2 Social characteristics of the humanist students/graduates

The above analysis shows various different explanations of the ‘bad’ results of the humanities across the economically oriented metrics. Meanwhile, all of the above numbers can also be read through a different kind of metrics, where the focus is on ‘graduate employability’ of individuals (or their aggregate performance) rather than the ‘relevance’ of higher education. The results of these metrics can be understood as a product of the differences between students in the humanities and students in other areas of study. As shown in Chapter 11, however, they can also be understood as a product of a tradition of apparatuses that distinguish the normal from the abnormal and seek explanations of ‘failure’ in the individual and its socio-historic characteristics. Thereby, these metrics dispute the placement of the ‘cause’ of the ‘bad numbers’ in the area of study or programme, while relying on their own problematic assumptions.

Like the previous section, this section will first include a presentation of a collection of numbers, and then a reading of these and the numbers introduced above through each other. The included numbers are all from the think tank DEA (Tænketanken DEA, 2016), as this is one of the few (if not the only) (non-governmental) policy reports that include social characteristics in the analysis (as shown in Chapter 11). We begin with the qualifying grades of the students when they are enrolled in their university programmes.

<table>
<thead>
<tr>
<th>Admission grade</th>
<th>Humanities</th>
<th>Natural sciences</th>
<th>Social sciences</th>
<th>Health sciences</th>
<th>Technical science</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>7.1</td>
<td>7.4</td>
<td>7.4</td>
<td>8.2</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Table 4: Data on admission grades are copied from the report by Tænketanken DEA (Tænketanken DEA, 2016: 20).
The table of the average admission grade of the 2014 graduates shows that the average grades from the qualifying exam of the students (for example high school) aggregated are lower in the humanities than in the other areas of study. A reading of the ‘bad numbers’ from above through these numbers suggests that one reason for the ‘bad numbers’ is that the students are less qualified than students in general, and thus that they are less employable from the outset. Thereby, the ‘bad numbers’ cease to be a doing of ‘the humanities’, but rather become a matter of the student input or ‘material’ the universities can work with. The 2012 DEA report shows that admission grades have a small but ‘significant’ effect on the vertical match of the graduates (Junge et al., 2012: 21-22). It would be interesting to know if a similar effect would show if the graduate unemployment rates, the graduate annual income, and the graduate skills assessment were sorted according to admission grades.

<table>
<thead>
<tr>
<th>Origin of graduates</th>
<th>Humanities</th>
<th>Natural sciences</th>
<th>Social sciences</th>
<th>Health sciences</th>
<th>Technical science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danish</td>
<td>89,7%</td>
<td>84,5%</td>
<td>85,3%</td>
<td>75,0%</td>
<td>71,2%</td>
</tr>
<tr>
<td>Immigrant</td>
<td>8,6%</td>
<td>13,8%</td>
<td>12,0%</td>
<td>21,2%</td>
<td>26,0%</td>
</tr>
<tr>
<td>Descendant</td>
<td>1,6%</td>
<td>1,7%</td>
<td>2,7%</td>
<td>3,8%</td>
<td>2,8%</td>
</tr>
</tbody>
</table>

Table 5: Data on origin of graduates are copied from the report by Tænketanken DEA (Tænketanken DEA, 2016: 20).

Adding data on the ‘origin’ of graduates copied from the DEA report (Tænketanken DEA, 2016: 20), a larger proportion of the humanist graduates have Danish origins (as defined by this metric) than graduates in other areas of study. Immediately, these numbers suggest either that it is a disadvantage to be ‘Danish’ in terms of getting a matching job (in contrast to our immediate expectations), or that the ‘origins’ of humanist graduates is not an explanation for the ‘bad numbers’. Meanwhile, if we add an extra set of numbers, it becomes apparent that it is a disadvantage to be of ‘non-Danish’ origins, particularly within the humanities (and even more within the social sciences).
<table>
<thead>
<tr>
<th></th>
<th>Humanities</th>
<th>Natural sciences</th>
<th>Social sciences</th>
<th>Health sciences</th>
<th>Technical science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danish</td>
<td>26.5%</td>
<td>12.1%</td>
<td>6.4%</td>
<td>7.3%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Non-Danish</td>
<td>33.7%</td>
<td>14.0%</td>
<td>15.5%</td>
<td>3.5%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

Table 6: Data on admission grades are copied from the report by Tænketanken DEA (Tænketanken DEA, 2016: 20).

This is not a general picture across all areas of study. Perhaps the population of non-Danish graduates within the humanities and social sciences differs from the population of non-Danish graduates in the other areas of study, either in terms of their behaviours and motivations or in terms of the composition of the group and differences in the accompanying discriminatory practices at the labour market. The numbers do not voice anything about this, and a clarification of this matter would require quantitative analysis. Nevertheless, at least from the numbers included here, there seems to be something more complex going on than a linear correlation of ‘origin’ and employability. It would be interesting to know if origin also correlates with graduate unemployment, income, and skills assessment.
The bar chart on the share of graduates in different age groups is copied directly from the DEA report, as numerical data are not available. The chart shows the graduates within each area of study (the humanities, social sciences, technical sciences, natural sciences, and health sciences) as distributed across four age groups. The green bar represents graduates below the age of 25, the blue represents graduates at the age of 25-29 years, the grey bar graduates at the age of 30-34 years, and the red bar graduates at 35 years or older. The lengths of the bars visualise that the age of humanities graduates is generally higher than the age of graduates from other areas of study – the grey and red bars are longer, while the green and blue bars are shorter (except perhaps the green bar of health sciences, that looks very similar to the humanities one). Together with numbers on mismatch, the high share of older graduates may partly explain the generally lower employability of humanist graduates:

Figure 11: The bar chart on graduate age is copied from the report by Tænketanken DEA (Tænketanken DEA, 2016: 18).
Share of non-matching graduates in age groups

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Humanities</th>
<th>Natural sciences</th>
<th>Social sciences</th>
<th>Health sciences</th>
<th>Technical science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 30</td>
<td>22,1%</td>
<td>8,5%</td>
<td>5,4%</td>
<td>2,1%</td>
<td>8,5%</td>
</tr>
<tr>
<td>30 or older</td>
<td>33,0%</td>
<td>19,9%</td>
<td>11,4%</td>
<td>15,4%</td>
<td>13,4%</td>
</tr>
</tbody>
</table>

Table 7: Data on age groups are copied from the report by Tænketanken DEA (Tænketanken DEA, 2016: 39).

