Visualizing a better city

– How the city portrays a technological marvel as means to enter the future

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Abstract

This study explores how the center 'Visualisering C' in Norrköping municipality ties into an actor-network that includes Linköping University, Norrköping municipality and Region Östergötland.

The purpose was to discern how the master signifier was 'development' was constructed and connected within the discursive field with differencing actors with the Visualisering C as a focal point for the actors. The method I used was discourse theory that explores the discursive field with the help of discursive concepts such as nodal point, master signifiers, floating signifiers among others. The study used public documents found on websites and archives. The results showed that the Visualisering C acted as pre-packaged solution for the issues that the other actors were faced with. Meanwhile, it came to be through the joining of discursive focuses of the individual actors.

Nyckelord

Visualization, Actor-network theory, Enrollment, Discourse, Norrköping
Foreword

This study is a result of my three years at Linköping University where I have spent my time understanding society in its entirety. For this I would like to take the opportunity to thank my many friends, near and afar, for all their support in my times of need and beyond. I would like to thank them for their critique, inspiration, adoration, which I will always cherish thinking back to this period in my life. The process has been an adventure as I have delved into the academic field that I hope will be part of my future, with luck and effort it might be so.

I would also like to take this time to thank my mentor Mathias, without your input this study would be much duller.
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Introduction

The 27th of May 2010 marks the day which Norrköping municipality opened the doors of its then latest investment for the local community. It was the day when the Visualisering C (also called center or C in this study) opened for the world. The media hailed it as a compelling investment into the knowledge society and due to its unique location, a lift for the city with its rustic, old and industrial scenery with modern leanings, creating a paradoxical mix of modern and tradition. Since the inauguration the center has been a focal point for Linköping University and Norrköping City due to the embodiment of technical investment, knowledge and expertise it has come to represent for the city, the people, and the University which supports it. As late as 2017 the Knut and Alice Wallenberg foundation donated 70 million SEK to the center to develop content for four other scientific centers in Sweden and to upgrade it with new equipment to stimulate the public interest in the center and what it produces. Visualisering C has come to be central marker for Norrköping in its ambitions by discerning itself from the competition and putting Norrköping on the map by being on the forefront of visual technology. Putting it as a central in the strategy for Region Östergötlands “Smart Specialization strategy” report and labeling as a vital asset for the entire region. With this study I hope with the help of discourse analysis explain the reason it has gotten so much attention from the local community, but why it is so being teased below. With this amount of interest in the technical infrastructure this begs the interest of understanding how we imagine this infrastructure helps us. What makes the center so interesting to invest a fortune to be able to provide animations, drawings, calculations and so forth? The technical and scientific data, facts and information controls and dominates our daily lives in the 21st century and we have yet to really ask the challenging questions that might make us understand how this technical expertise might come to embody the assistance we imagine they provide. Concepts like innovation, technology, modernity are all necessary to explore to understand the inner workings of the socio-techno mechanics that drive our society and way of life in unimaginable ways. But to be more concretely, in this study I have decided to use tools such as discourse analysis to help me unveil a field and ANT theory to map it.

2 Region Östergötland, Smart Specialization strategy, https://wssex.regionostergotland.se/regsam/Kompetensf%C3%B6rs%C3%B6kjning%20och%20f%C3%B6retagande/F%C3%B6retagande/sammanfattning_smart_specialiseringsstrateg_ostergotland.pdf (Accessed 05/2018)
The purpose of this study is to map and understand the underlying discursive construct of ‘develop’ as a concept. I aim to use Visualisering C as a focal point for the research. The study also aims to use the different actors which are involved in Visualisering C as these actors are all part of the project with distinctly different aims, methods and goals. They thusly will be part of the discursive field as negotiators of the concept.

To achieve this aim, the questions below are necessary to answer:

1. How is the concept ‘develop’ perceived and understood by the associated actors of Visualisering C?
2. What do the actors seek to achieve with Visualisering C. How does it further their goals?

For this study the research questions have clear purposes. How and What is what it seeks to discover. Hence why I stated these questions, it could’ve easily been other questions such as Why? or When? But my wishes for this study it to be exploratory. Therefore, I wish to have ‘How’ as a central premise, how arranges a study purpose to explain, present and highlight the mechanisms and the inner workings within a field. It is in a sense a question word for the curious side of any student, while for instance ‘why’ motivates to understand motivation, intentions, agendas. Albeit it is interesting unto itself, it does not progress my study. But, for my second question I have asked ‘What’. This formulation of what drives the study to describe a scope, field or domain. It simply gives a primitive map of what it might encompass. It is a question that might comb the scale of the area I have interested myself in. To explore this map, I will use discourse analysis, and Actor-Network theory. Two concepts and ideas that will be explained in later chapters.

**Delimitations**

The sample choice I have selected for my gathered material is a mixture of regional, local and national level documents discerning a variety of perspectives. Essentially this mixture of documents was selected out of convenience and availability. Most of the documents were readily available and collected from Norrköping archives, the municipality website and various government or regional websites. The sample size is dependent on the size factor regarding the partners working with Visualisering C and their relevance to the study. For instance, the partners regarding the maintenance for the Center was discarded to refine and narrow down the number of available partners for study. Those who were closely working with the Center were selected or have the Center in mind for the regional growth or innovation projects. To present a more concise study, albeit more actors would be interesting as well.
Background

We are in a new era of technological development. This progress is moving so fast that the newer, better technologies are improving by the months or weeks. The social scientists and engineers of today are heralding this new progression as a fourth industrial revolution or a technological revolution. Sweden and Östergötland are both powerhouses of new technological discoveries, machines and innovations. But how and in what way are they powerhouses?

