The Matryoshka doll principle of co-production:

The interaction between science & politics in the EU's knowledge politics on social innovation and TRANSIT

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1. Abstract

The dichotomy between science politics is a nowadays persistent in the minds of many. With using the co-production framework, this thesis describes and analyses why this dichotomy is inaccurate and inadequate to explain the relationship between science and politics in the domain of the EU's knowledge politics. Additionally, it is revealed how this framework can also be used to describe the politics of science of the TRANSIT project that is developing a theory about social innovation, which is nested in this specific (research) policy context. This portrays an image in which the discourses, institutions, representations and identities constructed in the EU's knowledge politics overarch and permeate the political and scientific elements of this research project.

Key words: *co-production; knowledge politics; social innovation; STS; EU; sociology of science*.

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2. Introduction

2.1 Looking through the clouded glasses of the two communities framework

A man in a hot air balloon realized he was lost. He reduced altitude and spotted a woman below. He came lower and shouted, "Excuse me, can you help? I promised a friend I would meet him an hour ago, but I don't know where I am". The woman below replied, "You're in a hot air balloon hovering approximately 30 feet above the ground. You're between 40 and 41 degrees north latitude and between 59 and 60 degrees west longitude."

"You must be a researcher," said the balloonist. "I am," replied the woman, "How did you know?" "Well," answered the balloonist, "everything you told me is technically correct, but I've no idea what to make of your information, and the fact is I'm still lost. Frankly, you've not been much help at all. If anything, you've delayed my trip."

The woman below responded, "You must be a policy maker." "I am," replied the balloonist, "but how did you know?" "Well," said the woman, "you don't know where you are or where you're going. You have risen to where you are due to a large quantity of hot air. You made a promise, which you've no idea how to keep, and you expect people beneath you to solve your problems. The fact is you are in exactly the same position you were in before we met, but now, somehow, it's my fault" (Adapted from: Locock & Boaz, 2004).

This opening is meant to illustrate the conceptions about the (cultural) differences between researchers and policy makers. Although this passage can be considered a joke, people working as policy makers or researchers in a variety of policy domains will surely recognise some elements of the portrayed characteristics. Partially, this can be explained by the nature of jokes, since they reflect underlying cultural values, ideas and practices (Gilbert & Mulkay, 1982). However, on a much more serious note, the underlying assumptions of this joke recur in many scientific literature and policy documents. Consequently, a way to denote the relation between research and policy is to identify them as two separate communities, i.e. the 'two communities framework'. In other words, making it seem like researchers and policy makers originate from separate worlds, which both follow merely internal logics, incentives and rationales. For example, Feldman et al. (2001) argue in their article about the need to improve

the communication between researchers and policy makers that "researchers are from Mars and policy makers from Venus" (p. 1).

Thinking along the lines of the 'two communities' framework creates a picture in which there is a mismatch between the scientific domain and the policy domain: the knowledge provided to policy makers by researchers is valid, but of little or no practical use. At the same time, the questions raised by policy makers are too generic for scientific reasoning. Therefore, in order to make scientific knowledge transferable to the policy domain and to line up scientific practices with societal and policy problems, many 'bridging' attempts have been made (Funtowicz & Ravetz, 1990; Caplan, 1979; Guston, 2001). Although this is a correct indication of an existing problem, the line of reasoning that lies behind it is based upon inaccurate assumptions. More specifically, due to a changed (research) policy context, nowadays the 'two communities' framework is neither seen as empirically accurate nor as historically correct anymore (Brown, 2009).

2.2 Towards a new pair of glasses

Instead of using the 'two communities' framework, this thesis takes into account the so-called 'co-production' framework (Jasanoff, 2004), which is arguably more accurate to conceptualise the relationship between scientific knowledge production, policy development and practice. The co-production framework stems from the scientific tradition of Science & Technology Studies (STS), which was brought into existence to re-examine the existing conceptions about the relationship between science, technology and politics. The co-production framework has a radically different view on the relationship between science and policy and focuses on how they are being produced, while at the same time, they are producing 'output' synchronically and interactively.

Over the last couple of decades these insights from STS have become increasingly relevant. The role of scientific knowledge has become more important in solving "wicked policy problems" (Head, 2008). However, at the same time, the value, trustworthiness and relevance of scientific knowledge are regarded as more controversial nowadays (Bijker, Bal & Hendriks, 2009). As a result, scientific knowledge production and scientific governance developed the need to incorporate performance measures and auditing schemes (Wouters, 1999). These days, in

particular the domain of applied science is assessed on its societal relevance, while its researchers are expected to construct "socially robust knowledge" (Nowotny, 2003) that takes into account questions and input from societal actors outside the realm of science (Etkowitz et al., 2000; Gibbons et al., 1994; Nowotny, Scott & Gibbons, 2001).

The European Union (EU) is a large catalyst in this trend by making substantial efforts in order to develop collaborations, forums and formats, all aimed at 'bridging' the gap between science and policy. For example, it created its own research domain in the shape of Social Sciences and Humanities (SSH), aimed at developing knowledge that is suitable for policy making. By improving the connection between researchers, policy makers and social innovation practitioners, the EU responded to various advisory reports that criticize the lack of integration between their respective domains. The EU even made this into one of its main objectives, which is exemplified by initiatives such as the Responsible Research and Innovation (RRI) program and, more recently, *Horizon 2020*. Therefore, this (research) policy context will take centre stage in this thesis.

2.3 Research question

The main objective of this thesis is to show why and how the co-production framework is useful to describe and analyse the relationship between science and politics. To highlight the adequacy of this framework, it is necessary to explain what co-production entails and demonstrate in which ways this framework can be applied, in order to point out its empirical accuracy. In order to do so, this thesis firstly describes the co-production between research and policy taking place in the domain of the EU's (research) policy on social innovation, since this is one of the key elements in the SSH, RRI and *Horizon 2020*. While these three EU-flagships are directly supporting social innovation initiatives, EU-research projects, such as TRANSIT, are developing a comprehensive understanding of this phenomenon. These initiatives not only reflect the efforts the EU makes in order to 'bridge' the gap between research and policy: a closer look into these sites also gives a clear view of the changed (research) policy context. This amplifies the accuracy of the co-production framework, while at the same time it scrutinizes the underlying assumptions of the two communities framework. Because the co-production

framework also upholds the possibility to investigate how knowledge is constructed, this thesis will look at the TRANSIT-project as well, which is situated according to the 'nested doll principle' in this broader EU (research) policy domain on SI. In order to materialise these elements, this thesis answers the following question:

How does the co-production framework help in analysing and understanding the interaction between research and policy in the EU's knowledge politics on social innovation (SI), as well as in TRANSIT?

The following part of chapter 1 constructs a more in-depth understanding of why addressing these sites is useful, as well as giving a more thorough explanation of the two sites that will be investigated though these new glasses: the EU's knowledge politics on SI and TRANSIT.

2.4 Where to look at through these glasses

The first analytical focus of this thesis is the EU's knowledge politics on social innovation (hereafter referred to as "SI"). This is a topic, which is ascribed a lot of positive and negative connotations. There is still a lot of debate about its newness, its practical use and its potential (Pol & Vile, 2009). However, the EU's policy domain regards SI as a solution for societal problems and the maledictions of technological innovations (Hubert, 2010). In addition, innovation (research) policy has developed bodies of research within both the applied and social sciences within the EU. This thesis will focus on the political dimension of these research bodies and the interaction between science and policy taking place in this domain. By looking at the EU's knowledge politics on SI it becomes evident that regarding research and policy as two separate communities is incorrect. Instead, they are co-producing discourses, institutions, representations and identities.

The second analytical focus of this thesis is TRANSIT, a multi- and interdisciplinary research project that is rooted in transition theory, social movement theory and institutional theory. The project is aimed at developing a theory about transformative SI, which is about empowerment and change in society, which is both useful for practice and thought (TRANSIT, 2016). TRANSIT runs from January 2014 until December 2017 and is co-funded by the European Commission. By analysing

this research project, this thesis will provide insight in how TRANSIT's emergence is co-produced by the EU's knowledge politics on SI. At the same time, this thesis will provide insight in how exactly TRANSIT is nested within the EU's knowledge politics on SI.

An integral part of this thesis also focuses on a partner meeting of the TRANSIT project. Since TRANSIT consists of multiple research units (located across Europe and Latin-America) and researchers with different political and academic backgrounds, it is important to investigate an event in which all of them come together and discuss the aims and objectives, their current state of being, TRANSIT's relation with policy and the steps that need to be taken in order to finish the research project as they intend to. The different research units, as well as the different backgrounds of the researchers can have an effect on the development of the project. In short, by focussing on the production and establishment of knowledge, by looking at the day-to-day practices of TRANSIT as well as a partner meeting, it becomes possible to see how politics and science are intertwined on these different levels i.e. how science can be regarded "as politics by other means" (Latour, 1999).

2.5 Structure of this thesis

Chapter 1 provided a more detailed understanding of why the focus lies on the EU's knowledge politics on SI and TRANSIT. Following that, Chapter 2 will give a thorough explanation of the co-production framework by addressing its characteristics as well as the epistemological turn. Based on this epistemological turn, Chapter 3 will elaborate on the constructivist research design, which is adjusted to fit the co-production framework. Chapter 4 will then provide an extensive reflection of the contrived findings. Finally, in Chapter 5, these insights will be used to develop a concrete answer to the research question. This chapter will also contain a normative reflection of TRANSIT's practices and its link with the EU knowledge politics on SI.

3. Theoretical framework

3.1 Co-production

In order to understand why this thesis uses the co-production framework, the next section discusses the emergence of this framework and its theoretical and empirical fundaments. Although to a large extent, this framework has been put in practice in the domains of natural and applied sciences, and policy areas related to these domains, this section also argues why it can be applied to the domain of (research) policy on SI.

The relationship between the EU's politics and research is difficult to fully comprehend, when they are regarded as two separate spheres that function according to an inner logic (Guston, 2001; Etzkowitz & Leydesdorff, 2000). Therefore, this section turns towards the scientific discipline of Science and Technology Studies (STS), a school of thought that regards the domains of natural and social order as being produced synchronically. In particular, this section will provide a closer look of Jasanoff's co-production framework, which is widely accepted among STS-researchers, since it offers a deeper theoretical understanding of the relationship between politics and research in three respects. Firstly, it is suited to integrate insights in how political attempts are guiding scientific knowledge production of the SSH in the EU and vice versa, how scientists are closely involved in EU politics. Secondly, it is capable of providing more general insights into the sites in which this co-production between science and politics takes place. Thirdly, the framework offers theoretical tools to investigate scientific practices, such as TRANSIT. These three elements will be discussed more elaborately further on.