As this table immediately shows, age and mismatch correlate. While the report states that the older age of humanist graduates is partly due to an older starting age, however, the older age of the humanist graduates may also partly be due to prolonged studies. The numbers do not voice if the relation between age and mismatch is due to differences in behaviours or differences in demand. If we turn the table and read the age numbers through the ‘bad numbers’ presented above, the older age may be explained by negative job prospects that discourage the students to finish their studies timely. It would be interesting to know if age correlates with graduate unemployment, income, and skills assessments as well.

In summary, the numbers indicate that humanist students have a slightly ‘less employable’ social profile than students within other areas of study. Specifically, there are correlations between ‘vertical mismatch’ and both the age of graduates, their origin, and their admission grades. Furthermore, there is a range of social characteristics that are not included in these numbers that might also correlate with mismatch and be characteristic of humanities graduates. A detailed analysis of the correlation between all these characteristics and graduate unemployment, income, and skills assessment would be helpful, whether a potential correlation would be due to discriminative practices in university teaching or at the labour market, or to different behaviours of the graduates.

Meanwhile, a study by the Rockwool Foundation (Skaksen & Andersen, 2018: 52-62) indicates that social characteristics do not solely explain the ‘bad numbers’ of the
humanities. In this study, the foundation creates a measure of the amount of salary money left for consumption for a graduate 10 years after graduation. The measure shows that even when they compare ‘like’ graduates across a selected range of degree programmes (with the same type of qualifying exam, high enough average grades to enter all the selected degree programmes, same level of math teaching) and control the numbers for gender, age, ethnicity, high school profile, and high school grades, the humanist graduate is still left with 29% less money for consumption than a business economy graduate. In this particular measure, there is a difference between areas of study, regardless of a range of social characteristics. The difference between the consumption level before and after the regression analysis that controls for these many variables is not large, as graduates from the humanities are left with 31% less for consumption before regression. While we can think of other social characteristics that may affect the difference, and while we do not know what difference they make to the negative indicators presented above, the explanation of the ‘bad numbers’ does not seem to solely be related to the social profile of the students enrolled.

13.3 The missing numbers in higher education policy: ‘Access texture’

A radically different explanation regards the ‘bad numbers’ a property of the particular metric apparatuses and their definitions of ‘relevance’. For example, in the case of the graduate unemployment rates, a particular version of employment is measured. It accentuates full-time employment, constant employment, and a relatively rapid transition into employment after graduation. The explanation of lower employment rates may then be found in the particularities of the humanist labour market, as argued by several of my fieldwork collaborators in various conversations. According to this argument, the humanities labour marked may involve a higher proportion of part-time and short-term work (with a risk of frictional employment caused by the many transitions between jobs) and possibly a long transition period due to an imprecise relation between programmes and job positions. For example, the culture sector may be characterised by a larger share of part-time and short-term jobs (or so some of the employers claimed at advisory board meetings). A similar situation characterises
academia (as argued by Hansen, Brodersen, Øland, & Elle, 2016 and others), which is one of the major businesses that humanist graduates are (traditionally) employed in (Tænketanken DEA, 2016: 27). The frictional unemployment caused by part-time jobs may be further prolonged by timing issues related to parental leave, and the relatively high proportion of humanist graduates outside the labour market (which is mainly due to parental leave) suggests that this may be a particularly widespread issue in the humanities, where the share of women is furthermore larger than in other areas of study (Tænketanken DEA, 2016: 17, 24). Such characteristics of the labour market and the labour force affect the graduate unemployment rate of degree programmes negatively.

Similarly, the other metric apparatuses accentuate particular elements of what they measure. The annual income metric valuates employment frequency, work hours, and hourly pay, which combined make up the productivity measure. The valuation of employment frequency means that parental leave (again) may be a disadvantage produced by the metric, as well as persons outside the labour market due to illness or disability. I have not come across any numbers that show whether there are more students with illness or disabilities within the humanities, but as indicated above, the DEA report shows that the humanities have a lower proportion of graduates within the labour force (Tænketanken DEA, 2016: 22). Furthermore, the productivity in terms of the working hours may differ from occupation to occupation and sector to sector. In some occupations, it may be more normal to register and reward overtime than in other occupations, where the amount of working hours is more fluid, but registered as 37 hours per week (the norm in Denmark). Moreover, studies show that the wage increases over time are higher for a person in the same occupation than for a person who shifts occupation (Kambourov & Manovskii, 2009). This knowledge suggests that the wage formation in labour markets where people shift occupations regularly, possibly humanist project-oriented labour markets, may be affected by the structure of the occupation. Thereby, the productivity of graduates working in some business (possibly humanities businesses) may be less well reflected in the numbers.

The skills-match metric valuates compliance between the acquired and requested skills. Thereby, it accentuates a predictable and direct link between degree programme and job
– a link that might be less predictable in a fragmented and complex labour market like parts of the humanities labour market. With a reduced predictability and an increased diversity of job positions, it becomes more difficult to ensure a direct link for all students. Thereby, the low score of the humanities in the graduate surveys on skills match may reflect different characteristics of the labour market than those valuated by the metric.

Finally, the vertical match metric values a standardised labour market where people are employed in positions according to their educational degree, as opposed to more unconventional jobs in labour markets that do not emphasise the distinction between workers according to their academic level to the same extent. The vertical match metric also accentuates market assumptions, where graduates are assumed to seek matching jobs and a matching income. Meanwhile, particular jobs may be associated with other advantages than matching job and income, which make the jobs attractive and relevant for humanist graduates despite the low match.

Mismatch data furthermore suggest that mismatch is not only related to area of study and social characteristics, but also to labour market structures that differ across different occupations.

<table>
<thead>
<tr>
<th>Share of non-matching graduates in sector groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
</tr>
<tr>
<td>Private</td>
</tr>
<tr>
<td>Public</td>
</tr>
</tbody>
</table>

Table 8: Data on sector groups are copied from the report by Tænketanken DEA (Tænketanken DEA, 2016: 41).

Whereas the share of mismatching graduates in the public sector is slightly lower than the private sector share in the natural, social, and health sciences, the reverse picture emerges when we look at the humanities and the technical sciences. These numbers indicate that there are differences within the public and private sector respectively. The
assumptions of standard jobs and well-functioning market mechanisms seem to hold less well, particularly in the public sector where the mismatch is higher than in the private sector for humanist graduates.