Together shall we in Östergötland reach a sustainable and balanced growth.3

This is the first sentence that Region Östergötland states in their established Smart Strategy report. in this they highlight several areas of interest wherein they deem essential, and important for the region in order to develop more viable business opportunities among others. A treasured resource they stated in this report is the opportunity of visualization and interactive research to enable to provide a variety of services and products. They specifically point out Visualisering C as a central key figure to provide said services and products. But it started conceptually in the 1990s as an exhibition called “Himmel och Hav” as means to revive, renew and recreate the now still and old industrial landscape that dominated central Norrköping. Initially, it was designed to be experience-based media meaning that visitors were intended to be “hands-on” the exhibition. This idea eventually died down but reimagined into something closer to the Center which exists today.4

Visualisering C today, is a Center for developing new visualizing techniques and interactive media that has come to be an integral part of Norrköping municipality and its strategy for the city and local community. During the 1990s when Norrköping was suffering from an economic downturn followed by a slow stream of migration out from the city, both for companies and inhabitants whom saw there was no viable future for them.5 The founding fathers of the project saw it as a complement for other attractions and hoped it could spur investment into the now dying city. It was a hopeful idea by bringing several partners together, including Linköping University and many others. Since 2010, it has spurred up national interests and is now become more than just a local technical or entertainment center, it has evolved into a concept and representation of ambition much like so in the 90s.6 Albeit even at its inauguration it was a carefully optimistic experiment, causing worry

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3 Region Östergötland, Smart Specializationstrategy, p. 5
4 Norrköping Visualisering C, Norrköping Visulizationcenter C – It couldn’t have happened anywhere else, Norrköping, 2010, p. 49 ff
5 Ibid, p. 49 ff
6 Norrköping Visualisering C, Norrköping Visulizationcenter C – It couldn’t have happened anywhere else, Norrköping, 2010, p. 53
that it might be infringing at its surrounding environment. In stark contrast to the innovative powerhouse it is praised as today. Earth Autopsy for example, is a new tool that the Center added to its arsenal in order to understand pollution in the city as it expands, building newer housing and offices into areas previously occupied by old gas industry. Linking city and technology further and giving opportunity for deeper perspective for projects such as building new housing areas, sanitizing polluted earth and inadvertently intertwining us together with the surgical precision of the Visualisering C. This gives rise to how the Center is a viable partner for different actors in society and how it is valuable for these partners. It has links with private and public sectors alike and is used as an essential tool in different developmental efforts, whether it is for expanding new horizons for the city or making projects with businesses. It has become a key figure to visualizing a new future for Norrköping with its positioned location in the old. This new industry is located where the old once boomed with sound and light, showing the hopes and ambitions that this place holds for the community.

Method

In this part of the study I will explain what method that is relevant. For the material I have gathered and summarized I intend to use discourse analysis to analyze said material. But what is discourse analysis? If you ask social scientists like Alan Bryman he would answer that discourse analysis is a tool of understanding a discussion or topic from discerning words and their meaning in different or single discursive fields. But he says it is not necessarily so simply explained. Bryman would present discourse analysis as a theoretical tool that aim to understand a given picture of the world from the perspective of an organization, person, group or so forth. It means that it is a psychological representation of a view and understanding of discourse. It could be said that it is an inner social reality which is being represented and produced. Bryman would call this process or phenomena as constitution, as it constitutes a social reality using language and

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9 Alan, Bryman, Social research methods, Malmö, 2011., p. 474 ff
10 Ibid p. 474 ff
11 Bryman p. 473
sets reality for the actor in the discourse thereafter. But Bryman also states that a discourse is not purely about a discussion that are on a hypothetical level but that it also incites action or that it does something. Meaning that different thoughts, tactics and strategies are employed to achieve purposes through wording and phrasing.

But there are several other aspects of the methodology which are needed to be adhered to or at least mentioned in this chapter to understand it better.

Firstly, I would like to present this method as an anti-realistic. This is a central premise meaning that it denied or rejects a reality that is to be discovered or stumbled upon by others. The preferred method is through the interpreted reality. Secondly, I would like to present discourse analysis as a constructionist theory. Why I present as thus is due to the same argumentation as Bryman explains it; the presentation of a discourse is shown through different versions of reality from different members of the discourse. That is why it expresses different interpretations of reality and it gives a range of presentations and constructs a reality from those interpretations.

These two central premises are what dominates discourse analysis as a whole but relies not solely on these two. But if I am going to be more specific I intend to use a more theoretical method of discourse analysis called discourse theory. I will be explaining discourse theory with the aid of Marianne Winther Jørgensen whom have written Discourse analysis as theory and method, a seminal book in explaining this seemingly difficult subject. Her explanation begins in the outset of Laclau and Mouffes discourse theory.

Discourse theory is no simple matter to explain and I can only hope to present it in an easy and understandable manner, but we won’t know until I try. A discourse according to Marianne Winther Jørgensen’s Discourse Analysis as theory and method, is a fixation of meaning within a linguistic domain, where every sign within a discourse is a moment, a binding within the domain which has a difference from any other moment. This difference is significant enough for Jørgenson to call it differential positions, as their meaning is found within this difference. This is the overall view of what a discourse is. A field filled with knots, points or focuses that are filled with meaning due to their different characteristics toward each other. Some more important than others. A discourse is

12 Bryman p. 474
13 Ibid p. 475
14 Ibid p. 474
15 Ibid p. 475
17 Ibid p. 24 f
formed, sculpted through a fractional occupation of meaning around certain points that Jørgensen calls *Nodal Points*.\(^{18}\) A nodal point is an entitled or privileged sign within the field that other moments or discursive signs are ordered or sorted around. Meaning for the other signs are derived from the nodal point(s). Discourse theory in its core is centered through these concepts and makes sense of seemingly any field. But Jørgensen develops this further, or the concept of them to the smallest of details. According to her, a discourse through these concepts is established as the signs are in fixation to each other to create a whole, therefore it reduces other possible signs with diffuse meaning and exclude them in an effort to attain what Jørgensen means as a ‘unified system of meaning’. Albeit this is what is often described in others work, a sign with a singular meaning and acts as part of a stabilizing factor within a discourse, is rarely seen.\(^{19}\) As previously stated the discursive field is made up of several different signs or *moments*. They are valued differently in the field, some are more important than others. Jørgensen mentions these are called a *master signifier*. How she explains this concept is through explaining its relation to other signs, as different nodal points are organized in a discourse, the nodal points in turn could be connected to a master signifier as a master signifier acts as a representation or identifying signifier for the discourse, which could be understood as a ‘key point’ into a discourse.\(^{20}\)

For this study I have found it useful to use these methodological concepts which encompass most of my intended material. For clarity, I have made this simplified explanation with some additions:

- **Moment**: Any sign within a discourse.
- **Nodal point**: A sign where other moment or signs are organized around. It has no fixed meaning and is relational and can mean several things in different discourses.
- **Master signifier**: A sign whose identity acts as a representation and key into the discourse through association. For example: “Man” acts as a master signifier for strength, power and so forth.
- **Floating signifier**: A sign that is waiting to be stabilized by a discourse and given a position in it.\(^{21}\)

**Ethical reflections**

Considering the nature of my study and the collected material, there are not any invasive, ethically questionable element that might cause much controversy. In social research, researchers must act in accordance to certain pleas stated by the Science council. For those