The co-production framework is founded on a broad understanding of power and politics. As Jasanoff (2004) argues: "whether power is conceived in classical terms, as the power of the hegemon to govern the subject, or in the terms most eloquently proposed by Michel Foucault, as a disciplining force dispersed throughout society and implemented by many kinds of institutions, science and technology are indispensable to the expression and exercise of power. Science and technology operate, in short, as political agents" (p. 27). Therefore, the co-production framework does not start with an a priori distinction between science, technology and policy, but rather argues that there are no principle distinctions between research and policy. By applying a STS perspective on scientific and political practice, we gain insights when

thinking of natural and social orders being produced together (Jasanoff, 2004, p. 2). With such a perspective, knowledge in all its shapes and sizes is both the product and the driving force of social life. Scientific knowledge in particular is not a simple reflection of truth, nor the outcome of purely objective practices. It rather shapes and is shaped by norms, values, discourses, frames, institutions and social practices; therefore, it must be regarded as a social practice. At the same time it shapes and is being shaped by the 'natural order', which implies that scientific knowledge has to follow certain 'natural laws', such as the law of gravity.

Following this line of reasoning also entails to regard the natural and social orders as being co-produced. While traditionally, the domains of political and social sciences regard this scientific knowledge production as a "black box" (Latour, 1999), Jasanoff (2004) takes this process as a focal point. She does so in order to debunk the traditional distinction between the scientific and political domain and the 'natural' and 'social' order. Instead of seeing science as being concerned with 'facts' and politics with 'values', from a co-production framework, science "is understood as neither a simple reflection of the truth about nature nor an epiphenomenon of social and political interests" (p. 3). It is rather "the constant intertwining of the cognitive, the material, the social and the normative" (p. 6). From this viewpoint, it is very clear that what happens in science and technology, is permeated with issues of meaning, value and power (Jasanoff, 2004, p. 15).

3.2 Moving from the applied sciences towards the social sciences

With a framework that demarcates the traditional categories, the next question to ask is how to conceptually discuss this intertwinement between the domain of science, in which knowledge and technology 'appoint natural order' and the domain of politics, in which power and culture 'appoint social order'. But before doing this, it is crucial to highlight where such co-productive dynamics manifest themselves, and to understand why the co-production framework is suitable for the analytical focus of this thesis.

Jasanoff (2004) distinguishes between four issues, in which research on co-production is not only most relevant, but consequently is clustered: (1) the emergence and stabilisation of new objects or phenomena (without specifying if this refers to a particular site of knowledge production or to new techno-scientific objects); (2) the

framing and resolution of scientific and technical controversies (the dynamics which make it so that one set of ideas gains supremacy over other equal ones); (3) the intelligibility and portability of the products of science and technology (across time, place and institutional context); and (4) the adjustments of science's cultural practices in response to the contexts in which science is being performed (referring to the contexts that provide them with meaning and legitimacy).

Research using this particular understanding of co-production traditionally has been focused on the technical part of the 'socio-technical' reality (Waterton & Wynne, 2004; Bijker et al, 1987; Callon & Latour, 1992), or on knowledge that has been constructed in the realm of the 'natural sciences' (Latour & Woolgar, 1979; Jasanoff, 1986) and the intertwinement of the 'social' aspects of these two phenomena. More recently, researchers have been focusing on constructing knowledge about governance and how this shapes political action. A good example is the book *Knowing Governance* (2016) of Voß and Freeman, which is aimed at the epistemic construction of the political order. This book addresses the formalisation and development of ways of knowing how to do politics, which they label as 'knowing governance'. The authors elaborate on the ways in which "knowledge of the patterns and processes of governing itself develops into what we might think of as an expertise of political practice and process" (p. 2). Voß and Freeman draw the attention "to patterns of scientisation and technologisation in matters of politics itself, that is, in the agency of governing" (*ibid*). Their work also reflects on institutes and organisations, such as think tanks and polling institutes, governance schools, public relations agencies, strategy advisors, campaign consultants, and international organisations, in terms of how they contribute to establishing certain representations of political reality. Consequently, it is also important to reflect on the role of social scientific practices and the institutions that are constructing and providing knowledge on governance.

3.3 The two strands of co-production

With the theoretical background and the content of the co-production framework explained, the next section of Chapter 2 will show how this framework can be arranged in such a way that it can be used as a scientific framework.

Jasanoff (2006) distinguishes between two strings of STS literature addressing

the two main aspects of co-production. Firstly, the 'constitutive' strand is focused on the formation of new techno-scientific cultures, mostly regarding emerging ideas and objects and how these become stabilized. The main issues which the constitutive strand focuses on, are ontological ones, as can be seen in Anderson's (1991) work on imagined national communities; the work of Pickering (2010) on new natural or scientific facts; and on modernist states projects (Scott 1999). Secondly, Jasanoff identifies an 'interactionist' strand within the STS literature that contributes to the idiom of co-production. This view addresses conflicts and transformations around knowledge within contexts in which political and epistemic orders are already established, but in which their boundaries and characteristics are reimagined and renegotiated. For instance, Shapin and Schaffer (1985) have discussed conflicts between values and the propriety of experimental methods from a historiographical position. Furthermore, Polanyi (1962) and Merton (1973) can both be regarded as interactionists since they have produced insights in the normative structure of science, by seeing science as a model polity. In other words, both researchers identified science as being in line with the liberal values that were thrown overboard by the totalitarian regimes in the mid 20th century. Co-production of this latter kind can be discerned in situations where controversy is overcome, where techno-scientific objects and frames are transferred into different contexts and where scientific practice adapts to changing settings.

With this in mind, Jasanoff identifies four key pathways of co-production: the making of 1) discourses, 2) identities, 3) institutions and 4) representations. What needs to be taken into account is that these pathways are not isolated phenomena, but often coincide with each other. As Jasanoff puts it, "these instruments of co-production can serve varied functions in maintaining order" (Jasanoff, 2006, p. 38). There are not only four pathways of co-production; co-production also can play itself out in four ways. It can be metaphysically or morally sustaining to preserve critical boundaries between self and other, structure and agency, state and citizen. Additionally, identities as well as institutions, languages and representations can be politically sustaining, by constructing new knowledge without breaking down the legitimacy of existing social arrangements. Lastly, they can be symbolically sustaining, by creating legitimate distinctions when uncertainties threaten to overwhelm or disrupt existing social orders.

In short, the co-production framework debunks the existing conceptions about the boundaries between science and policy, and the social and natural order. As a consequence, the existing understanding of the relation between these elements, which were first presented in the 'two communities' framework as a clear dichotomy, needs to be reimagined. But this new framework does not only have theoretical consequences. As a result of the disrupting effect of this framework on existing dichotomies and existing categories, it is necessary to question our way of looking at reality on a more metaphysical level. Before explaining the research design, and the elements of which this consists, it is important to look into this epistemological 'turn'. In its own account, this turn has far-reaching implications for the construction of the next stages of this research. Especially because in the field of policy analysis and knowing governance, the value of the co-production framework is increasingly emphasized (Voß & Freeman, 2016; Davies & Powell, 2012).

3.4 Not just a new pair of glasses, but an epistemological turn

Essentially, this epistemological turn has to do with two main assumptions. Firstly, by using the co-production framework, one automatically assumes that scientific knowledge is much more dynamic than the traditional perspective, in which knowledge and power have a much more static character (Pressman & Wildavsky, 1973). This static understanding becomes rather visible when studying the relation between 'truth and power'. Both are usually treated as "ready-made products and institutionally guaranteed merits of one or the other functional system (science or politics)" (Voß & Freeman, 2016, p. 3). However, from the co-production perspective, the emphasis lies on gaining understanding about how 'truth and power' are produced, instead of treating them as 'ready-made' products. Secondly, by using the co-production perspective, one recognises the inherently political and normative character of scientific knowledge: not just the way in which it is used in practice, but also the way in which this process of knowledge construction is taking place. For example, Kemp et al. (2007) show how they were involved as researchers in a process of co-production. In this process, they used political skills, such as persuasion and lobbying to develop their ideas and to introduce value-laden concepts.

This epistemological turn, from a static understanding of knowledge and power towards the more boundless understanding of knowledge by applying the co-

production perspective, is regarded as a turn from a (neo)-positivistic to a constructivist philosophy. As Jasanoff (2006) argues: "the idiom of co-production most readily aligns itself with the interpretive and post-structuralist turn in the social sciences" (p. 38). However, many authors who use the co-production framework do not explicitly reflect on the large epistemological differences between the (neo)-positivistic and constructivist philosophy. In some cases they even use some of its main components interchangeably. Using the co-production framework is therefore more than a matter of switching perspectives. It is not just about applying a different focus: the conception and understanding of the problems, the potential solutions and the understanding of the socio-technical reality, are taking a completely different shape, due to this new framework.

The intention of this thesis is to explain the adequacy and relevance of the co-production framework in the domain of (research) policy on SI. Taking into account the epistemological considerations, such as the understanding that problems and solutions, as well as the way of looking at the socio-technical reality have shifted towards a constructivist philosophy, is therefore crucial in the construction of a research design. Not being in line with the underlying assumptions results in the development an inaccurate picture of the co-productive dimensions of the EU's knowledge politics and the co-production of science and politics taking place in TRANSIT. Therefore, this next session deliberately gives subsequent attention to the elements that need to be taken into account in order to construct a comprehensive understanding of these two sites.

4. Methodology

4.1 Research design

Although Jasanoff (2004) argues that the idiom of co-production asks for illustration rather than proof (p. 6), this thesis comes up with a research design that suits this constructivist understanding of the co-production reality. In short, this thesis has used various methods for data gathering and data interpretation. This does not only serve the constructivist character of the research question and the theoretical framework: it also has made it possible to analyse different types of data, which all reflect different elements of the socio-technical reality surrounding the EU's knowledge politics and TRANSIT. In order to do so, this thesis has adopted: (1) content analysis, (2) discourse analysis, (3) semi-structured interviews and (4) participatory observations. The content- and discourse analysis have provided in-depth understanding of the relevant (research) policy documents that represent the different elements of the EU's knowledge politics and TRANSIT. The interviews firstly have made it possible to take the perceptions and experiences of the involved actors into account. Secondly, they have been used use them in order to get direct leads of important elements or issues that were not detected during the content and discourse analysis. Finally, conducting participatory observations have enabled this thesis to develop a more in-depth understanding of the day-to-day practices of TRANSIT, as well as the partner meeting. This thesis explains the applied methods in more detail throughout the following part of Chapter 3.