In spite of these discreet indications in the data, there is a general lack of data on the labour market differentials across areas of study in university politics. For example, I could wish for more data on the correlation between acquired skills and unemployment/income/match, the correlation between requested skills and occupations, the correlation between a wider set of social characteristics and unemployment/income/match, the correlation between different social characteristics (what characterises for example non-Danish graduates within the humanities unlike those from other areas of study), the correlation between gender and unemployment rate, and in particular the correlation between occasional unemployment/vertical mismatch and occupation/sector. Furthermore, a differentiated unemployment rate that shows its distribution across part-time employment, short-term employment, and prolonged transition time could be highly useful. Thus, the notion of ‘access texture’ is not only useful for the enhancement of ‘relevance’ and ‘graduate employability’, but also due to the different reading of the ‘relevance’ and ‘employability’ data that it enables.

13.4 Entangled simplicities

In summary, the diffractive analysis of reading data through data shows that there are multiple explanations of the ‘bad numbers’, and that the number of explanations grows with the sets of data. The reading unsurprisingly points towards the over-supply of humanist graduates as one explanation of ‘bad numbers’. The relatively low productivity of humanist graduates may also be an explanation. The lack of generic skills acquired by humanist graduates in an expanding generalist labour market (beyond niche specialised humanist labour markets) may be another explanation. A socially disadvantaged student enrolment is also a possible explanation, though also not a sufficient explanation in itself (as indicated by Skaksen & Andersen, 2018). Finally, particular characteristics of the humanist labour market may imply greater difficulties in the transition between education and job, and a greater need for support during this phase. Throughout the
diffractive analysis, components such as students, education, labour markets, and the humanities obtain shifting properties.

These explanations do not suggest that there is a performance problem within the humanities. Rather, they point towards structural challenges that affect the humanities to a higher extent than other areas of study (i.e. a different student population and different labour market mechanisms or ‘access textures’). The humanities can contribute to overcome these challenges. They can affect their enrolment in the direction of ‘stronger’ or more employable students (even though it is questionable if they wish to do so by virtue of social equality). They can also support graduates in their transition into a complex and sometimes ill-defined labour market. Finally, they can strategically decide if they aim for the narrow, specific labour market that requests the skills learned in the humanities, or of they aim for a broader and larger labour market where more generic skills may be required, and adapt their programmes to this decision.

The explanations do not point at one simple causal relation between education and (relevant or matching) employment. As Nancy Cartwright (2003) argues, an economic reality rarely fits the very specific assumptions that are needed to prove a causal relation as the human beings involved in it rarely go out into the world and do exactly the same things, but contrarily often meet different circumstances (Cartwright, 2003: 149, 166). I claim that graduate success at the labour market (whether measured as 100% employment, high annual income, high skills-match, or a vertical match) composes such a case. Graduates have different orientations towards the labour market and behave differently, and they are furthermore faced with different circumstances, both due to their social characteristics, their educational background, and the choices they make. Thus, there is no necessary relation between a humanities degree and the labour market success of the graduate.

While each of the metrics show a clear correlation, this correlation is limited to a specific apparatus including the definitions and other particularities it depends on. Each apparatus provides a singularity, but the world is not singular. It is multiple and complex. Thus, every time a policy-maker, a manager, or a potential student looks at the world from the perspective of one metric, they draw on a particular cut of the world
(Barad, 2007) and limit their possibilities for decision-making. I ask for metrics that can incorporate more diversity and nuance, and thereby allow for a more complex reality within (Danish) higher education policy. The existing policy data can be improved in ways that could reveal new, interesting findings.

The analysis above is not a comprehensive analysis, as it draws on selected data from the policy context only, and thus leaves out the vast amounts of quantitative data and findings produced in research. The analysis tells a more complex and entangled story about the humanities than each of the metrics can tell on their own, but there is most likely even more to this story than shown here. Meanwhile, the point of the analysis is not merely the story in itself. The point is also the argument that it illustrates: That no metric can tell a sufficient story about the humanities on its own, and that a plurality of metrics expands our knowledge and our space for interpretation.
14. Intermezzo: Cuts and critiques

The thesis seeks to enable new responses, such as new policy options, a multifarious use of metrics in governance, and a deflection of the negative narratives provided by a particular array of totalising metrics.

When a research apparatus (like the apparatuses we call metrics) is considered agentive and affective, research comes with a responsibility in terms of how it affects reality. It matters what knowledge I produce and how I do it. Research is an ethical matter. Karen Barad’s (2007) theorising of knowledge-producing apparatuses as configurative of phenomena that come to matter means that I need to render myself accountable to the ethics of knowledge-production promoted in this ‘metricography’, including the particular cut of Barad that I have enacted in the thesis.

The analysis of metrics as apparatuses has enabled an analysis that differentiates between metrics and conceptualises some of the ways different metrics affect the (self-) governing by policy-makers, public agencies, university managers, teachers, and students as well as the governing of educational content. The different configurations of ‘relevance’ and their mutual frictions show the complexity of this phenomenon and of the calls for action it makes, which is an insight that my collaborators within the university context (who also contributed to the emergence of the insight by sharing their observations and thoughts with me) found telling and apt when I shared it with them.

Furthermore, the diffractive reading of metrics through each other as well as the reality-within-phenomena-reading of their results allowed me to reach (for me) unexpected conclusions about the ‘relevance’ of university education, how it is measured, and how it can be improved. For example, the diffractive reading of the metrics allowed me to overcome my initial scepticism towards what I call ‘transition activities’ and see them as quite useful in a labour market characterised by a highly differentiated and unpredictable ‘access textures’. From my perspective, this and other significant conclusions seem viable as a starting point for changes in the practices of policy-makers, public agencies, and universities.
Meanwhile, the analysis of metrics as apparatuses also produce an analysis that tends to separate and objectify them more than what they deserve. Here, the notion of the ‘cut’ may imply some problematic modes of analysis. While Barad from within her physicist background speaks of cuts, Elizabeth de Freitas argues that we should rather think of the continuous configuration of the world as a fold. With the help of Leipniz, Deleuze, and Latour, she suggests that the image of the cut bears too many associations to a finalised separation between individual entities, whereas the image of the fold largely captures the idea that current configurations can be refolded in other ways and always maintain their relational connection no matter how the fabric is folded:

*Distinctness is no longer that which separates and cuts off one individual or object from another, but refers rather to a particular fold or twist in the undulating fabric of the universe. Processes of individuation, by which identities and subjects and institutions come into being, are not acts of disconnection or separation, whereby the one is cut off from the rest, but are continuous topological concepts of connectivity and elasticity, in which individuals emerge through continuous stretching and distortion.*