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\(^{18}\) Jørgensen p. 26

\(^{19}\) Ibid p. 26 f

\(^{20}\) Ibid p. 40 f

\(^{21}\) Ibid p. 28 f
interested, I implore you to read more about it in their document linked in the reference list. At the time of writing the ethical considerations I have considered into writing this study are few or non-problematic. The nature of my study and work are non-invasive and do not in any way aim to use ethically sensitive material. Due to the public material that I will be using, the ethical considerations are not applicable due to the non-private information or data that I will partake in. In other words, Thanks to the public information, that is available to everyone there is no need to reflect upon my gathered material. Nonetheless, the other possible ethical issues that might arise are the treatment of the gathered material as it might point out individual organizations, individuals or such which could be perceived as condemning if the research has a critical approach. Otherwise, there are no ethical barriers now. Albeit there might be other ethical issues that I have yet to explore, but those avenues are yet unseen for me which might present themselves during the work of the study. Furthermore, have I not had extensive knowledge in beforehand as I started this study, both in theory and the gathered material. But I as author for this study attempted to have a distanced, neutral but analytical gaze on the material, so I in ethical and scientific terms could reflect upon what it might represent without a preconception to what I had gathered. Likewise, did I attempt to keep this analytical distance in the selected actors as the selection was made in the interest of time and availability. But what could I have done differently? For the study many choices were made, such as the choices in theory, method, and the actors in question. Could I have used other methods that might have given this study more depth? For the material and its sources, I have chosen to collect a variety of documents, but could I have instead chosen interviews as means to gather material? I believe that it would have given this study a harsher ethical dimension meanwhile yielding material that would have left questions unanswered as I believe it would require a multitude of subjects to deeply discern actor goals. But maybe with the combination of them both the study might have had other interesting dimensions. For the theory and method I had chosen, both were established in the social science for a long time and I as the author for this study thought they could complement themselves nicely. Albeit, both could be interpreted as opposite end of the spectrum, one being a relational materialist while the other social constructionistic which could be perceived as problematic or inherently undoable. But as this study has shown, this is not the case. Otherwise, translations might risk loss of meaning and conviction, to combat this I have tried to aptly convey accurate translations. The loss could result in the shallow understandings of the material, but this is hopefully countered with the use of a multitude of document sources.

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In this part of my study I intend to explain the theory which will be applied to my material. First, I will explain ANT or Actor-network theory and secondly, I will deepen the theory with Michel Callon take on sociology of translation, a contribution to ANT which is relevant today.

ANT is a theory used mostly in STS, or otherwise called Science and Technology studies. This area of research is a comparatively young field that has been popularized in several ways, most notably in the field of technology and biology. STS is field that house a variety of anti-essentialist theories, which contrasts with what I will be presenting about ANT. But if there is a sentence to summarize the field; STS is a field that ascertains that science and technology is a deeply social and contested field. Meaning that the practices and knowledge is produced, reproduced specifically within the community. Meanwhile, the community itself works to contest those very practices to shape and change into new ones. Furthermore, ANT within STS was developed as means to understand the world from a materialistic-relational and seemingly simplified perspective.

Sismondo explains that ANT to help understand science and technology, arguably as a field called technoscience. He argues that the theory helps us understand through the eyes of actors and networks. How relations work and come together to create alliances that make the natural and social work. Sismondo exemplifies by using a political actor that shapes alliances through networking to maintain and establish power and similarly so do engineers and scientists. Yet the actors in ANT are not homogenous but rather heterogeneous meaning that the network is composed of humans and nonhumans alike or 'inherently' different actors.23

Down below I will present several STS concepts which are related to ANT.

- Technoscience: The overall field of what STS and ANT operates in. A fuse of a sociological eyes on the world of technological and scientific techniques and artifacts.
- Association; The connection and relation an actor has to a network. For example, a Chemicals connection to the chemists.

23 Sergio Sismondo, An introduction to science and technology studies, West Sussex, 2010 p. 81 ff
• Interests; a concern or want which an actor possesses, which drives or incites the actor to create associations with others. This interest is mutable, ever-changing and is not solid to a single network.

• Translation; a process which how actors makes associations and connections to networks, how it is translated to be brought together and how the common denominator is for them and the network. This concept will be used in depth in my study.24

The concept of translation has been popularized by Michel Callon. Cecilia Åberg in her anthology explains his famous work; Some Elements of a sociology of Translation: Domestication of the Scallops and the Fishermen of Saint Brieuc Bay, which focuses on this sociology of translation that Sismondo briefly presented.25 26 According to Callon, translation is a way to describe the process of establishing new relations, connections within a network. To Callon, an actor which might connect itself to a new network has a unique type of processive translation. Meaning the characteristics are different as well as the different phases of a translation. But that these actors have a common denominator between all actors which they connect to build a common network.27 For instance, a translation process according to Callon could mean building an apparatus, research results, which means the level of abstraction is proportionally increased as the actors are increased. A translation has a meaning for each actor but that there is, as previously mentioned a common factor or denominator, therefore, developing the concept of generalized symmetry into ANT. Through this, Callon has shown a way which science and technology can muster themselves into affecting the social and vice versa, the social affecting the techno-scientific, this Callon calls the samevolution.28 To be more detailed, Callon uses of four moments of translations.

Firstly, how to become indispensable, Callons initial part which presents the notion of how the network is started through the process of what he calls problematization. According to him, problematization is achieved when one actor describes other actors and their identities in such a way and detail inside the network, they make themselves indispensable for the network they have sought to describe: making them into a what Callon calls

24 Sismondo. p. 81 f
27 Ibid p. 150 ff
28 Ibid p. 153 ff
Obligatory passage point or (OPP). This identification from the initial actor is a synthesized way they seek out, measure, identify other actors in their perspective while at the same time define themselves in relation to others. This could be achieved from the formulation that touches upon the social and natural that involves a series of actors.\(^\text{29}\)

The obligatory passage point is identifiable when they are constructed as being a necessity for which other actors must go through to achieve their own goals. This formulation is on the basis that they cannot achieve the said goals alone but rather must act in accordance in other actors with a common goal that is beneficial for all the actors included. They cannot achieve their goals alone due to what Callon calls a series of obstacle problem, which is unique for all actors. Therefore, the actors must ally themselves with each other from a constructed common goal which they believe is ultimately beneficial for themselves.\(^\text{30}\)