4.2 Methods

This part of the thesis gives a more substantive explanation of the methods that were used for the data gathering and interpretation thereof. Because of the multiple goals and objectives which guide this research, it is crucial to develop a rich and diverse stock of data. Therefore, different types of data ranging from policy documents and protocols, to records of meetings and interviews with key stakeholders, participants and experts have been used. These sources have made it possible to conduct a constructivist analysis, in order to gain insight in the relationship between- and the co-production taking place within the EU's knowledge politics and TRANSIT.

4.2.1 discourse analysis

In order to study the role of language in shaping and reproducing the social context (Tonkiss, 2004) that surrounds TRANSIT and the EU's knowledge politics, critical discourse analysis have been used. This method, which is concerned with the production of meaning through oral and verbal communication, makes it possible to examine whether and how (research) policy discourse is shaping the actual dynamics and practices within the two addressed sites. The three core features of discourse analysis are described as follows: (1) action orientation, (2) situation orientation and (3) construction orientation (Antaki, 2003). The first regards discourse as the primary medium of human action and interaction. These actions are embedded in broader practices. In some cases they are more generic, in other cases they are very specific to particular settings. In the case of the co-production in and around TRANSIT, this has enabled us to review the documents that are constructed in the various organisations, as well as review if these travel through various aggregation levels. The second core feature regards discourses as constructed in three ways: sequentially, institutionally and rhetorically. This has created understanding of the weight and character of the existing discourses within the EU's (research) policy on SI, as well as understanding of how much influence they have on the actual processes and their outcomes. In other words, this feature of the performed discourse analysis has showed much of the impact which the EU's knowledge politics have on the practices of TRANSIT and vice versa. The third core feature regards discourse as both constructive and constructed. It is constructive in the sense that people's understanding of phenomenological worlds is constructed by talk and action. It is constructed because these discourses consist of various elements, which in turn consist of resources that are part of our daily practices (Hepburn & Potter, 2004). Regarding discourses as constructive by nature has shown to what extent knowledge and social order are co-producing each other in these settings, and what type of agency these documents have herein.

4.2.2 content analysis

Content analysis has been used in order to interpret the content of the (research) policy documents that are part of the domain of the EU's knowledge politics on SI and TRANSIT. The flexible character of this method (Cavanagh, 1997), made it possible to understand the various co-production dynamics. Given the clear analytical

focus and theoretical understanding of the sites in which co-production takes place, directed content analysis have been used. The goal of direct content analysis is "to validate or conceptually extend a theoretical framework or theory" (Hsieh & Shannon, 2005, p. 1281). Since the co-production framework was explained in detail, the directed content analysis had a structured outline. Consequently, this type of analysis approached the cases with an informed, but strong bias. However, since this thesis investigates whether the co-production framework can be supported, extended or criticised, this notion of bias has not been a large concern.

4.2.3 interviews and participatory observation

The questions this thesis answers cannot be addressed in enough detail by only conducting discourse- and content analysis. Therefore, two other methods for gathering in-depth insights have been used: semi-structured interviews and participatory observations. Since the interviews were also conducted in order to gain insights into the experiences of the actors involved in TRANSIT, their design was semi-structured. This provided room to include new insights that might rise up unexpectedly during the interviews. Despite their semi-structured character, the interviews still have followed a certain structure, in order to not move away too much from the aims and objectives of this study.

(Moderate) Participant observation has been used elaborately in this thesis by investigating the social life and social processes, which occur within the day-to-day practices at TRANSIT and its partner meeting. Within this method, there are quite some limitations: due to our selective nature there will always be a clear bias (as with directed content analysis), which influences which data is ex- and included (Atkinson et al, 2001). By clearly choosing the role of researcher and observant, and by only occasionally interacting with people involved within the TRANSIT partner meeting, the effects of this bias were made less significant (DeWalt & DeWalt, 2011, p. 23). My role in the day-to-day practices at TRANSIT, collecting data and interpreting them, was much more constructive than at the partner meeting. Although this is less in line with the role of moderate participant observer, this day-to-day role enabled me to really engage in the scientific processes, thereby experiencing the co-production of the political and scientific elements of the data collection and interpretation. This has provided much more leeway to investigate the co-production of science and politics in the data-collection and to some extent the data analysis that took place in TRANSIT.

It is now important to sharpen the focus of this thesis, while still keeping in mind the methods that have been used to construct understanding about the co-production taking place within the EU's knowledge politics and TRANSIT.

5. Analysis

5.1 'Zooming out'

Imagine a classical Russian Matryoshka doll, consisting of multiple layers of similar and related shapes. Even though all layers have a lot in common/are similar, it is not possible to change the order in which they fit. This thesis considers the EU's knowledge politics as being the outside layer of the Matryoshka doll and TRANSIT as the smallest doll at the core of the doll. An analytical problem of such a structure is that there always can be a layer added at the outside. This section explains how the applied analytical focus is wide enough to incorporate all relevant elements of the EU's knowledge politics, without losing its specific focus on SI (research) policy.

Firstly, in relation to the aggregation level (the focus on the EU), it is necessary to review the institutional arrangements of the EU. Since the EU is constructed as a supranational and intergovernmental institution it is legally obliged to not undermine the research policies of its member states (Pfister, 2016). Another tension rising from this particular character of the EU is that the majority of public research is still done through national funding, and all member states have put up much resistance against developing a full-fledged EU-level research policy (Banchoff, 2002). As a response to this deadlock in developing a research policy, the EU has constantly increased its research funding and developed a substantial institutional arrangement with the multi-annual Framework Program (hereafter "FP"), which is a EU Research Framework Program, in 1984 (Pfister, 2016, p. 66). These FP's continued to grow in impact, scope and range of activities, and have recently become a sphere of shared competence in the Lisbon Treaty in 2009. More recently, Horizon 2020 has replaced this treaty. Nowadays, with the use of these instruments, the EU research policy coordinates the national policies and distributes research funding (*ibid*). Since examining the EU research policy provides this thesis with enough data, the (research) policies of its member states are left out of the picture.

Secondly, it is crucial to determine on which domains of (research) policy this thesis focuses. At first glance, a focus on the (research) policy directed at SI seems like a logical choice. 'Zooming in' on the concept of innovation by using the co-production framework, shows that social and technological innovation cannot be separated from each other. For example, the FP's and the (research) policy agenda of

the EU on SI are a response on (research) policy focused on technological innovation. The Bureau of European Policy Advisers (BEPA) argue that "a focus on technological advancement as a value per se could represent an obstacle to SI as many groups and users are unable to afford the adoption of new-generation technologies" (BEPA, 2011, p. 75). Therefore, it is necessary to take this as a starting point. At the same time, the EU's (research) policy on SI is also part of the EU's broader social policy**,** whereas it is aimed to tackle the broad societal challenges that the EU is facing (*ibid*).

Keeping in mind why the focus lies at the aggregation level of the EU and a slightly wider (research) policy domain than SI, this focus can be put into practice by applying the co-production framework in its rawest form. This is organized along the four pathways of co-production already introduced: discourses, institutions, representations and identities.

5.1.1 making discourses: activating and restoring

This section shows that the discourses embedded in the EU's (research) policy domain on SI are based on the the need for a focus on SI, while the scientific and policy domain arrive at the same point following different logics.

Making discourses, in this particular situation, refers to the evolution and formation of systems of meaning, languages and concepts that support (research) policy on SI. The broadest, but most important feature of the EU's discourse is about modernising European welfare states. This debate has started in the 1990s and has since then focussed on the activation of labour, market institutions, social security, and citizens (Jenson & Saint-Martin 2006; Van Berkel & Møller 2002; Pfister, 2016).

In various ways, technological innovation and SI play a crucial role in this activation discourse. Technological innovation (hereafter referred as "TI"), which has in fact been addressed earlier by the EU than SI has, is to a large extent in line with the assumptions of the activation discourse. By developing policy on TI, the EU aimed to develop a better comparative advantage over the United States, Japan and China, whilst at the same time developing a higher employment rate. What comes to the forefront here is that the EU has developed an activation discourse that reflects the idea that a high employment rate would be an essential condition for a sustainable welfare state, which protects individual citizens against social and economic risks. This activation discourse is clearly reflected in many domains of EU policy (see

Hayes, 2014; Cox & Rigby, 2013) and has most recently been emulated in the overarching *Europe 2020* strategy of the EU: "the growing interest in social innovation has come from the continuous and increased need of public authorities, civil society organisations, private corporations and individuals to respond to the new social risks with new and more selective approaches and shrinking budgets" (EU, 2014, p. 8).

Whereas (research) policy on TI has been the rule rather than an exception in the EU, quite the opposite applies to (research) policy on SI. A discourse that is to activating (research) policy on SI is still detectable in the EU. Meanwhile, a new discourse is clearly developing itself. Nowadays, SI is present in a whole range of policy initiatives of the European Commission (hereafter "EC"). The current long-term strategy *Europe 2020* is being identified as "vital for delivering a substantial set of macro-changes, for the so-called Grand Challenges of the 21st century" (Benneworth et al., 2014). Since the launch of FP 7, the European economic and social contexts have changed dramatically. Consequently, the EU has developed a discourse, which made it possible to intervene. As the EC states: "perhaps at no time since the 1940s has social innovation been so urgently needed" (EC, 2013, p. 5). By developing a discourse in which these problems are clearly formulated, while at the same time regarding SI as a potential solution for these problems, the EU is one of the parties co-producing a discourse which does not only activate its citizens, but also itself. By doing this, it creates the opportunity to develop coordination mechanisms and legitimizes financial to support SI (Kallerud et al., 2013). The development of an activating discourse with a clear focus on SI can be regarded as a way of correcting the failures of the Lisbon Strategy (2009) and as a way of realizing the EC's *Europe 2020* strategy (Hubert, 2010).

At the same time, the concept of SI has gained increased attention in academic literature (Edwards-Schachter et al., 2012; Benneworth & Cunha, 2014), while in itself SI is not a particularly novel concept. Traditionally, SI is considered as an interesting phenomenon for sociology and political science. For example, Schumpeter (1942) included SI in his theory about creative destruction, whilst the fathers of classical sociology Marx, Durkheim and Weber have given the concept some attention by linking it with societal change (Nussbaum & Moulaert, 2005). During the rise of the positivistic scientific tradition, SI was also receiving attention and was

regarded as a "quasi-concept" (Bernard, 1999). Nowadays, academic discourses that focus on SI present a more apparent normative character. Several research discourses on SI are critical towards the hegemonic neo-liberal dynamics shaping society, politics and industry and consider SI as a potential powerful tool to address their fallacies, while at the same time having the potential to transform the existing institutions that are responsible for such policies. For example, Moulaert et al. (2013) argue that the rise of SI in theory and practice "reflects wide and profound dissatisfaction with recent directions and outcomes of 'innovation' in technology, markets, policy and governance systems, and particularly a sense – to remain polite – that the benefits of such innovations have not been distributed as generally or as equitably as they should" (p. 1). In extension, Westley & Antadze (2010) have defined SI as a "complex process that profoundly changes the basic routines, resource and authority flows, or beliefs of the social system in which it occurs" (p. 2). Several researchers also have been less concerned with the potential negative elements of SI, since they regard it as a "work place innovation" (Volberda et al., 2011). As a consequence of these mixed conceptions about SI, two strands of thought have been persistent in the scientific domain: (1) a school that points out that SI needs to be stabilized as a scientific concept and as a research field (Mulgan, 2012; Cajaiba-Santana, 2014; Howaldt et al., 2015); and (2) a school that argues that, since SI can be used in many ways, entailing completely different phenomenons, it is not a concept that can easily be stabilised as a scientific concept and research field (as sited in e.g. Pel & Bauler 2014, Jessop et al., 2013; Jorgensen et al., 2015).