(De Freitas, 2016: 225)

While de Freitas is arguing against the wording of the cut, Barad emphasises the cut as an *ongoing* process of intra-action within a phenomenon – that is, the process of cutting is dynamic and not a once-and-for-all process. Furthermore, the separation made by the cut is for Barad never a complete separation, since the component will always be entangled within a phenomenon. But in my analysis, the appropriate level of the entanglement of metrics, including their mutual overlaps and the ways they interfere with each other, is not fully visible. My analysis cuts the metrics as ‘objects’ that seem rather stable, which may be a potential risk of the philosophy of Barad in contrast to for example Deleuze (as shown by Hein, 2016). My analysis (and its delimitation of ‘objects’ of analysis) possibly contributes to the simplification of a reality that is most likely more entangled.
The research apparatus that I deployed could also be criticised for its use of theoretical ideas and conceptualisations. Throughout the dissertation, I have drawn on a relatively wide range of scholars and concepts without discussing their philosophical stances and their relation to ‘agential realism’. Thereby, the research apparatus may appear partly blurred. I have made this choice in order to avoid producing a theorised thesis that is merely interesting from a philosophical point of view. I find the contribution of the empirical analyses more significant than the philosophical discussions I could master. Meanwhile, the included conceptualisations are selected with one clear criterion in mind. They all contribute to the ‘mosaic’ analysis of the metrics and enable me to re-turn them once more. The use of conceptualisations is thus based on their performative or ‘configurative’ contributions. Several of the conceptualisations have added to the philosophy of ‘agential realism’ in ways that allowed me to draw surprising conclusions. For example, the conceptualisation of the ‘justificatory regimes’ by Boltanski and his colleagues (Boltanski & Chiapello, 2005a, 2005b; Boltanski & Thévenot, 2006) allowed me to vocabularise the difference between metrics in a different way than the contributions from the ‘sociology of quantification’ (for example Espeland & Stevens, 1998; Fourcade, 2016; Merry, 2016), and thereby characterise the governing of ‘higher education relevance’ as an ‘industrial’ mode of governance, not quite similar to a marketised mode of governance driven by competition. In order to fully realise the distinctions at play, I needed the conceptualisations of others. While I take full responsibility for the dissertation, I do not take all the credit. I owe both the used scholars and my collaborators in the field my respect, as they enabled most of the analytical points of the thesis to emerge.

The ethics of research is, for me, very much about the futures that it allows for, or in other words the response-abilities that it conditions and makes possible (Barad, 2007: 394; Haraway, 2016: 96). So what kind of response do I more specifically enable? First, as indicated above, I enable the response of multiplying the metrics that are used to govern higher education, for example by providing a ‘richness in numbers’, as a multiplicity of metrics enable multiple responses from the people who use them (for example students and education developers). This is a response that might alter the governing of university education, be it nationally, institutionally, or individually.
Second, my thesis enables the amplification of new trajectories for the development of education. These trajectories might emphasise the support of student navigation through facilitation of anticipation and aspiration of future work lives, the support of students in their transition into a labour market with diverse ‘access textures’, and the inclusion of myriads of possibilities of projects and connections into the programmes. Third, I enable the response of deflecting the negative narrative attached to the humanities, or rather recomposing a new narrative (Decuypere & Simons, 2016: 41), which reads some of the properties of the metrics that condition the properties of the humanities as measured by these metrics differently. This is a response that might alter power structures within the university context.

Meanwhile, my limitation to apparatuses that I can conceptualise as metrics also limits the responses made possible by me. This limitation constitutes the blind spot of my analysis: Configurations of ‘relevance’ provided by non-metric apparatuses, such as the traditional academic location of the ‘relevance’ of for example the humanities in their disciplinary content and wider importance for society (in non-monetary terms), becomes invisible to me. Thereby, the critique that I am able to provide does not genuinely transcend the logics of the university and governance contexts that I am embedded in. It becomes a critique from within a world where metrics matter and where economic theories are dominant. Thus, my research apparatus does not enable a response from a position where ‘relevance’ can be unmeasurable. The question is if and how these non-metric configurations can come to matter in a context governed so notably through metrics.

The research apparatus does also not enable responses in terms of blame or resistance. The absence of responsibilisation and concepts of power in my research apparatus is deliberate. Of course, power relations and political intentionalities are part of the entanglement of metrics, universities, and governance. However, I do not find the response-ability that analyses emphasising these matters make possible fruitful or helpful. Blame polarises rather than connects. By keeping the metrics in focus, I believe that different actors will be better enabled to think forward with me and my collaborators within the humanities, rather than to simply dismiss (or embrace) my project.
What kind of critique do these response-abilities express? The critical points provided by the dissertation are concerned with the improvement of metrics, the enhancement of ‘relevance’ and ‘graduate employability’, and an adjustment of policies and modes of governance in ways that make them more valuable. Thereby, the critiques are themselves (like the dominant metrics) embedded in the ‘industrial world’ (Boltanski & Thévenot, 2006), seeking to make metrics, university education, and governance more effective. They are corrective, affirmative critiques rather than radical critiques (Boltanski & Chiapello, 2005b). They build on the respect towards metrics rather than on an attempt to erase them (Barad interviewed in Juelskjaer & Schwennesen, 2012: 13). Through these critiques, I reveal myself as entangled with university governance and as interested in finding new ways to do university governance better. I am, however, also a ‘child of’ the ‘project-oriented world’ (Boltanski & Chiapello, 2005a), and promote ways of doing education that speak to a project-oriented labour market. In my view, the university still has room for improvement in this direction, though I found inspirational examples of practices that addresses these needs during my fieldwork. Meanwhile, both these ‘worlds’ contribute to the ‘repair’ of capitalism rather than proposing counter-movements of how to find new ways of living with the crisis of it (Sellar & Zipin, 2019: 583-585).

The dissertation also contributes with a more general critique of the simplifications made by metrics, including their ability to harmonise education (for example the spread of best practices across the universities), their use of singular numbers and simplistic comparisons that strongly suggest what choice (for example of area of study) is most rational, and their use of averages that hide the exceptionalities of the past as well as future possibilities. This critique affirms the need of metrics and their usefulness in governance, but exceeds the contemporary practices of governing with metrics by proposing a replacement of ‘transparent numbers’ with ‘rich numbers’. Thereby, this critique is more radical, yet in an affirmative (Staunæs, 2016) way.