The second part in Callons book he calls; The Devices Interessement or how alliances are locked into place. In this chapter he presents that after an obligatory passage point has been established through the process of problematization in which other actors are identified and measured, they can be subjected the identity (including their goals, interests and so forth) which have been established through the problematization or reject the identity creating one by their own. This process is what Callon call interessement. Callon furthers this notion by highlighting that these actors are not identified by themselves, but that interessement is a competitive process as they are included into other actors problematizations. That these actors are being pushed and pulled from others to be defined in other ways to suit their network. The process of interessement, interposes, cutting off and reaffirms its connection between actors.\(^\text{31}\)

Thirdly, how to define and coordinate roles; Enrollment is Callons way to explain that through interessement an alliance is never assured. What he calls Actual Enrollment. Enrollment is where and when the group has reached the formulation of each other’s roles and is assigned acceptingly. Enrollment is successfully achieved when interessement is a success, this is only possible through negotiations, maneuvering, measurements which are associated to the activity of interessement.\(^\text{32}\)

Lastly, mobilization of alliance is the chapter which Callon asks if the spokesman for each actor is representative? He states that the smallest representation of each actor need to be faced with the questions whether they representative for the entire population. Callon in his work asks if the clams found are representative for the masse, asking if the activity of these few are applicable for the whole. According to Callon, this is where the natural and the

\(^{29}\) Åberg p. 157 f

\(^{30}\) Ibid p. 160

\(^{31}\) Ibid p. 161 f

\(^{32}\) Ibid p. 164 f
social meet in the impactful way. To Callon, mobilization of moving actor outside the ‘natural world’ and the social take place as actors are represented within a social sphere.

Previous research

Previous research regarding geographical and local investments or ‘branding’ of a city could be found in research by Sara Brorström from Gothenburg University. In her work; “Municipal investments of importance – a question of identity, reason and opportunity.” In her work Brorström finds and argues for a variety of how municipalities are working with municipal projects, working with how and why. For one example, she argues that municipalities have projects that in many cases as a representation for them as a local community but also to how the projects create identities for the community, this identity project is created for reasons that are founded as marketing. This will be further explained in this chapter. But Brorström develops this identity idea meaning that this is mostly created in the shape of how language is employed as a strategy. But that this identity is solidified in the actualization of buildings and events. Brorström also brings up the change of identity within a city, that it is hard to change the identity of a place as it is associated with feelings, events, history and so on. But that this in itself is a motivation. Other reasonings that she brings up are how growth, competition and creating symbols as part of how municipalities work. Nonetheless all of them are very interesting avenues that could possibly be related back in this study, which by then it will be explained in greater detail. Brorström states that these could be categorized as motives in term is ‘in-order-to’ respectively ‘Because-of’.

Other potentially relevant research is in the terms of place-branding comes from Elin Berglund in her doctoral thesis. She discusses place-branding with different perspectives. She discusses that attractiveness is being promoted to attract people using slogans, logos, campaigns and so on. For example, she argues that attractiveness is dependent on what and who the municipalities are targeting. She has found that many use, and have started to use, branding or marketing in their efforts to attract more which therefore has resulted in

33 Åberg p. 165 f
35 Ibid p. 146 ff
36 Ibid p. 150 f
37 Ibid p .1
38 Elin, Berglund, Perspectives on placemarketing, Phd diss., Stockholm, 2013
the increasing expertise or professionalization of the municipalities, as they themselves start to use it in entrepreneurial fashion but with hints of political elements, for example when they cooperate but also compete with other municipalities as a marketing tool.\textsuperscript{39} Berglund further explores that municipalities discusses their abilities to attract other with internal producer qualities and immaterial product qualities, firstly, qualities that could be regarding to living environment, job market. Secondly, immaterial qualities, could regard to vison and internal ideas about municipalities.\textsuperscript{40}

Furthermore, relevant studies made by Josefina Syssner are “To strengthen the local attractiveness - goals and implementations of local development politics”. In this report she has found that Swedish municipalities are dividing their development strategies into two categories or specific themes. Firstly, goals for the municipalities and their work with local development and secondly, strategies of developing municipalities.\textsuperscript{41} Regarding the first theme Syssner has found that municipalities value a common and long-term goal that is unifying of other goals that includes the interests of other municipality actors. Essentially acting as a carrot for the actors included. They have found that the municipalities feel they need direction and longevity in their work to develop the local community and without it there is no bigger picture that could be related to. Syssner means that the work that actors within municipalities are more in the form of ad hoc because of no distinct overall goal.\textsuperscript{42} Further, this overall goal is not as singularly defined as perceived. But that it includes working, negotiating what these goals are with the people it involves, the ones who are living there. Syssner argues that municipalities are faced with a great challenge as they have to try to unify their goals with the conditions and concerns of the inhabitants that in turn have wildly different issues and agendas. For example, they might interest themselves in their corner of the municipality while not having much care for other parts.\textsuperscript{43}

The second theme that Syssner identified is the implementation of strategies for the development of municipalities. In this chapter, Syssner means that there is broad understanding that there need to be a cooperative base between ideal and private actors, that by engaging businesses, associations and so forth. Further, the report states that in this theme there are two sub-perspectives on how the municipality engages the public. Firstly, the municipality view themselves as engines or active members that takes point and initiative of the implementation. Here Syssner means that there is an issue of

\textsuperscript{39} Berglund p. 124
\textsuperscript{40} Ibid p. 95 f
\textsuperscript{41} Josefina, Syssner, Albin, Olausson, To strengthen the local attractiveness - goals and implementations of local development politics, Linköping, 2017, p. 7
\textsuperscript{42} Ibid p. 21 f
\textsuperscript{43} Ibid p. 24 ff
overbearingness, that the municipality becomes a harsh partner to work with as it pulls and pushes as to motivate others to follow suit. Moreover, that this might create municipalities that pat themselves on the back after developing strategies and afterwards shelve them, arguing that they have “done what they were supposed to do” as self-imposed role models. The second perspective is of the enabling municipality, that it can provide, coordinate, and give rise to opportunities for local development initiatives that other actors might engage in. The municipality is therefore an enabler, or an actor that creates prerequisites, conditions for which others might find it easy to create their own development projects within the municipality. Therefore, hoping that other actors are turning themselves toward the municipality for help. But that this position is often boiled down to a form of assistant, as companies might use the municipality to help fill out forms or that the support actors expected were in form of financial aid, which the municipality often cannot support with. But they try to support in whatever way they can.

Summarily, the field is a mixture that has a range of different studies that explores how municipalities work in accordance to how to develop attractiveness and how they employ strategies to achieve their goals. Strategies of marketing, branding, symbolism and language are all explored by these researchers.