While the discourses of the political and academic domain already show resemblance, it is necessary to amplify that the EU has become the most important ground where this (political and academic) discussion is coordinated. The EC, as well as some of the member states, have taken a leading role in applying this discourse trough policy papers and reports. Just as in the case of the development of a 'European' perspective on the challenges and ways of welfare modernisation (Esping-Andersen et al., 2001), the EC has enrolled experts from various disciplines to participate in the debate and formulate a widely supported perspective. A clear example is the workshop on SI of the BEPA in 2009. This two-day workshop included 40 European stakeholders (representatives of the Economic and Social committee), experts and social innovators, as well as representatives of Commission

Services and European Commissioner's Spidla and Hubner. Even the then EU President Barroso engaged in this session. This workshop had the task to see whether and how cooperation between science, politics and practice can constructively contribute to developing useful knowledge and policies for SI (EC, 2009). On a stronger note, former President Barroso has argued that SI plays a crucial role "in underpinning the renewed social agenda so as to empower citizens to cope with the rapid pace of economic and social changes" (BEPA, 2011, p. 5), while also underlining that "if encouraged and valued, social innovation can bring immediate solutions to the pressing social issues that citizens are confronted with" (EU President Barroso, 31 March 2009). In extension of the development of this discourse focused on SI, the EU (research) policy domain also has been closely involved in the construction of another discourse that is both related to science and innovation, one that is more in line with the recovery discourse: the Responsible Research and Innovation (RRI) framework has become an increasingly important part of the (research) policy discourses in Europe. RRI "should be understood as a strategy of stakeholders to become mutual responsive to each other and anticipate research and innovation outcomes underpinning the 'grand challenges' of our time" (Von Schomberg, 2013, p.1). Consequently, the RRI framework is in line with the discourses about TI and SI. In a way, it is an attempt to make sure that innovation has a societal impact, while also taking into account the potential issues and problems of implementing new TIs.

Taken all together, political and scientific discourses show large resemblance in terms of describing the need for SI, while at the same time having a completely different build-up. Where a discourse focused on SI in the political realm nowadays is building on an earlier established discourse regarding TI and social policy, the scientific realm has continued to focus on SI since this has been a returning topic of interest. Nowadays, the scientific discussion about SI focuses on the appropriateness of this phenomenon as a research discipline and what kind of societal value it has. Besides showing that the domains of science and policy within the EU both focus on SI and co-produce the scientific-political landscape, this part shows that the EU has become centre stage for the further development and application of the political and scientific discourses about innovation. So far, the co-production framework portrays an interesting image of the discourses that have been constructed in the EU.

5.1.2 making institutions: hybrid forums

Directing the attention to the institutions that represent these discourses, reveals that many of the EU's organisational bodies are involved. Meanwhile, there are also new organisations rising up from this discourse.

In order to comprehend the co-production of science and politics in the case of SI, it is important to look beyond its content, towards the institutions that are constructing and embodying this discourse. Again, a good starting point for understanding development of the current existing institutions is the governance regime that the EU has developed at the Lisbon European Council in 2000. Whereas the so-called *Lisbon Strategy for Growth and Jobs* promoted the modernization of economic and social policy, its successor *Europe 2020* has developed a much more structured space on how the EU should address the challenges they are facing. As an extension to the latter, *Europe 2020* also has integrated processes that are formally separated from each other: the broad economic policy guidelines, the European employment strategy, and the open methods for coordination for social protection. This led to one monitoring cycle that is called the 'European Semester' (Pfister, 2016).

The EC in particular has developed policies that support SI in this context. As a result, ranges of networks, funds, institutions and government departments have been constructed. Apart from the EC, the European Council, Employment Committee, and its ad hoc policy groups, the Social Protection Committee, the European Economic and Social Committee, expert networks and national ministries have been playing a crucial role in the development of 'modern' social policies that address SI (Pfister, 2011). Two clear examples are the EU program for Employment and Social Innovation (EaSI) and the European Social Fund (ESF).

Expert networks focusing on SI have been commonly and directly involved in this governance regime. The new European Social Policy Network (ESPN), the successor of BEPA, is a textbook example of this. It was launched in 2014 by the DG Employment, Social Affairs, and Inclusion department. Within this organization various expert networks that already existed are integrated. Such networks range from the Network of Independent Experts on Social Inclusion, which was installed for addressing social inclusion; the EU Network responsible for the Analytical Support on the Socio-Economic Impact of Social Protection Reforms (ASISP), which is

monitoring and comparatively analysing policies with regard to pensions, healthcare, and long-term care; the Mutual Information Systems on Social Protection (MISSOC), which has been established to produce up-to-date information on social protection legislation, benefits, and policies; and the Belgium-based European Social Observatory.

The inclusion of these expert networks in the development of EU social policy reflects the knowledge-intensive character of this governance structure. Besides playing a role as experts and policy advisers, researchers also have been continuously engaged by the EU in the construction of knowledge that is relevant for social policy in general, but also specifically for creating an understanding of ways to cope with SI. The prime example of this is the construction of Socio-economic Sciences and Humanities (SSH) in 2000, which has been providing policymakers with scientific analysis to identify the societal challenges that the European Research Area (ERA) should address (EC, 2016). This institute was initiated as a follow-up to the Commission staff working paper *Science, Society and the Citizens in Europe* (2000), which constructed the basis for a debate on the relation between science, technology and society. As a result of this debate, the EC has developed the *Science and Society Action Plan* in 2001. The *Science and Society Action Plan* was the first theme of the FP6, with a budget of EUR 80 million; it was aimed to develop increased awareness among science and industry to put societal issues at the tops of their research and policy agendas. The activation agenda as well as the need to restore the EU after the crisis is clearly apparent in these annual work programmes and the FPs. "These documents are particularly important since they frame which knowledge would provide union added value, and direct funds towards applications meeting those requirements" (Pfister, 2016, p. 76). In particular FP7, in which the *Science and Society* was transformed into an EUR 330 million *Science in Society* program, is of crucial importance in order to understand the co-production of science and politics in regard to SI. Within this FP, a high number of SI projects were funded, just as by its successor *Horizon 2020*. These range from practical projects to support the incubation and scaling up of social ventures and the unveiling of the EaSI. Nowadays FP7 is still running, but *Horizon 2020* has replaced the *Science in Society* program by the *Science with and for Society* program, which aims to put a more responsible research agenda through "institutional changes of research and innovation organizations" (EC, 2016).

A key initiative under this new strategy is the 'Innovation Union', which includes initiatives such as the European Innovation Partnerships and also developed changes to the regulations of the Structural Funds to better understand and support SI (Tepsie, 2014, p. 9).

In short, the agenda on SI does not only appear within institutions of EU politics and EU science, but also in institutions that clearly have a scientific-political character. Not only do these institutions represent and develop the activation discourse regarding SI, they are also directly involved in the development of policy and mechanisms that have been supporting SIs. Whereas it was argued that separating science from politics was clearly impossible for the discourses surrounding SI, the same applies to the institutions that are engaged in these practices.

5.1.3 making representations: the concept social innovation

This section identifies the construction of an inclusive understanding of the SI phenomenon as the core of the EU's knowledge politics on SI. It is this cross cutting edge between the political need for a definition that can be used in various policy contexts, and the scientific debate about how to conceptualise SI, that is examined thoroughly in this section.

The EU has been developing social policies that are directly focused on SI initiatives within its whole region. One of the persistent problems with constructing such policies is that the EU consists of member states that all consist of completely different cultural, political, socio-economic arrangements. For example, Jasanoff, (2013) showed that within the EU there are large differences between "sociotechnical imaginaries" (Jasanoff, 2004), which are "imagined forms of social life and of social order that center on the development and fulfillment of innovative scientific and/or technological projects" (p. 5). For example, the Netherlands can regard the need for SI (research) policy completely different than Romania does. As a consequence, these member states can differ in the acceptation of developing policy that supports SIs, as well as ways of how this can be done best. Therefore, the EU needs to create understanding about SI that takes into account all these differences. Additionally, SI comes in various shapes and sizes. To be able to support all these different innovations, the EU needs to develop understanding of these differences. If the EU overlooks these two elements, constructing or implementing SI (research) policy can run into various problems. Therefore, knowledge about SI is crucial for the EU.

Despite not having sufficient tools in this thesis to see how science engaged in this issue, the co-production between the domain of science and policy is clearly reflected. Murray et al (2010) has described SI as "innovations that are both social in their ends and in their means" (p. 15). This definition is applicable in various contexts and does not directly include a normative assumption that can be a key factor in overcoming the differences between the sociotechnical imaginaries between the EU's member states. The fact that this definition is used in many policy documents of the EU and its member states (see EC, 2013; BEPA, 2010), reveals the level of co-production between the domains of science and policy. Additionally, the EC has been funding many research projects that develop understanding about the different uptakes of SIs. TRANSIT is a clear example of such a research project.

Taken together, this particular conceptual representation of SI can be regarded as stable enough to travel through various contexts, while this definition also leaves enough room open to be adjusted to a specific context. It is also open enough to be used in different ways by various actors from various academic and political fields. Such a definition is crucial for the EU; it has to take into account the differences between its member states, while at the same time having the possibility to translate this into one main policy direction. Developing such an understanding of SI is therefore crucial for the EU, since without it, it would be hard to deal with this trade-off between diversity and unity. Subsequently, this section reveals that this representation of SI is both the result of, and a catalyst for the co-production between science and politics in the EU.

5.1.4 making identities: the innovative and responsible EU

By drawing attention to the identities that are constructed in the EU's (research) policy on SI, it is hard to overlook the attempts and efforts that describe and imagine the EU as an innovative and responsible entity.