The agential realist ‘metricography’ is not a ‘universal’ knowledge contribution, standing ‘above’ the knowledge produced by metrics. Rather, it is a complementary knowledge contribution to the other accounts within the field. Hopefully, as shown in this chapter,
this kind of knowledge contribution can allow for better futures in the entanglement of metrics, university education, ‘relevance’, and governance.
15. Conclusion: Re-simplifications

*And thereby, this is not the end of the story, but a new beginning.*

This thesis has analysed metrics as entangled simplicities. In the process, it has both simplified the world of metrics and re-entangled various metrics with governance practices, different configurations of phenomena, research practices, concepts, and people. A conclusion offers yet more simplifications of the complicated matter that emerged throughout the thesis.

The thesis set up a research apparatus seeking to study metrics, their configurations, and the effects entangled with these configurations and metrics through a ‘metricography’ that enabled a differentiated analysis of different metrics and their doings and sayings. The ‘metricography’ conceptualised metrics as configurative agencies that operate in specific ways through categorisation criteria, quantification mechanisms, sorting of data according to various populations, statistical calculations, standardisation of units of analysis and procedures of assessment, display of comparable data, or documentation. It furthermore conceptualised enacted effects as entangled with the ‘ontological performance’ of the world that emerges from the articulations made by metrics. Thereby, it enabled an analysis of the ontological specificity of various metrics and the tendential effects embedded in their cuts of the world, as also co-observed with managers, teachers, students, quality workers, and career managers in a fieldwork in three Danish humanist university environments, as well as with policy-makers and members of public agencies in the national higher education context. The thesis worked with concepts like anticipation, aspiration, vocabularies, a ‘bureaucracy of appearances’, and ‘justificatory regimes’ in order to flesh out these effects.

15.1 ‘Relevance’ and ‘graduate employability’

The thesis shows that the ‘relevance’ of university education and the ‘employability’ of university graduates are configured in several different ways throughout the university
context. ‘Relevance’ is configured as a matter of an optimal match (in quantitative terms) between the supply of graduates from different disciplines and the demands for these graduates at a labour market that is configured as relatively sluggish or stable over time. ‘Relevance’ is also configured as a matter of ‘return on investment’ on higher education expenses, and thereby the productivity-enhancing capacity of programmes or different areas of study. Furthermore, ‘relevance’ is configured as a matter of a match between the skills acquired in education and the skills requested by employers (both in terms of which skills and the ‘quantity’ of these skills). These different configurations of ‘relevance’ are all about improving the efficiency of university education in terms of the national economy, but through different means, as they configure the ‘relevance’ of education as either a matter of the area of study or a matter of generic skills (or an undefined matter, as in the case of the productivity-configuration). They are supported by a fourth configuration that establishes ‘relevance’ as a matter of designing education according to the ‘general will’ of employers, produced by a metric that operates through bureaucratic rather than market-oriented comparative technologies.

Meanwhile, the alternative conceptualisations of ‘relevance’, as ‘graduate employability’ and ‘access texture’ (which with Barad may be termed the ‘ghosts’ or ‘others’ of the ‘relevance’ conceptualisation (Barad, 2010: 253, 265)) locate ‘relevance’ elsewhere than in university programmes. With the notion of ‘graduate employability’, employability is configured as the skills acquired by the students, as social characteristics of the students, as the aspirations and (labour market) identities of the student, and perhaps as the collection of projects and contacts that the student has engaged in. Here, different configurations differently emphasise predictable labour markets with stable careers versus project-oriented labour markets where a career is made up of a series of ‘projects’. The different ‘employability’ configurations also imply different configurations of ‘university education’, where education spans from being a provider of skills, to a site for the engagement in projects and the expansion of contacts, to a space for identity development, to not playing any significant role in the employability of the students, who can be more or less ‘already employable’ as they enter university education.
In addition, the notion of the ‘access texture’ of various jobs, which is an explicit result of the analysis, locates ‘relevance’ in the workplaces as a property of the job and the occupation where the graduate ends up. The thesis suggests that ‘access texture’, which includes the degree of specialisation required, the degree of standardisation of job contents, the modes of job formation, the modes of wage formation (and other value systems), hierarchical patterns, patterns of discrimination, and ongoing transformations in the typical relation between kinds of graduates and jobs, is an important but yet under-emphasised factor in the determination of ‘relevance’ and ‘graduate employability’. The workplaces are part of the entanglement that makes up ‘relevance’. This additional notion implies a more diversified development of degree programmes, as harmonised formats may not fit the ‘access textures’ of all jobs equally well.

Through these findings, the thesis problematizes that contemporary ‘relevance’ policies in the Danish higher education policy landscape only address part of the entanglement, as they reducibly focus on the ‘relevance’ of university programmes, leaving ‘graduate employability’ and ‘access textures’ out of the picture. They only address the ‘relevance’ of programmes in their metrics. This practice promotes the governance of universities, but it does not sufficiently promote ‘relevance’ and ‘employability’. The thesis furthermore problematizes the, assumptions embedded in the higher education policies of a both predictable and marketised labour market, where success is determined in terms of the competitive advantage of graduates in relation to predictable standard-careers. Meanwhile, other conceptions emphasise the dynamic, project-oriented character of the labour market, which implies shifting and unpredictable careers consisting of a series of projects amplified by yet more projects and by connections. Perhaps these different conceptions of the labour market should be associated to different parts of the labour market. If so, the policies favour the university programmes that educate for more traditional and predictable labour markets and careers. Perhaps the policies need to address unpredictable, fragmented, project-oriented labour markets as well, in order to improve efficiency sufficiently. In continuation hereof, the thesis finally problematizes the relatively simplistic configuration of ‘the needs of the labour market’ enabled by graduate surveys and used to ensure the efficiency of education. Perhaps the ‘local’ version of the ‘needs of the labour market’ provided by advisory
boards is more useful than the over-simplified configuration provided by the graduate surveys, even though the idea of a ‘general will’ of employers might also be problematic, especially in case of small advisory boards.