Analysis

In this chapter I will begin to present my findings and analyze them accordingly to the previously presented method and theory. The material I have gathered consist mostly of different public documents and website research. Initially, the analysis will compose of actors and their respective goals and obstruction problems. This part will include the initial analysis of how they perceive the concept ‘development’ within the discursive field and deepening as to how this concept is connected into antagonistic moments within discourses.

Who are they and what do they want?

Municipality - develop the city.

Norrköping is a municipality in Östergötland located next to the Baltic Sea and has existed since the late 14th century. It is run by a locally elected municipal council. They are the owner of the company Norrköping Visualisering AB. On the municipality website we can find a document called “General goals and goal fullfilment 2015-2018” which is plan that they have established for the municipality. In this the municipality goals are outlined and

44 Syssner p. 28
45 Ibid p. 27 ff
described to the public. From this we can discern the cities hopes and direction. In total they have three distinct targeted goals within 21 sub-goals to achieve these. Under the first target goal they have formulated it as “A growing Norrköping”. This is of most interest for this study. Below are some of the most interesting goals for this study. Some other relevant goals might arise further.

2. Norrköping municipality will have a positive business climate that develop and establishment and expanding of companies.\textsuperscript{46}

We can see the will that to develop is present in the discourse by the formulation of a temporal discourse aimed toward the future and the formulation of “will” in the text. Development is central here to highlight the aspect of business and commerce in order to make a viable city alternative. Brorström shows that a municipality concerns themselves to see that they are a viable alternative for people to move into, in which through the strategy of marketing of the place with the use language the hope to attract companies that wish to settle there and consequently people to move along with those companies as they provide job opportunities.\textsuperscript{47} Here we can start to see the central thematic goal for Norrköping municipality. To develop the city. This could be identified as the central interest for the city as an actor in the network connecting to Visualisering C as the material shown further highlights some of this. Moreover, we can see that Syssner is relatable in this quote. She has stated that many municipalities experience a lack of direction as they lack overall goals and plans that is applicable for the whole community. A unitary direction is shown to how the city must, or ought to be developed for a lively alternative. Syssner also means that the goals could be formulated as visionary, as many municipalities are engaged in issues that are formulated or are questions of fact.\textsuperscript{48} Hence balancing whether it is visionary or comparatively trivial. Syssner means that this is due how the to how the goals are formulated, if it is either formulated to deal with questions of facts or otherwise, in many cases to deal with how the local community is experiencing problems and therefore goals are formulated to deal with those, lacking a vision for the future.\textsuperscript{49} In the case for Norrköping we see that their formulations are clear for a visionary goal. The quote below provides that insight.


\textsuperscript{47} Brorström p. 155 f

\textsuperscript{48} Syssner p. 21 f

\textsuperscript{49} Ibid p. 23
Norrköping municipality shall be a municipality that is characterized by a safe and healthy environment, with social meeting grounds and green areas that invite activity.\textsuperscript{50}

As earlier stated, business is part of the vision for Norrköping. Below, this is further developed. During 2008 as the center was being built, the municipality arranged several kinds of documents that were directed into investors and interested partners to show the effects that the municipality was counting on if the center was established.

Norrköping Visualization Center in Kopparhammaren has a strategic location with the surrounding University, Norrköping Science Park, expanding knowledge companies..... The purpose is to create a meeting ground for research and development with society and businesses. From local to international to better seize the excellent opportunities that visualization provides.\textsuperscript{51}

Here we can see that the city has had the hope that not only commerce, businesses, and companies will establish themselves to help further the city, but also one that utilizes knowledge, locality and globality to make themselves relevant. Therefore, development is in this initializing discourse, a master signifier. Connecting nodal points such as business, local, global, research, knowledge to it. Brorström argues that municipalities associate being successful with growth, but not in the singular sense of economic growth but also population growth and further on.\textsuperscript{52} She points out that job opportunities are often a big motivation to why people migrate to new cities, she found that it could be a mixture of direct interventions and projects to create opportunities that could take form in job opportunities later down the line.\textsuperscript{53} But this motivation is founded in the notion of making the municipality attractive for others, as she argues that this point is hard to singularly discern and is most likely a mixture of different factors within a municipality. Whether it is a singular project or multitude of efforts involved, is unknown but Brorström explains that it is more connected to the overall effort and plan that a municipality has for the future.\textsuperscript{54}

We can see this come clearly in Norrköpings case down below.

Norrköping municipality culture- and leisure activities shall give our inhabitants, tourists and other visitors experiences of the highest quality. Therefore, Norrköping will be the regions culture capital and Sweden’s music capital.\textsuperscript{55}

\textsuperscript{50} Norrköping, Municipality, General goals p. 9

\textsuperscript{51} Norrköping municipality archives (NSA), Norrköping Municipality, Application for funds to Domteater Visualiering C, Norrköping, 2008, p. 9

\textsuperscript{52} Brorström p. 155

\textsuperscript{53} Ibid p. 155

\textsuperscript{54} Ibid p. 157

\textsuperscript{55} Norrköping municipality, General goals p. 5
If we relate this to the current development which Norrköping has, we can see that the city is partaking into a balancing act to where they must associate themselves as ‘developing’ the future while preserving the past as part of their historical inheritance of an industrial city from the 19th century. This comes from the motivation of creating the city into a newer version from its olden self. Meaning that the city intends to develop its’ own identity from industrial, old, rustic, into futuristic, modern and knowledgeable at the same time as being cultural.

Norrköping Visualisering C is built in Norrköpings historically rich Industrilandskapet, Kopparhammaren. With a balance between the older architecture marks the interplay between culture, and modern technology like so the transformation from an industrial city to knowledge city. The location near the stream, In the heart of Industrilandskapet with proximity to the University and Norrköping Science Park invites for a dynamic environment and exciting development.56

This positioning of the old and new makes for a mixture of nodal points which connect to a historical and futuristic discourse, employs the use of a networking aspect. As the old created the culture the city once had it will make to be of use by connecting to the future and other actors that might redefine the identity of the city. We can also discern that the city as an identity is not solid but fluid: changing itself, from and to one points to another. In this case the city has changed from the industrial town to the modern technological knowledgeable city that Norrköping attempts to portray itself as. But how is the master signifier relevant in this sense? Development of culture is enabled in the quotes above to answer that very question. Music, art, are connecting to the master signifier as to give a social, creative and abstract dimension to it. Creating contrast within the discourse.