The construction of this identity, just as all sites of co-production, which have been discussed so far, cannot be regarded as a separate phenomenon that only follows an internal logic. Instead, it overlaps with the construction of discourses, institutions, and representations. A focus on the actors within the domain of SI reveals that the category 'expert' is clearly apparent as a collective and individual identity. The EU's knowledge politics on SI contain experts on social policy and SI in the traditional sense: "who self-identify and are being identified as experts" (Pfister, 2016, p. 77).

For example, these experts are part of the Network for European Social Policy Analysis (ESPANet), European Studies on Science, Society and Technology (ESST) and/or publish in prominent journals that are closely related to these topics. At the same time, there are also other actors involved in this field of (research) policy that do not have specific expertise on this topic per se. But in the specific governance contexts of the EU, they contain specific knowledge about how to cope with the institutional arrangements. In extension of the latter, these people can become "instrument constituencies" (Voß & Simons, 2014, p. 735), since they play a crucial role in adapting the knowledge about the aims and objectives of a particular policy and reproduce and spread these regimes focused on SI.

The EU knowledge politics on SI have also produced a collective identity. Esping-Andersen (1999) argues that "social policy helps define the relevant boundaries of collective identity because {...} it constitutes such a vital element in their livelihood" (p. 112). There is the general agreement that a European identity is a functional precondition for legitimate EU governance (Kantner, 2006, p. 1). The development of a shared scientific agenda is a traditional way of the EU to construct a more integrated Europe (Krige, 2006). In the case of SI, the EU positions itself as an innovative and responsible entity. This is clearly reflected in the link between the policies of the EU that are supporting SIs, as well as the RRI narrative. Additionally, The European Regional Development Fund (ERDF), which promotes regional cohesion, is also closely aligned with SI policy. As argued by the BEPA (2010): "the Cohesion Policy can improve the attractiveness of regions (e.g. accessibility, environment) and promote regional competitiveness (e.g. research, innovation and entrepreneurship). In this context, it has been supporting infrastructures, services and other activities for meeting the needs of the society" (p. 51). However, at the same time, the EU is struggling with the development a collective identity that transcends the ones of its member states. Follesdal & Hix (2006) consider the big gap between the EU's governance structures and its citizens as one of the main reasons for this. By developing policy in terms of supporting SI, the EU has been challenging this public image by changing its identity. By framing the gaps between its governance structures and its citizens "as offering economic and social opportunities, rather than simply creating social problems or exacerbating social needs" (*ibid*, p. 20), the EU has attempted to incorporate this in their policy discourse on SI.

In short, the discussion about the constructed identities in the EU's knowledge politics on SIs shows that the discourses, which were discussed earlier, institutions and representations play a crucial role herein. The construction of the RRI narrative largely reflects this, just as the role of the BEPA and the ERDF. The construction of a competitive, innovative, but responsible identity is most apparent. At the same time, this section also reveals a different aspect that so far has not been pointed out: the social ties between the actors that are part of these co-production processes and the self-perceptions of the involved actors. Addressing the 'expert' identity reveals that there are two types of experts that are crucial in the construction and spreading of this identity, and the discourses and knowledge about SI that goes hand in hand with this.

5.2 From 'zooming out' towards 'zooming in'

This part of the thesis identifies what type of co-production has taken place (interactionist and/or constitutive), and in which way(s) the four discussed sites are metaphysically, morally, politically or symbolically sustaining a new and/or existing social order. In short, both types of co-production can be identified. The same counts for the ways in which this co-production is sustaining a new and existing social order.

From the constitutive perspective, the EU's knowledge politics on SI are about the emergence and political as well as epistemic stabilisation of the SI-phenomenon. For example, the EU has been addressing SI in its research and policy. Researchers on SI, within and outside the policy domain of the EU have provided concepts, frames and (normative) discourses, and have subsequently played a central role in the establishment of SI.

From the interactionist perspective, the EU's (research) policy on SI is addressing the transformation of knowledge and policy by reimagining and renegotiating the boundaries and characteristics of their already established political and epistemic orders. More importantly, this perspective sees the (research) policy domain on SI as a clear site in which the EU is reordering the relationship between science and politics. At the same time, these co-production dynamics are reordering and reimagining the existing institutions, normative frameworks, collective identities and representations. Such re-imaginations do not occur only in the case of SI, but also resonate on a much larger scale, especially when the EU frames them as new modes

of governance (Pfister, 2016, p. 72). Therefore, the political, symbolic, moral and epistemic sustainment does not limit itself to SI, but can also be expanded to the re-imagination and reordering of the EU as an integrated Europe by taking into account its failures and adaption of a new governance regime. In other words, the EU is a project that to this day is receiving much negative attention due to its democratic deficit and a lack of transparency (Moravcsik, 2002). As a consequence, the EU is constantly looking out for new policy instruments, tools and directions. It would be incorrect to imagine that these modes of sustainment would only occur in the domain of SI, since this is just one of the focal points of EU (research) policy.

Concluding, it is difficult to argue that science and politics in the EU knowledge politics on SI are two separate communities that interact with each other. They rather embody one entity that consists of various layers that are related to one and another in various ways. In a way, the discourses, institutions, representations and identities that have been created in this occasion can be identified as separate, but closely related layers of the same Matryoshka doll: the EU's knowledge politics on SI. This becomes even more visible when directing the attention towards TRANSIT: a research project that operates as a Matryoshka doll nested in this larger and overarching context.

5.2.1 TRANSIT as a layer of the Matryoshka doll

Before applying the co-production framework to the practices TRANSIT, it is necessary to explain to what extent this research project is linked to the knowledge politics at the level of the EU. This section provides understanding of how TRANIST is linked to the discourses, institutions, representations and identities that are constructed inside its overarching EU's knowledge politics on social innovation.

By looking at the relationship that TRANSIT has with the discourses on SI, which are constructed at the level of the EU, it becomes clear that the project is questioning the underlying assumption that SI contributes to wider transformative change, and empowers people to deal with societal challenges (Avelino et al, 2014). Instead of adopting this assumption, TRANSIT has been critical about it. This manifests itself in developing an approach to discover what SI is all about, rather than finding evidence for this assumption. This is clearly reflected in the research questions that TRANSIT has developed: (1) How, to what extent and under which conditions does SI contribute to transformative change?; (2) How are people

empowered (or disempowered) to contribute to such processes?; and (3) How do we conceptualise and study transformative SI?

Without 'zooming in' to the practices of TRANSIT just yet, it becomes evident that there is a direct connection between the onset of TRANSIT and FP7 and the SSH. TRANSIT responded to a call to develop theory on SI, and subsequently received 4.9 million in funding from FP7 for research, technological development and demonstration under grant agreement no. 613169 (TRANSIT, 2016). This also reflects the autonomy of TRANSIT: despite its obligation to report to the EU on a regular basis and despite being nested inside the EU knowledge politics on SI, the project gained some autonomy when the submitted proposal was accepted.

The relationship between 'making representations' at the level of the EU and the level of TRANSIT is, just as in the case of the discourses, highly apparent. This is especially the case when the focus stays directed at the development of a definition on SI. Despite TRANSIT's focus on 'transformative' SI, they intend to develop a clear understanding of what the concept of SI entails. This is also clearly reflected in their operational definition of SI, which they define as "changes in social relations, involving new ways of doing, organising, framing and knowing," (Haxeltine et al., 2015). While this definition is not the same as the definition at the level of knowledge politics in the EU, it includes the same dimensions. Again, this difference can be explained by the fact that TRANSIT is a research project with the autonomy to develop a new definition that seems more appropriate from its own perspective.

The construction of (new) identities in the EU knowledge politics is also tied up with TRANSIT. When the experts involved in the knowledge politics are regarded as an epistemic community, which is defined as "a network of professionals with recognised expertise and competence in a particular domain and an authoritative claim to policy relevant knowledge within that domain or issue-area" (Haas, 1992, p. 25), this community has included potential new members by involving TRANSIT. Consequently, TRANSIT can play a role in the collective identity building at the level of the EU. At the same time, TRANSIT has the potential and possibility to rearrange the existing discourses and representations in the domain of SI in its own theory development, ergo having sufficient room for the self-determination of their research.

The intention of this section was not only to link the dynamics of the EU knowledge politics with TRANSIT; it was also to clarify the character of these

connections. Hereby, it became attainable to see that the EU knowledge politics are the larger Matryoshka doll in which TRANSIT is nested. While the EU knowledge politics on SI have much room and opportunities for its own organizational and behavioural logics, TRANSIT is a cooperation project between several organisations; therefore, it is a collection of organisational and behavioural logics. This particular set-up leaves more room for the EU knowledge politics to influence TRANSIT, as well as providing them with more autonomy to choose what to do with the output of TRANSIT, than vice versa. With this in mind, the next section 'zooms in' on the practices of TRANSIT. This does not only provide more understanding of the relationship between knowledge politics at the level of the EU and TRANSIT: it also provides a more detailed account of the co-production of science and politics taking place in this research project.

5.3 'Zooming in'

Constructing a coherent understanding of the EU's knowledge politics on SI and TRANSIT is a complex task: each discussed site of co-production is worthy of an in-depth analysis. Since all sites are mutually depending on each other and since they are linked to TRANSIT in various ways, this research project is the core of the 'zooming in'-section. Additionally, this provides understanding of another type of co-production, which is taking place in the construction of knowledge about SI. Therefore, this chapter/part focuses on three different phenomena: (1) the emergence of TRANSIT; (2) the everyday practices of TRANSIT; and (3) a partner meeting of all TRANSIT research units. What needs to be taken into account while reading, it that this research project and the practices that have been observed are still on going.

By 'zooming in', the political and scientific character and elements of TRANSIT are closely examined. This section starts with highlighting the scientific characteristics of the emergence, the everyday practices and the partner meeting of the project, followed by highlighting the political character of these same elements. This close look at the project shows that these elements all consist of the intertwinement of science and politics. Additionally, this provides understanding on how co-production can be of use in the 'sociology of science'. Looking at these assets from the viewpoint of TRANSIT also gives a more comprehensive understanding of how this research project is (dis)embedded in the dynamics discussed in the 'zooming out'-chapter. In

order to come up with an inclusive description of the co-production taking place within TRANSIT, this section resorts to the earlier discussed discourse and content analysis, interviews and participatory observations.

5.3.1 the emergence of TRANSIT

The forthcoming section discusses the materialisation of the scientific interest of the researchers who were involved in the emergence of TRANSIT. After this, the attention is shifted to the organisational structure and the decisions that were involved in the establishment of the research team and the advisory board. So far, this thesis has already developed a substantive amount of insights about the (research) policy context in which TRANSIT exists. This has not developed sufficient understanding about the internal dynamics of this research project. Looking into this matter makes it possible to understand the motives of the research team to respond to the call of the EU, how TRANSIT engaged in responding to this call and which considerations were taken into account during this process. Although these issues sound like 'business as usual' in the domain of science, they also (can) reflect a certain degree of politics. In short, the EU's 'knowledge politics' permeate the emergence of TRANSIT, while this research project in its own account also represents a high level of interaction between scientific and political dynamics.