The effects of the different configurations of ‘relevance’ and their embeddedness in particular metrics are visible in several types of governance. Metrics open particular fields of possibility for the people affected by the metrics. First, the ‘efficiency’ metrics that are used in the national official governance of universities are also used to govern students as an encouragement to self-governance and self-reform. The metrics, which are promoted at websites and in the media, invite students to anticipate their future work lives in terms of past data on the probable relations between choice of programme and a successful work life (defined in economic, quantitatively comparable terms). This invitation for anticipation affects students who already chose a low-scoring programme (such as a programme within the humanities) in terms of anxiety, stress, and constant worries, or in terms of an active effort to resist the invitation. Meanwhile, these effects again seem to be related to different labour markets, as students are less affected by anxiety if their work life aspirations regard predictable, stable careers such as ‘high school teacher’, than if they orient themselves towards the more open project-oriented labour market. While the former students can navigate their presence from a predictable future and thereby make sure to obtain the optimal employability, the latter increase their employability by stacking experiences, projects, and connections, but without ever knowing when they are ‘employable enough’ for the open labour market.

In contrast, programmes are governed in a more direct or regulative way. Most significantly, the enrolment in most humanities programmes has been capped as a result of the government attempt to control the supply of graduates through the “Sizing Model”. The governance of programmes as ‘supply’ also appears in relation to skills, where programmes in some universities are continuously encouraged to adjust themselves in order to meet the ‘demand’ for skills. This means that some disciplines, and some parts of the disciplinary content, become marginalised, as they are not captured in the skills-vocabulary used to define the ‘demand’. However, the notion of ‘access texture’ suggests that what appears to be a low demand (or a low performance,
as summarised below) in the calculations made by various metrics might also (or rather) express different conditions at the entrance to the labour market.

When not interpreted as a matter of demand, the numbers can be interpreted (and configured) as a matter of ‘performance’. Universities are governed on their ability to ensure the quality of their programmes, including ‘programme relevance’, and the universities deploy performance indicators to show that they identify and respond to problems. Meanwhile, in their strive to prove their responsiveness, programmes are compelled into a vicious circle of producing an action-overload, where actions never get the chance to show their effect on the performance indicators. Furthermore, they are urged to stitch different events together into linear courses of events that display a rational mode of management. The metrics that are entangled with accreditation of university quality systems assume linear ties that do not exist in practice in a complex organisation like a university.

The final effect on university governance relates to the steering or navigation of educational content. The agenda of ‘relevance’, dominated by the metric of graduate unemployment rates, materialises as a range of (rather experimental) curricular and extra-curricular activities. Meanwhile, the difference in labour markets once again appears as an uncertainty embedded in this work: Do programme contents need to be steered towards more efficient skills acquisition (aimed at predictable labour markets), or do they need to be steered towards more opportunities for various student projects and experiences and for the establishment of new connections? In the case of a project-oriented labour market, which may increasingly characterise the labour market of humanist graduates, the transition activities may be highly important, as the first position in the labour market defines future possibilities and the future employability of the graduate. Students need to know what kind of labour markets they are entering, and the universities could advantageously support students with knowledge about these labour markets as well as their transition. Fortunately, several humanities departments already started developing new practices in this regard.
15.2 Metrics

Thus, the thesis has drawn a clear picture of some of the governance tendencies and effects implied by the currently used ‘relevance’ metrics. Moving on from the case of ‘relevance’ metrics in Danish higher education to metrics in general, the thesis has shown how metrics do configure what they measure or assess differently as a result of their particular designs. Their operative moves, including their particular calculations, classifications, standardisations, objectifications, and displays, highly affect their configurative capacities. Through their particular operations, as well as their configurations, they negotiate the harmonisation of education to make it applicable for the metrics. The analysis has shown how metrics need to live up to certain criteria, for example comparability and in some cases a strong simplification, in order to be useful in governance. This feature of metrics may prove to be the most worrying, as it notably restricts the metrics and metric designs available for governance purposes.

Metrics can both be quantitative and qualitative, but since quantitative metrics are idealised in governing practices, qualitative metrics need to resemble objectivity by relying on standard procedures and built-in distances between actors involved in assessments. While metrics can be more or less robust, they are highly dependent on their particular operations. Tiny changes can lead to “wild fluctuations” in the numbers (Espeland & Sauder, 2016: 16; see also Fourcade & Healy, 2017: 289), as illustrated in the process of developing the metric of the “Sizing Model”. Their ability to commensurate is entangled with morality, as it determines if the comparisons are ‘fair’. In some cases, a ‘biographical’ comparison may be preferable, as the commensurability of a previous and current version of the same entity is not as open for contestation as that of two different entities.

Through the diffractive reading of metrics through each other, the thesis has shown how metrics produce simplified knowledge about what they measure or assess. Thereby, metrics always produce a partial knowledge on the world, and one that may be read entirely differently when viewed through other data. While human beings (such as the Ministry Official) know that a phenomenon (such as ‘relevance’) cannot be measured 1:1,
the metrics seem to behave like they can. This is why analyses of metrics and their operations are so necessary.

**15.3 Governing with metrics**

In the broader picture, governing with metrics seems to prefer quantitative, fine-grained, unambiguous, neutral, unquestionable metrics eligible for various statistical calculations, whether used in regulative or incentive based policy instruments aimed at control of the future, or in institutional bureaucratic governing where the metrics allow different organisational units to come to know each other through numbers. These kinds of numbers bring the governing actors authority and legitimacy. However, until the metrics become (temporarily) fixed, they are subject to an assessment of their feasibility, enabled by affects such as the political gut-feeling of government officials.

In regulative policy instruments, metrics enable a resemblance of control, as their calculations on the past are translated into probabilities for the future. In incentive based policy instruments, they enable self-reform initiatives among the governed, encouraged through peer pressure and anticipation of possible futures. In performance measurement and management uses, they similarly make calls for action, however not in order to avoid negative patterns of the future, but in order to change the numbers as they in this context are considered malleable and fluid. Meanwhile, the call for action can be interpreted in different ways, as the ‘performance’ that is considered measured by the numbers can be displaced downwards in the organisation. Nevertheless, the human beings that are met with metrics are expected to change their doings as a result of the encounter.

Governing can however also be done through qualitative, bureaucratic metrics. In cases where practices within an institution, such as a university, are assessed externally, the appearances of the wanted behaviour, rather than the behaviour itself, is what is assessed. Through their standardised procedures and formats, these metrics can approach objectivity, but also (like quantitative metrics) invite different kinds of behaviour than the one that is wanted improved by the metric. For example, they can
lead to an unnecessary production of initiatives for the assessed to prove that they have been affected by the numbers.