Green areas, parks and the Walks is the basis to a contrasting Norrkoping. New city parts around the Stream enhances the city’s identity and modern architecture boldly complements our historic buildings.57

The historical relevancy has transformed the ‘development’ signifier as a preserver of history to connect it to nodal points where ‘culture’ is being the signifier that enables preservation of the past. In order to, enhance the future by portraying the previous thoughts of how the city was as a piece of ‘culture’ that creates a faceted city where diverse activity once was – relating it back to how it is today. Brorström discusses this notion in her study, she stated that municipalities take on projects as a way to change the municipalities identity. From one state to another, she explains that the geographical place is being associated to a specific history and that this makes it hard to create another

56 NSA, Norrköping Municipality, Application Domteater p. 3
identity, arguing that it is solidified in buildings and place. But, she also states that this is not only applicable to those who have been directly affected by the history, but that people absorbs the legacy that could be experienced.⁵⁸

Summarily in Norrköping, their goals are varied, multifaceted and show a multitude of ambitions that could potentially lead anywhere, if we are to believe their documents and goal visualization. Their future is riddled with historical responsibilities and is richly fused in their vision. Opting themselves as to balance the way the propel themselves into the future with the notions of cultural and historic development thrown into the mix, possibly creating something entirely new in their minds and not in the least, their city.

**Linköping University – Develop knowledge**

Linköping University (LiU) is a university which was founded in 1975 with around 27,000 students spread across three Campuses. Campus Norrköping which is closely associated with Visualisering C lies next to the center over the Motala Ström. LiU has several cooperation strategies with businesses and municipalities including Visualisering C and Norrköping. As they have like-minded goals but with distinct aspects, for instance they aim to increase the student population, be on the forefront of research and academia and to develop the municipality. Below is the overall organization goal and map that highlights various aspects which the University hopes to achieve. For example, they aim to create and spread research results that have international impact. This according to them helps create a university that has international impact where people and ideas meets and develops.

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⁵⁸ Brorström p. 151
But what are these methods and goals more in depth? How are Linköping University constructing these bubbles in the figure that is supposed to create the supreme bubble that dominates all others? What are they working with and processed?

The goal in this map is according to Linköping University to create

A university with international glow where people and ideas meet and develop.  

To do this the University has a process that is defined with two initial stages that contextualizes this more in detail. But before those stages are utilized they outline what kind of resources they have. Their definition is that they have an attractive academic environment that enables thing such as the ability to generate, prioritize resources, a professional and goal-oriented support, an offensive strategic recruitment and a good working environment with engaged and responsible leader- and co-working ship. In essence they cover a lot of different grounds as an organization and is in general consisting of vague, statements that in some sense might connect to each other and given a meaning to the reader as it describes and formulates a kind of day to day basis where as they can envision oneself in.

What is most interesting that this is also being founded in the type values that the university states to have in this very bubble, values such as new-thinking, result oriented, competition minded and cross boundary with an equally thematic mission statement that outlines how the university shall act to achieve their goals. The quote below shows these values in detail.

Our mission is to, from a democratic perspective and academic tradition, create, spread and utilize knowledge.

Again, we see the formation of ideals, and values that are the foundation to their resources that in turn are the foundation of the development plan to create a university that is competitive on the world stage, in relation to other universities.

So, these are the tools, what is the plan that LiU intends to use? In the lower bubbles we can see that there are three approaches. This stage could be summarily defined as ‘ought to’ steps.

The furthest most left bubble highlights and discerns that they must strengthen and develop internationally competitive research environments that also assumes


60 Ibid

responsibility for education and cooperation. Indicating that there is a perspective that must bring in others to cooperate and develop what they themselves possess as actors. Furthermore, they indicate that the development of student-related issues is another focus, that they can create, innovative programs and campuses that are challenging for the students studying. Lastly, the bottom right bubble is short but vague.

To continually develop and strengthen cooperation with the surrounding society.\(^6^2\)

This is could be related back to the first bubble but as a comparatively, more clear distinction of what they meant. Cooperation is important through these bubbles but what is more important is that they all have the perspective of the necessity in developing these areas as an initial strategy. For Linköping University, through the cooperation of other part of the social sphere enables them to relate back to the democratic values that they have stated in the onset of this mission. Whereas the hopes could be perceived that the return effect of being introduced to other actors that might contribute to their work and overall business.

How is this translated to the next step of their strategy? In the next piece of the map there are an equal amount of consideration to the previous steps. This stage could be shortly formulated as ‘shall to’ steps. In the same order as before, the lowest row takes form of ought to develop working environment to ‘shall’ create and spread research results that have international competitiveness. This shall be coordinated to acts a marketing tools that is pointing outward and toward the world stage with a challenging invite. Additionally, the second bubble shows a mixture of their tentative purpose of being democratically involved in society. They have made the step from ‘ought to’ develop competent programs for students and programs to ‘shall’ attract sought after students, professors for a sustainable society in a changing world. Last but not least, they have made the step of ought to develop ties and cooperating with society ‘to shall’:

Contribute to a social development on the basis of knowledge.\(^6^3\)

Through these factors in this order the university attempts to gain the overall goal which was to create a University with international glow where people and ideas meet. This is relevant for the study as the map is firstly, in its essence is not only map of what and how to do achieve this goal, but also an obligation toward others and itself as it develops. It contextualizes how and why it works with other actors. Secondly, this is Linköpings University’s version of their discourse. ‘Development’ was founded as a corner stone to how the University ought to act to achieve these goals, it came into the central periphery of the university and a necessity. Therefore, we can conclude and understand that for this actor the master signifier is ‘development’ and a floating signifier. As it as a moment within

\(^{62}\) Ibid

the discourse is being connected through this very map as part of the discourse. By understanding that the notion of development the university attracts nodal points such as ‘strengthen’, ‘competitiveness’, ‘education’, ‘competence’, ‘sustainability’ and ‘knowledge’ just to mention a few.

C-research; an appendix for Linköping University.

Linköping University in its efforts to achieve their goals has created C-research together with Norrköping municipality. C-research is a liaison acting for LiU and Norrköping, they coordinate research and is a mediator of what knowledge found at the center and vice versa. On their website we can discern the purpose of C-research and what it does to contribute to LiU.

C-research is a center for coordination of research within visualization and for its use within science and education, both for scientific communication and public spread. C-research represents LiU in the context of Visualiserin C and acts as a coordinator and interface toward other parts within C and external contacts.64

Here, we see that the C-research is a clear coordinator for what LiU and what the results they find within Visualiserin C. It acts as a liaison, mediator but is nonetheless an extension of the actor Linköping University. But this shows a central premise that will be important further on. These two actors have come to common ground into the creation of a ‘sub-actor’ of sorts, or in the most conservative sense; an appendix. Discursively, the introduction of a commonality has started as their goals have come to align in the creation of this actor, nodal points are starting to be seen as common in the previously separate perspectives of the actors.