TRANSIT is not a fixed entity, and started as a group of 4 to 5 scientists that are all part of the field of sustainability transitions research, including the Sustainability Transitions Research Network (STRN). They are also related to several other networks, projects and organisations, with a particular interest in topics like grassroots innovation and the social side of innovation (Interviewee A, 2016). This core group was mainly involved in developing a proposal to address this call. The conducted interviews, but also the response of the research team to the call of the EU show that these researchers are mainly driven by scientific motives and the tangible possibility to materialize these interests. For example, the call asked for "a collaborative project […] to elaborate a common understanding of social innovation. It also aims to understand how and under what conditions social innovation helps to tackle societal challenges" (EC, 2016). Tackling these assumptions about social innovation was exactly the fundament of the TRANSIT-researchers to respond to the call; there were no underlying party-political motives (interviewee A, 2016). This is clearly reflected in one of the first papers developed by TRANSIT that explained the

objective of this research project, which is to develop "a broad conceptual framework, suitable for critically evaluating the hypothesis that social innovation is able to bring about new forms of social interaction that empower people to undertake strategies and actions which, under certain conditions, lead to transformative, systemic change" (Haxeltine et al., 2013, p.1). This framework has a place in the overall objectives of TRANSIT: "to build a theory about social innovation that is not only useful for academics, but also to policy makers, social entrepreneurs and other stakeholders" (TRANSIT, 2012, p. 6). Again, this is a representation of how TRANSIT is (un)consciously and/or (un)intentionally part of the RRI framework. By taking another look at the motives to respond to the call of the EU, the first thing that needs to be mentioned is that several researchers have a sympathy for grassroots innovation, and by researching they hope to not only understand but also support, enable, empower, improve such grassroots initiatives (Interviewee A, 2016). Additionally, the aim of TRANSIT (to develop a theory about social innovation) also has a political character, since scientific products, such as theories, tools and methods, have their own performativity (Barad, 2002). In this case, it can be assumed that the EU has specific ideas about how this call and the generated knowledge about SI can be used in the development of (research) policy. Even challenging the assumptions in order to create a coherent understanding of SI, without an explicit link to political ambitions or challenging the existing policy discourse on SI, can have an impact on the future character of the same discourse and its underlying assumptions.

In extension of the latter, interviewee A stated that they did not engage in direct lobbying in Brussels to make their response to the call of the EU come out on top. There nevertheless was a certain level of (political) strategy persistent in this process. For example, during the development of the proposal, the core group used a (research) policy document as a guiding tool. This document had almost exactly the same title as the call, namely *Social Innovation: empowering people, driving change* (Hubert, 2010). Although using this document does not reflect the same level of politics as lobbying (Felin & Foss, 2009), it shows that there is always some 'politics' involved. Since the EU constructed this particular policy document, using this enabled the researchers to line up the ambitions of TRANSIT with the existing discourse and understanding of SI persistent in the EU. Additionally, Interviewee A argued that (s)he did go to a Dutch national meeting of the AWT on SI after the proposal had

been submitted and did inform a representative of the Erasmus University of Rotterdam (EUR) that represents the EUR in Brussels, that they were working on a proposition to the call of the EU (Interviewee A, 2016).

Another important aspect of the emergence of TRANSIT is the development of the research team and the construction of the organizational structure. During the construction of the proposal, the core group already started to compile a team in a rather open way. Instead of coming up with a research team on their own, the core group decided to inform the whole Sustainability Transitions Research Network through a general email list. As a result, they ended up with a long-list of 60 researchers that were interested in joining forces. The whole selection process resulted in a group of 12 research units spread all over Europe and Latin America. The decision to incorporate units from these regions is also a consequence of one of the scientific objectives of TRANSIT. In order "to develop a full-fledged theory on the pathways of social innovation that is rooted in empirical data" (TRANSIT, 2012, p. 4), it is necessary to include cases from across Europe and Latin America, as many of the SIs that were included originated in these diverse regions (interviewee A, 2016). Furthermore, the call emphasized that participation by non-European partners would be encouraged (Website PF7, 2016). The process of selecting a research team for TRANSIT also had a clear political i.e. strategic character. First and foremost, coming up with a shortlist of the 60 interested applicants involved choosing 'who gets voted in' and consequently 'who gets voted out'. More importantly, this selection process resulted in a research team that has an interdisciplinary, transnational and intercontinental character. Since the emergence of the EU, science has always been regarded as a catalyst for developing a more unified political entity (Whitehead, 2011). A project that includes research units from the Netherlands, Belgium, Denmark, the United Kingdom, Hungary, Austria and Spain fulfils this ambition. Additionally, including research units located in Argentina and Brazil does not only fulfill the academic objective to include SIs from this region, it also corresponds with the ambition of the EU to foster cross-continental cooperation. Thus, this can also be regarded as a strategy of TRANSIT to line up their proposal with the aims of the EU and thereby having a better chance in receiving the funding for their research project.

Besides the research team, TRANSIT consists of an advisory board and a knowledge group, which were created in order to advise the project on how to achieve

their scientific goals, as well as on how to develop interactive research. Therefore, they both consist of individuals with particular expertise or experience in working on social innovation (Interviewee A, 2016). A clear example hereof is that one of the members of the advisory board was the co-author of one of the first papers published by TRANSIT. This role is acknowledged by one of the advisory board members as well, who argued that "sometimes the project needs some advice, and somebody with experience with research and a less involved role can have more overview of what is needed" (interviewee B, 2016). Looking more closely into the role and character of the advisory board directly points out its political influence. Their relative independent position from the research team provides them with the potential to steer the research group away from its scientific objectives. How this becomes apparent within TRANSIT is brought to the attention in the discussion about the partner meeting.

Examining the submitted proposal, while considering the requirements within the call of the EU, reveals another highly political element of TRANSIT. This document does not only show what the expected objectives were from the EU, but also how TRANSIT translated them into objectives that are in line with their intentions and the shape of their research project. For example, the EU requested having a socio-economic impact at a local and supra-local level by strengthening the capacity of social innovators, which is achieved by TRANSIT "by working closely with social innovators in co-development mode and by researching the skills of social innovators" (TRANSIT, 2012, p. 43).

Applying co-production to the emergence of TRANSIT prevents the common mistake of ending up with a deterministic view of the emergence of TRANSIT, which either argues for the dominance of political elements or scientific ones. Applying the co-production, i.e. accepting the metaphysical consequences, helps avoiding such reasoning and subsequently creates a more layered understanding of the emergence of TRANSIT. Doing this makes TRANSIT's organisational structure, as well as its response to the call from the EU understandable, by seeing the project as a site of both scientific and political elements.

5.3.2 the everyday practices of TRANSIT

In order to develop a substantive understanding of TRANSIT, while at the same time revealing the analytical power of the co-production framework, the second 'zooming

in'-part looks into every day practices of TRANSIT. This is particularly interesting from a co-production perspective, since scientific practices are commonly being associated with the "politics of science" (Jasanoff, 1986; Guston, 2007). By examining the data collection and to some extend interpretation hereof in TRANSIT, this section explains the role of the researchers, the role of the applied methods and the relation with SI initiatives herein. In short, this section provides understanding on how science in practice has a (potential) political character.

A part of the collected data is not only used for theory development, but also for the development of an "open-source internet-based database" (website TRANSIT, 2016). When this database is completed, it will serve as a tool for individuals, such as social innovators who want to learn and gain understanding of the trajectories of other SIs. In extension of the latter, the main objective of TRANSIT is to develop a theory about transformative SI. By performing in-depth analysis of 20 cases on SI networks and SI initiatives, this research project wants to develop a theory that is "thoroughly empirically informed" (Pel et al., 2015, p. 4). This will be done on the basis of a meta-analysis of semi-structured interviews. These interviews consist of a relatively tight set of questions, which the TRANSIT-researchers have used to construct data on 'critical turning points' of the SI networks and initiatives. This data is used to generate more generic insights and overview, "rather than in-depth narratives of particular transformative social innovation processes" (*ibid*, p. 14). Additionally, this will construct an online database that will be used to fill in transformative social innovation theory, and "the exploitation of the database for researchers' and practitioners' knowledge interests" (*ibid*).

In order to ensure that the collected data can be used in order to further develop a theory on transformative SI, the TRANSIT researchers related the set-up of this meta-analysis to the overall research set-up and the methodological choices made in the earlier phases of TRANSIT research. At the same time, the interviews are being regarded as representations of reality, rather than true reflections of reality. By providing the researchers with guidelines, which explain all theoretical, methodological considerations to the researchers that conducted the interviews, TRANSIT tried to secure that the data can be used in the development of the theory. In extension of the latter, the 40 innovations that were brought to the attention during the in-depth cases studies form the baseline population for further research. To be

able to come up with more generic insights, the number of cases is being magnified to 80 local manifestations of the 20 networks. In this process, the attention is directed at the critical turning points (CTPs) in the construction of the SIs. By taking into account CTPs that have had a positive or negative impact in the journeys of the SIs, TRANSIT creates a non-linear understanding of the elements that play a crucial role in the practices and context of SI.

So far, this section reflects a scientific process that takes into account various considerations and potential problems in the construction of a coherent theory about SI. However, the researchers and methods have a normative influence on the process, which becomes clear during the enlargement of the dataset and even more in the construction of the online database. More importantly, by prescribing innovations or initiatives as being socially innovative, while they do not necessarily fit the script, this database can have a potential influence on the landscape of SIs. What needs to be taken into account is that "methods don't just describe social realities, but are also involved in creating them" (Law, 2004, i). This implies that interviewing individuals about the CTPs in their SI journeys presupposes that these individuals have the appropriate knowledge about their journeys to point at certain developments and describe them as being critical, while this is not necessarily the case. In the words of Heisenberg, "what we observe is not nature itself, but nature exposed to our method of questioning" (Heisenberg in Chapman, 1995, p. 1240). In the case of the structure and the content of the interviews performed to gather the data for the meta-analysis, this becomes even more apparent. The interviews are structured by seven different categories: contents, co-production, related events, contestation, anticipation and learning. Firstly, these categories provide a certain understanding of the SIs, but also leave things out of the equation. This method also risks putting the interviewees, who are involved in the development of the SIs, 'in charge' of the construction of the data. Especially with research on SI this can have a normative impact, since this concept has also received contestation and scepticism and can be considered as a particular malleable concept (Pel & Bauler, 2015, p. 1). Leaving room for the interviewees to tell their stories creates the possibility to frame i.e. 'window dress' their initiatives as being innovative, which is something that can be apparent in the domain of SI. In the shape of funding there is much institutional support for social initiatives (Murray et al., 2010; Mulgan, 2006; Antadze & Westley, 2010). Therefore, creating exposure and

the potential to be recognized can be of crucial importance for these initiatives. Additionally, this issue can have a significant impact on how people, who are making use of the database, are conceiving the initiatives. This does not mean that this method gives each interviewee the opportunity to 'window dress' his or her own initiative, or that this is done intentionally. It reveals that involving social innovators in this way can have a political element.