15.4 Final remarks

The most important potentials not utilised in this thesis, and thereby the results not found, are about the fabrication of data. If I had known from the beginning of the project that my interest was in metrics, I may have put more effort into gaining access to Statistics Denmark, to follow the Danish Accreditation Institution in their work, and to observe graduates as they fill out graduate surveys and interview them about it. These different ways of getting entangled with the field (or with slightly different fields) could help me refine the points about the crafting of data and about the immediate incompleteness of data, which requires work to be overcome. Such a study would enlarge and refine the analysis of the metrics and their relation to the worldly matter that they claim to measure or assess. In that sense, the project has been a journey, which has taken me somewhere else than I expected. I view the destination, in this case the interest in metrics, as a finding more than a starting point.

The affirmative-critical ambition of the thesis was to make metrics intelligible in order to make them governable. I have provided an example of how this can be done in a differentiating, non-stereotyping way. Thereby, the thesis invites other scholars to co-consider new approaches to the study of metrics and their effects within the field of education and 'governing by numbers'. The approaches proposed in this dissertation include not only diffractive readings of metrics and data through each other, but also more subtle suggestions of analysing metrics as agencies, exemplified by the unelaborated configuration of metrics as 'machines', and by the animation of metrics (or numbers) as entities with affective effects.

The thesis also invites practitioners within the university context to think along and come up with new ways of engaging with metrics. One of these ways could be to multiply the metrics used in governance practices in order to create a larger space for interpretations, and thereby a wider range of responses to the metrics. For example, the
alternative ‘data set’ of a future defined by digitalisation provided by the student Elizabeth enabled her to anticipate her future differently and thereby navigate the presence in a less uneasy way. But this is just one example. The future lies open for creative responses.
Summary

“Entangled Simplicities” is an analysis of a particular set of Danish higher education metrics, concerned with the ‘relevance’ of higher education and the ‘employability’ of graduates. From the perspective of higher education policy, governance, and administration studies, and drawing on the philosophy of Karen Barad, the dissertation analyses these metrics as agencies that, through their quantitative or processual operations, configure ‘relevance’ and ‘university education’ in particular ways. Furthermore, the dissertation draws on a fieldwork at three Danish universities to study how both the configurations of ‘relevance’ embedded in the metrics and the metrics as instruments of governance are enacted in the (self)governance of students, teachers, managers, and ministries, as well as in curricular designs.

The dissertation first argues that the cluster of metrics used in contemporary governance of higher education, which includes graduate unemployment rates, graduate income metrics, surveys that measure how the acquired skills match the needs of the labour market, and accreditation of higher education institutions, primarily locate ‘relevance’ as a property of degree programmes. While these metrics configure ‘relevance’ differently (as a matter of area of study, the productivity of graduates, acquired skills, or as a result of being responsive to employers), they all draw on economic theories in their aim at improving the efficiency of higher education. Other metrics, not (widely) used in contemporary governance, contrarily suggest that ‘employability’ (a terminology that locates ‘relevance’ in the individual graduate) is a matter of the social characteristics and/or aspirations and behaviours of the graduate, whereby the ‘relevance’ metrics can be read as aggregate performances of the students of a programme. The dissertation proposes a third and currently absent location of ‘relevance’ as a property of the job, and conceptualises this location of ‘relevance’ as the ‘access textures’ that vary across different labour markets and occupations. Thereby, the dissertation enables a different reading of contemporary ‘relevance’ data as dependent on the ‘access textures’ or labour market circumstances of different areas of study (which are particularly diverse within the humanities), rather than merely the isolated performance of programmes and graduates.
Second, the dissertation argues that contemporary governance through metrics values simplified, easily comparable numbers as well as linear processes of knowledge flows that feed into an ongoing evaluation of programmes, which should lead to educational initiatives or managerial decisions. The code of conduct embedded in this type of governance imposes human beings to be affected or ‘set in motion’ by data and take action on the probable futures that the data forecast. In the fieldwork embedded in this study, these ‘motions’ do not appear as competitive efforts to ‘win’, but rather as efforts of ‘staying afloat’ and not falling behind. The dissertation meanwhile proposes that the simplifications and partial closures provided by a few ‘totalising’ metrics are replaced by a multiplicity of metrics and a richness in numbers that can allow for a wider space of interpretation and enable human beings to be set in motion in diverse ways.

The third argument of the dissertation concerns methodological explorations of ways to study metrics through a non-human-centred ethnographic approach that is conceptualised as a ‘metricography’. The ‘metricography’ as a genre illustrated by the dissertation uses diffractive readings of different metrics through each other as an entry point to show their differences and mutual entanglements. The analyses revolve around metrics and their performative operations and configurative work, rather than around human beings and their intentions in an attempt to make the metrics rather than people intelligible (and thereby governable). Through this approach, the dissertations aims to enable a different engagement with metrics, sensitive to the ontological specificities of metrics and their performative effects on education.
Resumé

Forenklede virkeligheder og deres indbyrdes forbindelser:
En 'metrikografi' om konfigurationer af arbejdsmarkedsrelevans og arbejdsmarkedsparathed i dansk universitetsuddannelse

Afhandlingen er en analyse af de målinger og kvalitative vurderinger som bruges i dansk videregående uddannelsespolitik til at afdække uddannelsernes 'relevans' og dimittendernes 'arbejdsmarkedsparathed'. Målingerne og vurderingerne analyseres med afsæt i Karen Barads videnskabsteori og dermed som aktivt handlende fænomener, der igennem deres kvantitative eller processuelle fremgangsmåder konfigurerer arbejdsmarkedsrelevans og universitetsuddannelse på bestemte måder. Desuden undersøges det i afhandlingen hvordan konfigurationerne af arbejdsmarkedsrelevans og universitetsuddannelse omsættes i (selv-)styringen af studerende, undervisere, ledere og ministerier, såvel som i uddannelsesdesigns, samt hvordan måle- og vurderingsmetoder fungerer som styringsinstrumenter. Denne del af undersøgelser trækker på et feltarbejde på tre danske universiteter. Afhandlingens forskningsfelt er uddannelsespolitik, -styring og -forvaltning.