For Norrköping municipality, it starts to act as the de facto knowledge center interface to where they can obtain competence and expertise. Meanwhile it acts as a center of outreach and marketing of the University for LiU. Creating and reaching competence to display the confidence and discursively continuing to connect nodal points of ‘education’ and the gathering of knowledge.

Here the interest and goal of LiU is taking shape but simultaneously with Norrköping municipality. We can see this when the goals of C-research are in a unison direction, pointing toward developing research and knowledge. But also becoming part of Norrköpings plan to establish themselves in the outward marketing as a knowledge-city, portraying the image ‘development’. To attract others, such as companies, people and potentially actors that might interest themselves in the municipality.

Inevitably, becoming part of the discursive field again with extra importance at separate nodal points which are connected to ‘development’ ‘Development’ in their perspective,

leads to development of nodal points such as knowledge, competency, competitiveness and so forth. The quote from C-research website shows the unitary direction that LiU has.

Catalyze an increased use of visualization within research and education at Linköping University and facilitate infrastructure at C for research and education at Linköping University.65

But if this actor is to achieve its goal it must navigate an or a series of obstacle problems which Callon mentions. According to Callon these problems are what create the dynamic parts of the network, creating points of connection toward and a common OPP. In Linköping University’s case what could be identified as their Obstacle problem?66 If we have their goal in mind i.e. develop competence and knowledge for the university to make a competitive university, what stands in contrast toward that? The lack of competency or ‘right’ knowledge. This fear of losing competence or having the lack of durable, competence and knowledge is the driving factor for the University to create more instances of cooperation which they hope might create competency, knowledge to deepen their research and education. A cycle of knowledge generation is sought after to develop their own infrastructure, competitiveness and to highlight themselves as an alternative for coming students and professors.

**Develop growth**

Region Östergötland is much like Norrköping Municipality albeit in a bigger scale with other areas of responsibility. On their website we can see that the organization is run politically with instances similarly to a municipality. But the areas of responsibility are different aspects such as healthcare and public transport but also things such as development. Region Östergötland is an actor in this study as they are heavily interested in the Center or what the Center produces as part of its plan Smart specializations strategy. A strategy developed by the Region to identify and seize the resources the region possesses to develop itself into a regional and national actor within Sweden. See quote below

The Region has a fantastic opportunity to position itself within areas that have growing needs of simulation and visualization solutions. For example, are those with system integrated industry, sustainable urban development, healthcare and not least private consumers.67

But it is not merely defined from this quote, it is stated in their Regional Development program that they have mission to create a ‘growth’ within Östergötland as part of other outlined strategies from higher instances such as the European Union and nationally. In their program they outline several types of ‘growth’ that they deem as necessary, types that

65 Linköping University, *C-research*, 2017, *(Accessed 05/2018)*

66 Åberg p. 160

67 Region Östergötland, *Smart Specialization strategy*, *(Accessed 05/2018)* p. 20
are sustainable, smart and economic growth. But they have three outlined goals which are essential for their work. Here we can see one such area.

A strong business sector and high employment.

The Region shall have a flexible and robust business sector, that makes use of the opportunities and stands strong in the face of change. The Region shall have a high and equal employment rate for women and men. Private and public companies should be able to recruit the type of labor they need and see the region as attractive for development and investment.68

There is a clear perspective that the region hopes to attract investment and knowledge. The formulation of “should be able to recruit the type of labor they need” show that their perspective is riddled with ideas of knowledgeable employees with the correct skills for the work that attracted companies provides. But once again the central moment in this discourse is ‘development’. In this part of the study it has been connected to ‘growth’ as a nodal point.

‘Growth’ is being order consequently after ‘development’ is being processed to be involved into the activity of the Region as an actor.

Additionally, the very document highlights this very notion that the region has a potential of growing in sectors of commerce and beyond, through the development and investment into technologies and areas which are associated with visualization. The region as an actor is actively seeking to establish ‘development’ in order to ‘grow’ as a region.

In their Smart Specializations Strategy document, they have stated that

The strategy Smart Specializations was developed in order to develop a political innovation idea that benefits an effective use of public investments.... But the strategy houses real competence that can strengthen any development.69

Therefore, the goal is to create ‘development’ but the Obstruction problem could be identified as ineffective, or untargeted financial investment. They connect development with the nodal points of ‘ineffectiveness’ and ‘strengthening’. As means to create a robust version of the Region where it is quick and decisive. But they are also connecting ‘development’ as into nodal points which are yet to be discovered by the actor. They intend to develop in directions that are including many other field while they are focusing on technology. Consequently, making ‘technology’ as nodal points as an introductory moment into other discursive moments which are yet hidden.

68 Region Östergötland, Regional development program for Östergötland, https://wssext.regionostergotland.se/regsam/Samh%C3%A4lsbyggnad/RUP%202030_webprint.pdf (Accessed 05/2018)

69 Region Östergötland, Smart Specializationstrategy, (Accessed 05/2018) p. 20
**How problems manifested themselves into the actor Visualisering Center.**

The Center was built in 2010 after many years of planning and coordination between actors, as of today it has a varied day-to-day basis. It hosts meetings, business ideas and so forth. It is owned by Norrköping municipality under the name of Visualisering C AB.

The center is a mixture and initial project of Norrköping municipality, Linköping University among others, the center could be argued through the eyes of the other actors as a creation of their own as part of their actor-hood. But it is better understood as an own separate actor if we apply Callon into how the previous actor’s goals can have manifested themselves into the Visualiserings C creating the Visualisering Center as a common Obligatory Passage Point or OPP.

All previous actors have ‘development’ as their separate goals or at least, in some sense, have development in mind in the construction of their own goals. Developing competence, developing growth, developing the city. If we perceive these in their anti-thesis or identify an antagonistic moment in the discourse, we can see that the discourse changes from the focus of goals and wants to the focus on fears. Incompetence or the lack of knowledge much like the obstruction problem that Linköping University is also applicable on the whole actor-network. They have allied themselves out of a commonality in the discourse, out of the hindrance or obstruction of incompetence. Incompetence of knowledge, incompetence of developing growth, incompetence of developing the city.

For example, we can see this when the Center response to a goal that Norrköping municipality established in their documents.