Although the researchers who are conducting these interviews are experienced and are assisted by guidelines that provide answers to such issues, they also have a particular influence on the construction of the knowledge about SI and the social reality surrounding it. This counts especially for SI, since they are co-produced by various actors (Haxeltine et al., 2013). Consequently, researchers also play such a role since they are constructing and translating knowledge and information (Latour, 2005) about SIs. This does not imply that SI-researchers are creating the phenomenon. Instead, it is the sum of scientific exercises that are doing so by co-performativity (Callon, 2007, p. 20). What makes this even more apparent is that TRANSIT researchers are faced with three observation dilemmas: (1) the distribution of agency; (2) the temporality of SI observations; and (3) the detection of this type of phenomenon (Pel & Bauler, 2015). First, by engaging SIs in this research project, these initiatives are being recognized and acknowledged by science, while these innovations are not necessarily regarded as innovative by other researchers or experts. Hereby the agency of these initiatives re-creates another specific kind of agency: being acknowledged by a research project on SI, which in turn can have an effect on the landscape of SIs. Secondly, one of the crucial elements of innovation is its novelty: one of the insights produced by the sociology of innovation is that these innovations do not have a stable character, since they change shape between ideas, actions and objects, especially when they travel through various context (Czarniawska & Joerges, 1996). It is therefore more difficult to recognize forms of SI that completely fit the script of being innovative along a developed standard. Lastly, and closely aligned with the former dilemma, due to the fact that SI has a temporal and novel character, SIs are hard to discover. As Pel & Bauler (2015) argue, researchers have to deal with questions like: "Is the innovation researcher to investigate only acclaimed innovations, or should he direct attention to what seems to become innovation? Should he expose and disseminate these emerging realities, or try to leave

them in their latent existences?" (p. 13).

If we take into account all the considerations brought to the attention in this section, the possible political aspects of linking collected data on the CTPs to the development of a theory on SI, as well as the creation of an online database, have been pointed out. Whereas the section on the emergence of TRANSIT has amplified the co-production of scientific and political elements herein, this section has points out that scientific practices are permeated by political elements such as the normativity and performativity of the applied methods and the researchers. In the case of the theory development, this is clearly tackled by the input from the 40 in-depth case studies and the acknowledgements that the interviews reflect a representation of reality, rather than a true reflection. In the case of the construction of the database and the inclusion of new cases, this can become more problematic. Consequently, the co-production framework is harder to uphold in this particular situation: it is the 'politics of science', rather than the co-production of politics and science. Without the underlying assumptions of the co-production framework, these political aspects could not be detected in the way they have been now. It also would not have what kind of role TRANSIT plays in the (research) policy domain of SI.

5.3.3 the partner meeting

The third and last site that will be addressed during 'zooming into' the practices of TRANSIT is a partner meeting, which has been investigated by performing participant observation. Attending this partner meeting gave a clear view of the 'science in action' taking place in TRANSIT. Whereas in the domain of applied and natural sciences, the laboratory is the default site to look at the intertwinement of politics and science (see Latour, 1987), in the case of social science, partner meetings can be regarded as such. This section describes how this partner meeting reflects the various elements of the intertwinement of science and politics that have been brought to the attention in the earlier aspects of the 'zooming in'-section. Meanwhile, it also points out how TRANSIT is dealing with the political i.e. normative elements of its practices. Additionally, it becomes visible to understand which elements of TRANSIT have a reflexive attitude towards the normative and political elements of its practices, as well as how TRANSIT constructs its practices while taking these considerations into account. This also provides understanding of why a partner meeting can be

considered as a site of co-production in its own account. Prior to this, this section clarifies the scope of the partner meeting, in order to make it clear why the discussed elements were apparent in the meeting. Since the findings discussed in this section were collected by conducting moderate participant observations, this section has a highly constructivist character.

The TRANSIT partner meeting was set up to discuss and elaborate on three different, though interrelated elements: the status quo and future agenda of TRANSIT research, the theoretical integration workshop and a discussion about the societal relevance of TRANSIT with the international advisory board. Each of these elements was organisationally separated from each other. Each of the sessions consisted of plenary sessions, as well as break out groups, which provided the possibility to go more in depth. Here both members of the research team and the advisory board had the opportunity to engage. Although this provided the means to focus on these elements of TRANSIT separately, it must be noted that, just as in any other event, it is hard to uphold the distinction between the three items on the agenda. Therefore, three elements that have taken a central stand during the partner meeting, which were addressed interchangeably, will be addressed: (1) the role of TRANSIT as a research project; (2) the (normative) role of the theory; and (3) how to link the collected data to the theory.

5.3.3.1 the societal role of TRANSIT

The role of TRANSIT as a research project in relation to politics was mostly addressed during the societal relevance session, but also at various other moments during the partner meeting. In general, there were disagreements and differences between participants regarding what they thought what the role of TRANSIT should be in the domain of (research) policy on SI. Firstly, there were some participants who argued that TRANSIT has the responsibility to develop a comprehensive understanding of what (transformative) SI entails and need to fulfill this task with a scientific purpose. Secondly, there were participants, mostly members of the advisory board, who advocated looking beyond the fulfilment of this scientific purpose and argued that TRANSIT has both the means and position to do so. These views give a clear representation of the different uptakes about the role that science should play in society (Nowotny et al., 2001). In other words, how TRANSIT positions itself as an 'activist' or 'knowledge constructor' in the public debate about SI. Although this

issue is hard to separate from the discussion about the role of the theory for TRANSIT, it is possible to show what types of considerations were highlighted in respect of the latter. One advisory board member argued that the current refugee crisis and the referendum on the exit of the United Kingdom from the EU are topics that show why SI is of relevance for the EU, since its future is someway depending on it. Additionally, another advisory board member mentioned that TRANSIT should support SIs since they are key in changing the neo-liberal political system. Consequently, during this discussion the advisory board members repeatedly brought up that TRANSIT should look beyond the construction of a theory about SI that takes into account all the various elements of SI and should be looking how they could show how SI can be a solution for existing societal problems and should engage in not only developing such a narrative, but also in communicating it. On the contrary, and largely as a response to these statements, others argued that TRANSIT, in the first place, is a scientific project that needs to focus on its main goal: the development of a theory about SI. It was amplified that the construction of the theory has an inherently political element since it is a EU funded project. In other words, the EU will use the constructed knowledge according to their objectives, which points out that a theory on its own has a certain level of performativity. Developing a narrative that supports SI was regarded as a practice that would create an incorrect view about SI, since evidence has pointed out that SI does not always lives up the its expectations, and also has a 'dark side'.

5.3.3.2 the (normative) role of the theory

During the partner meeting, theory development was one of the main agenda items. Therefore, further discussing the different uptakes of the TRANSIT researchers about the overall objectives of TRANSIT, without formulating the different uptakes about the role the theory plays in this process, creates an incorrect portrayal of the general discussions that took place during the partner meeting.

Including normative elements in the construction of a comprehensive theory about SI is an idea that concerns most TRANSIT researchers. In extension of the latter, it was brought to the attention that there are already many theories about SI that have a normative fundament. This is one of the reasons to develop a theory about SI that takes into account both the potential negative and positive aspects. Another interesting notion that was drawn to the attention during the partner meeting was that

science in general, thus including TRANSIT in the domain of SI always has a political element. The starting points of this line of reasoning is the acknowledgement of the existence of much incorrect knowledge about SI and a societal landscape that has problems with identifying and addressing this 'false' understanding. By developing a comprehensive theory about SI, with the purpose of 'taking out the trash' i.e. by countervailing this existing knowledge, science is playing a political role. What is important to mention is that during the partner meeting this discussion evolved itself, and it was notable that the members of the advisory board and the research team increasingly developed understanding for their viewpoints. Even though the different ideas about the aims and objectives for the theory and TRANSIT still were persistent, they also were integrated with each other. In light of the latter, it needs to be amplified that, during the discussion about the development of theory, it seemed that the advisory board members did not want to play down the need for a scientific correct theory about SI. Instead, they argued that taking into account these normative elements in the construction of a theory would not necessarily conflict with scientific norms. In turn, some researchers stressed the importance of these issues, but questioned whether the theory would be a good device for taking into account all these issues.

Before discussing how TRANSIT deals with the integration of the collected data, it is necessary to look into possible explanations for these different views on the role of theory and TRANSIT in general. The section about the emergence of TRANSIT, focussed on the scientific character of the advisory board. However, this section focus revealed political i.e. normative character of the board. In other words, being a member of an advisory board creates the possibility to advise the research team not only on how it is possible to construct a comprehensive theory about SI. Board members can also address their own views on SI and the political objectives that TRANSIT should play. Plausible explanations for the political i.e. normative role during the partner meeting is the fact that the members of the advisory board were less engaged in the process of theory development and consequently are more concerned with the political role TRANSIT can play. At the same time, most of the members of the advisory board have a particular history in the policy domain of SI, or were engaged in the construction of SIs, both of which are reflected in the expected role the advisory board takes on in TRANSIT. According to the developed proposal,

TRANSIT describes the role of the advisory board as following: "The tasks of the interdisciplinary advisory board will include {…} provide feedback and input into project development and dissemination of results throughout the project from their respective backgrounds" and "advice on important aspects of project development, risk management and steps for how TRANSIT will contribute to policy development" (TRANSIT, 2012). These discussions about the political elements of TRANSIT were a large part of the partner meeting and it would not serve TRANSIT justice if these activities were not considered as science in practice as well. Dealing with issues of performativity is exactly an activity, which can serve as a boundary between science and non-science (Gieryn, 1983; Gibbons et al., 1994; Maxey, 1999).

5.3.3.3 from data to theory

Apart from dealing with normative issues of TRANSIT, the partner meeting was entrenched by many scientific elements, of which addressing theory development and the experiences of all researchers in collecting and analysing the data was one. By showing that the issues, which have been discussed in the section on the day-to-day practices of TRANSIT, this sections shows that this partner meeting can be considered as a site of co-production on its own.