I afhandlingen argumenteres der for det første for, at de målinger og vurderingsmetoder som benyttes i den aktuelle styring af videregående uddannelse, herunder målinger af dimittendernes ledighedsgrad, målinger af løngevinst og dimittendundersøgelser af match imellem erhvervede og efterspurgte kompetencer, primært lokaliserer 'relevans' som en kvalitet knyttet til uddannelse. Målingerne, som konfigurerer 'relevans' som henholdsvis fag, dimittendens produktivitet, kompetencer eller som et resultat af lydhørhed overfor arbejdsgivere, bygger alle på økonomiske teorier. Deres formål er at forbedre effektiviteten af de videregående uddannelser. Andre målinger, som ikke anvendes nævneværdigt i den aktuelle styring, peger derimod på 'arbejdsmarkedsparathed' som et brugbart begreb. Termen 'arbejdsmarkedsparathed' lokaliserer 'relevans' som en kvalitet ved den individuelle dimittend, og er i denne forståelse en funktion af dimittendens sociale karakteristika og/eller deres adfærd og
forventninger til arbejdsmarkedet. I denne forståelse bliver en uddannelses ’relevans’ lig med dens dimittenders aggregerede præstationer på arbejdsmarkedet. I afhandlingen foreslås en tredje lokalisering af ’relevans’ som en kvalitet ved det job, som dimittenden skal ud i, via et begreb om ’adgangsstrukturer’. Disse ’adgangsstrukturer’ varierer på tværs af forskellige arbejdsmarkeder og beskæftigelsestyper. Dermed gør afhandlingen det muligt at læse de ministerielle og institutionelle ’relevans’-data som udtryk for forskellige studiers arbejdsmarkedsomstændigheder (herunder ’adgangsstrukturerne’ på de arbejdsmarkeder, som en uddannelse uddanner til, hvilke sandsynligvis er særligt forskelligartede indenfor det humanistiske arbejdsmarked), frem for som udtryk for uddannelsernes og dimittendernes præstation alene.

For det andet argumenteres der i afhandlingen for at den aktuelle målingsorienterede styringsform især værdsætter forenklede, let sammenlignelige tal samt lineære processer, hvor et flow af viden fører til løbende evalueringer og igangsættelse af initiativer eller ledelsesbeslutninger på den baggrund. Styringsformen er kendetegnet ved et adfærdskodeks, hvor mennesker forventes at reagere på eller blive ’sat i bevægelse’ af data og handle ud fra de fremtidsudsigter, som dataene peger i retning af. I det feltarbejde, som ligger til grund for afhandlingen, fremstår det ikke som om mennesker nødvendigvis sættes i en konkurrencesituation via målingerne, men derimod som om de løbende bliver nødt til at tilpasse sig for at ’holde sig oven vande’ og ikke sakke bagud. Det foreslås i afhandlingen, at de forenklinger og ’delvise lukninger’, som implicit er resultatet af at bruge få men særdeles indgribende målemetoder, erstattes af en mangfoldighed af målemetoder og nuancerede tal for at skabe et større fortolkningsrum. Dermed får mennesker mulighed for at reagere på data på alsidige måder.

deres intentioner. Denne vinkel anlægges for at gøre målingerne forståelige (og dermed styrbare) frem for menneskene. Gennem denne tilgang forsøger afhandlingen at muliggøre en anderledes omgang med målinger og vurderinger – en tilgang, som er sensitiv overfor målingernes ontologiske specificiteter og deres performative effekter på uddannelse.
## Appendix

### Observed meetings

<table>
<thead>
<tr>
<th>Type of meeting</th>
<th>Number of meetings</th>
<th>Participants</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal meetings in Study Boards</td>
<td>24</td>
<td>Student and teacher representatives. Administrative staff also participated in the meetings, and sometimes guests appeared in parts of the meetings.</td>
<td>Decisions on the content, structure, and regulations of degree programmes.</td>
</tr>
<tr>
<td>Pre-meeting before Study Board meeting</td>
<td>1</td>
<td>Student representatives.</td>
<td>Discussion of the agenda of the formal meeting.</td>
</tr>
<tr>
<td>Formal meetings in advisory boards</td>
<td>8</td>
<td>Employer and graduate representatives. Faculty managers and heads of programme, and sometimes teachers and students, also attended these meetings, as well as a variety of administrative staff.</td>
<td>Give input to the development of degree programmes.</td>
</tr>
<tr>
<td>Manager meetings</td>
<td>8</td>
<td>Heads of programme from a department. Supported by administrative staff.</td>
<td>Discussion of various business of both practical and principal character, or sharing of best practices, or give input to the University Rector.</td>
</tr>
<tr>
<td>Special project or initiative meetings related to ‘employability’</td>
<td>7</td>
<td>Heads of programme and/or heads of study, as well as specialised staff working on graduate employability.</td>
<td>Operation of projects or specific decisions on employability initiatives.</td>
</tr>
<tr>
<td>Working group meetings</td>
<td>5</td>
<td>Two or three teachers and one or two students.</td>
<td>Writing a new programme regulation.</td>
</tr>
<tr>
<td>Teacher meetings of different sizes</td>
<td>3</td>
<td>Teachers from a particular programme or teachers from an entire school.</td>
<td>Operation of programme or preparation for accreditation.</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---</td>
<td>---------------------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Student activities</td>
<td>3</td>
<td>Students. Two of these meetings were organised by teachers and career councillors, and one by students themselves.</td>
<td>One was a ‘student appraisal interview’ with a small group of students, where they were interviewed about their well-being and study progress by the head of programme. One was an optional ‘career day’ with students from one degree programme, where different key note speakers shared their experiences of entering the labour market, and where a specialised staff member gave the students advice on the job application process ahead. And one was a student-initiated meeting on the selection of specialisation after year one. Here, only students attended.</td>
</tr>
<tr>
<td>Large conference</td>
<td>1</td>
<td>A range of internal and external participants.</td>
<td>Conference arranged by a Faculty on the future of the humanities teaching and research.</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interviews**

<table>
<thead>
<tr>
<th>Interview person</th>
<th>Number of interviews</th>
<th>Number of interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Teachers</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Head of programme / department</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Head of study</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Advisory Board Members</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Career Councillor</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Faculty Staff</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Person</td>
<td>Number of conversations</td>
<td>Number of informants</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Quality Executive</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ministry Official</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Chief Executive from the Danish Accreditation Institution</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Commission member</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Labour market lobbyist</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>45</td>
</tr>
</tbody>
</table>

**Informal conversations**

<table>
<thead>
<tr>
<th>Person</th>
<th>Number of conversations</th>
<th>Number of informants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>(overlap with one conversation with head of studies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head of Study Board</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Head of programme / department</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Head of studies</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Career Councillor</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Faculty Staff</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Quality Executive</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>11</td>
</tr>
</tbody>
</table>
References


Economics of education review, 42(October), 109-129. doi:10.1016/j.econedurev.2014.06.004


Lund, C. (2014). Of What is This a Case?: Analytical Movements in Qualitative Social Science Research. *Human Organization, 73*(3), 224-234. doi:10.17730/humo.73.3.e35q482014x033l4