Apart from explaining and addressing all the considerations that were involved in the construction of the methods and underlying rationales of TRANSIT's research practices, the partner meeting amplified what TRANSIT can mean for practitioners without neglecting its scientific character. In the shape of the online database WP5 has the potential to serve as a monitoring and evaluation tool for practitioners, which is also reflected in the aims and objectives of TRANSIT (Pel & Bauler, 2015). By working in breakout groups, which provided the possibility for all researchers to link the empirical insights from their case studies and data-collection to the already developed theory, TRANSIT made sure that researchers could come up with their insights in this matter. As a result, the issues with the translation from theory to data, back to data were collected. This was followed by a plenary session in which these issues were brought to the forefront. The partner meeting clearly is a reflection of the reflexive character of TRANSIT, since they are dealing with the normativity of the theory, applied methods and the observation dilemmas. In general, it was perceived that the constructed insights so far did not resemble all the input contrived in the cases. For example, in many cases agency was only ascribed to

humans, while there was the general conviction that objects and broader developments also should be regarded as playing a crucial role in the cases the researchers were focused on. In extension of the latter, it was again stressed that the dark sides of SI are crucial in its interpretation, since there are many examples of unintended consequences or SIs that do not necessarily have a positive impact on the existing social order. Lastly, the need to acknowledge the diversity of SIs that are out there was stressed, which resulted in a discussion about the difficulties to identify which SIs are truly innovative, and how to take these issues into account.

This last part of the 'zooming in' has provided insights in the main discussions taking place in partner meeting of TRANSIT. Rather than coming up with new theoretical insights, this part has provided understanding of how TRANSIT, during this stage of their project are dealing with issues such as the performativity of their theory, the applied methods and TRANSIT as whole. In other words, it shows that TRANSIT has a rather reflexive attitude towards its own role in society. Consequently, it shows that this TRANSIT partner meeting is a good site to observe the co-production of scientific and political elements of science in action and that TRANSIT fits the script of RRI.

5.4 The co-production of science and politics in TRANSIT

By zooming into the emergence of TRANSIT, the research practices regarding the data collection, the interpretation hereof (to some extent) and a partner meeting, different, though interrelated insights have been brought to the attention. This sub-conclusion will link the findings of the 'zooming in' part with co-production.

Firstly, by looking into the emergence of TRANSIT and the core elements of this research project, it has become clear that the materialisation of TRANSIT is both the result of scientific and political elements. In other words, it can be regarded as the result of the co-production of both scientific and political elements. Secondly, exploring the data collection and interpretation it is objectionable to regard the construction of knowledge about SI as purely scientific, due to the role of the applied methods, the role of the researchers and the potential influence of the observation dilemmas. Analysing these elements also revealed why issues like the performativity of science are crucial in the assessment of science and at the same time unavoidable within research on SI. The example of the observation dilemmas clearly reflected this

last notion. Lastly, in extension of the latter, analysing a TRANSIT partner meeting has provided insights in how this project is dealing with the issues of the performativity and reflexivity of the TRANSIT in general, and at the same time about the construction of the theory about SI. In order words, that during this stage of the project TRANSIT is being aware of its role in society and how a TSI theory can play a role in the (research) policy debate about SI.

6. Conclusion

6.1 Summary

The main objective of this thesis has been to show why and how the co-production framework is useful to describe and analyse the relationship between science and politics. Based on the assumption that the 'two community' framework is neither accurate nor historically correct, this thesis has given a theoretical explanation of the emergence of the co-production framework, which in turn has given theoretical insights in why the co-production framework is adequate in describing the relationship between science and politics.

During the digression of the core characteristics of the co-production framework, this thesis has highlighted why this framework is applicable to examine the intertwinement of the social sciences and politics, besides its traditional focus on the intertwinement of technological and political elements. To point out the empirical accuracy and richness of this framework, have been analysed two sites have been analysed: the knowledge politics on social innovation of the EU and the TRANSIT project. Instead of regarding these two domains as two separated spheres, this framework regards them as producing 'output' synchronically and interactively, while co-producing each other during these processes.

Firstly, knowledge politics on social innovation in the EU have been examined. By investigating this site, this thesis has provided an empirical example that clearly reflects a (research) policy context in which a dichotomy between science and policy is no longer accurate. Together, the scientific- and political domain have co-produced policies, discourses, knowledge, representations and identities on social innovation and issues that are closely aligned with this concept and each other. In other words, the discourses, institutions, representations and identities co-produce each other. 'Zooming out' has showed that the interaction between the four sites cannot be limited to (research) policy on social innovation. In its turn, social innovation is part of a larger (research) policy domain that constructs and portrays the EU as an active, responsible and innovative entity. The discussions about the discourses and identities have provided a clear image of how the EU is doing this. Firstly, social innovation is a response on (research) policy on technological innovation, while at the same time it is part of a wider socio-economic (research)

policy domain. Social innovation is considered as a device that can function as a solution for the societal problems that are the result of inadequate (research) policy on technological innovation and other societal problems that are partly the result of failing the earlier developed socio-economical policies. The construction of the Responsible Research and Innovation framework and narrative is a prime example hereof. The narratives that are included in such (research) policies reveal that the EU does not only re-organise itself as responsible and innovative, but also portrays itself like this. The existing problems, such as the economical crisis, the democratic deficit and the absence of a collective identity, which the EU will use to further construct itself as a collective entity, are actively framed as opportunities. By this, the EU frames itself as a cooperative organisational body that consists of diverse member states that have one thing in common: the existing problems and the collective capacity to solve them. The discussion of the institutions and representations, although closely related to the discourses and identities, resemble something else: the interaction between scientific and political organisations, the construction of hybrid forums and the interaction between the political need for a comprehensive understanding of social innovation and the scientific capacity to deliver this. The construction of the Social Sciences and Humanities is a clear example of a hybrid forum that consists of both political and scientific elements. The development of research projects by the EU, which creates knowledge about social innovation, also clearly reveals that a dichotomy between science and politics in terms of institutional arrangements is not correct.

Secondly, this thesis has provided understanding of how TRANSIT, a research project that is developing a theory about transformative social innovation, is 'nested' in the EU's knowledge politics on social innovation. In other words, how the relationship between the most outside layer of the Maytrouska doll, (the EU's knowledge politics) and its underlying layers (discourses, institutions, representations, identities), encircle TRANSIT. In the first place, this research project would not exist without the EU's funding. The emergence of TRANSIT goes hand in hand with a contract and the submitted project proposal. These two documents reflect how and to which expectations TRANSIT has to live up. The intermediate deliverables that TRANSIT has to develop, and the relationship between the EU's expected and the intended impact of TRANSIT are clear examples hereof. At the same time, TRANSIT

also has a respectable autonomy towards its encircling Maytrouska doll. Although the development of the proposal was informed by a policy document developed by BEPA (an overarching institution), TRANSIT developed this call just as much on its own reasoning and objectives. Instead of accepting the underlying assumptions persistent in the (research) policy documents of the EU on social innovation, TRANSIT is challenging these assumptions. This is, for instance, manifested in the development of a theory about transformative social innovation, whereas the EU did not specifically asked for including this 'transformative' element, or at least not in those words. Finally, this discussion has revealed that TRANSIT as a 'doll within a larger doll' also has the potential to inform or re-imagine elements of its outside layers. Since this research project develops knowledge about social innovation, it can change the existing understanding or narratives about social innovation that are embodied by the EU's knowledge politics.

Thirdly and lastly, this thesis has showed that TRANSIT on its own is also a site in which the co-production of science and politics is taking place. These dynamics have a completely different character than the dynamics in the other layers of the Maytrouska doll, which is more in line with the 'politics of science'. Nonetheless, co-production provides the tools for investigating these dynamics. Despite this difference in character, the co-production framework still provides the theoretical tools to examine these dynamics. By investigating a part of the data collection and interpretation, this thesis has provided insights in the normative elements of the applied methods and the role of researcher bias in this process. Studying social innovation faces researchers with three observation problems: the distribution of agency, the temporality of observations and the difficult detection of this phenomenon. In extension, this thesis has observed a partner meeting of TRANSIT, which has provided insights in how TRANSIT is dealing with the political/normative of the data collection, interpretation and construction of the theory. This also has provided deeper understanding of the normative and political elements that have been discussed in the section about the emergence of TRANSIT.

Taken together, this thesis has fulfilled three purposes. It has explained the theoretical foundations and tools that the co-production provides to understand the interaction and intertwinement of science and politics. Applying this framework to the Maytrouska doll that consists of the EU's knowledge politics linked to social

innovation, and its inside layers all the way to TRANSIT, has developed understanding of the various co-production dynamics that are taking place herein.

6.2 Discussion

This scientific exercise has developed just as much (new) questions as answers. The last questions answered questions here are related to the validity and the limitations of this research, which are followed up by suggestions for future research.

The co-production framework together with the constructivist research design regard the socio-technical reality as a construct of human minds, therefore reality is perceived as subjective. This understanding is closely in line with the two analytical foci of this thesis. Although this type of research acknowledges reality as a construct of human mind, which leaves room open for different interpretations. The overlap between the applied framework, methods and analytical focus on (research) policy and knowledge production reveals that this is done consistently. It needs to be considered, that such a method always leaves elements outside of the equation, especially when three four different methods are used to construct an image. In this case, there are some elements that have not been taken into account. The relationship between the EU and TRANSIT could be described well by interviewing agents that are working in the (research) policy domain of the EU and have funded TRANSIT. For example, this can explain more about the incentives of the EU to fund this research project. Additionally, TRANSIT is an on-going project, of which this thesis has given just a description of a certain time-span. In others words, this value of the participatory observations in the daily practices have not developed a sufficient image of TRANSIT as a whole, although this is hardly impossible since TRANSIT is a international project that is spread out over various locations. In contrast, providing insights of the partner meeting is a efficient and sufficient way to develop understanding about the interaction between the various researchers and the advisory board, while at the same time constructing a comprehensive understanding of the pitfalls and successes that the researchers are facing.

The theoretical objective of this thesis: describing and explaining how the co-production framework is an adequate and accurate tool to describe the interaction between science and policy has showed its value. Additionally, by applying this framework to the domain of social science and science and practice, the changing policy context in which science and politics occur has been pointed out. These two

elements reveal exactly why the underlying assumptions of the co-production framework are so relevant.

Besides developing a more comprehensive understanding of the analytical focus of this thesis, and thereby providing a more adequate image of the changing context, future research can focus on various topics. Firstly, making a clear theoretical and empirical comparison between the 'two communities' framework and the co-production framework can reveal which elements of these approaches are nowadays more relevant. Additionally, looking in different regions, policy domains can make one of the two frameworks come out stronger.

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