> The level of education shall be raised, more Norrköping citizens will have a work and unemployment will be reduced.\(^{70}\)

And as a response, Visualisering C answered;

> Norrköping Visualisering C shall increase the interest of technology and natural sciences.\(^{71}\)

In the latter quote, we see that the response that Visualisering C offered is connecting the discursive nodal point of technology, and science to the earlier quote by associating them to employment and education. Which are more relevant for Linköping University as they aim to spread and create knowledge.

So, we can therefore understand that the, essence is, Visualisering C is the solution for the hindrance that the actors perceive they have. Lacking the know-how to finish their own

\(^{70}\) Norrköping municipality, *General goals* p. 4

\(^{71}\) Norrköping municipality, *Owner directives for Norrköping Visulization AB*, [http://www.norrkoping.se/download/18.3ef6b1d158f1bd46e11d750/1489649026326/NVAB_agardirektiv.pdf](http://www.norrkoping.se/download/18.3ef6b1d158f1bd46e11d750/1489649026326/NVAB_agardirektiv.pdf) (Accessed 05/2018) p.1
individual goals. Hence, through this commonality the actors have unified in an alliance in beforehand to, to create another, ‘synthetic’ actor to which they imbue their hopes, ideas while a negotiation of interests and goals takes place in the foundations of the center. How it is run, why and what is produced in the center is tailored to how the actors have defined it and its role into the network. How the specific role was tailored will be further touched upon in the next chapter of the analysis. But we can start to detail the activity that Visualisering C currently has.

Visualisering C is acting as a main anchor or hub for the network in which many others are connected to due to ‘knowledge’ as a nodal point.

Visualization Center C conducts extensive and varied development of visualization and interaction technologies, systems and tools for visualization but also development of production and media, installation and businesses development.\(^7\)

Here are the materia that this actor produces. Designing, making, connecting visualization to applications and companies to spread visualization. This is the main goal of the center. To spread and develop visualization. Comparatively this is more straightforward construction of the master signifier. The overall goal is to create and spread their ideas and products. But they alone cannot do this, they are necessitated by others to achieve this goal. They need experts, marketing and coordinators that manage tasks that in turn influence, create and help them achieve this goal. In order to create their work, they have to rely upon other to make the basic foundations of their work. This if further found in the document that highlights the owner directory which outlines what goals and its overall direction. The quote below shows this;

The company shall be responsible for the service and maintenance of the public part of Norrköping Visualisering C and coordinate activity for the center. The company shall actively market the center through exposing the research and development results regarding the visualization and design which is produced at the center. The Company shall also produce.\(^7\)

Albeit, it is not alone in creating and show the designs and productions they have made it shows the overall direction Due to the mixed nature of the quote, by this I mean the conceptual mix of research, exposure and so forth. The Center is inherently dragged into an ANT process called enrollment. A mixture and a result of interessement which Callon would argue is a push a and pull processes regarding the remaining actors identity.

\(^7\) Visualisering Center, Development, [http://visualiseringscenter.se/utveckling](http://visualiseringscenter.se/utveckling) (Accessed 05/2018)

\(^7\) Norrköping municipality, Owner directives for Norrköping Visulization AB, [http://www.norrkoping.se/download/18.3ef6bd158f1bd46e11d750/1489649026326/NVAB_agardirektiv.pdf](http://www.norrkoping.se/download/18.3ef6bd158f1bd46e11d750/1489649026326/NVAB_agardirektiv.pdf) (Accessed 05/2018)
Enrollment in the context of my material will be further explored in coming parts of the analysis.  

**Interessement, Enrollment, - actor identity under negotiation**

Now that we have seen that these actors are playing a part of their own, we can start to discern how they are identified through the discursive motivation of Visualiseing C which I have regarded as the Obligatory Passing Point motivated with the help of Callons argumentation of ANT and the discursive movement of the field.

How is interessement formed in the first place could be understood through the perspective of our Obligatory Passage point. Prior to becoming an OPP the Center as an actor, according to Callon, creates a problematization of other actors in the network. This is when the OPP-actor creates firstly themselves as indispensable for the remaining network through the formulation of the other actor’s identities. Those actors are outlined, defined, negotiated, measured in order to be identified by the OPP, or in our case, Visualisering C. But we have already stated that the center itself it a mixture of different actors in order to solve their separate obstacle problems, hence creating Visualisering C as an actor in the network and allying it with the others. So how does the interessement process even start in this case? According to Callon, interessement is the process of pushing and pulling the identity of actors, through negotiation. But for us we can see that this is applicable in the reverse order. That through the drawing of the OPP we can see the different identities that are taken shape within the network. For instance, during the birthing of the Center, both Norrköping and LiU agreed to cooperate in the form of an intention agreement.

In LiU’s case, we can see in this quote how their identity was formed during the negotiation.

> Linköping University is a guarantee of the high quality in the center’s work. Competence within foremost visualization and design shall be continually persevered and exposed in the centers work. The Center is also an arena for publicly targeted educational and research projects within the areas of visualization, new media and design.  

And if we compare it to Norrköping municipality

> Norrköping municipality is responsible for the maintenance of the Visualizationcenter and the collective responsibility of the economy. The maintenance includes the practical management of personnel, rent, miscellaneous costs and maintenance.

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74 Åberg p. 161 ff
75 Ibid p. 160 ff
77 Ibid p. 1
Therefore, comparatively, they have the identities of ‘knowledge provider’ respectively as a ‘maintainer’ and the roles are immensely different. For Norrköping, there is a passive note for how the center is maintained other than practical issues, meanwhile for LiU it is an expression of themselves and an interface between them and society. Concurrent to their goals. But how did this come to be in the terms of discursive movement? I’d argue that this came to be during the identification of the actors’ individual obstructions. Discursively, they identified separately, but conclusively, that they have a common issue of incompetence, and therefore shifted the discourse to ‘development’ of ‘knowledge’ to ‘development’ of ‘competence’ or the creation of ‘right’ knowledge that might lead the actors to a preferable ‘development’ of their plans and strategies.

Callon states that the interessement process is usually negotiated, but it also interessement of other actors that are included into this process. There is more than one actor pushing and pulling on the actor in question, but that several actors are working in unison or, against and so on. The actors are being pulled apart in every direction where an actor is associated with them and the activity of interessement in its essence, is the way that actors attempt to favor themselves by establishing devices between their favoured actor, and the ‘other’ actors, this is otherwise called interessement activity.78

In our case we know that the interessement activity has taken shape between actors and to the center. Earlier quotes highlighted this as well. Actors between themselves have used language as their tool to push and pull on the identities of others, by applying nodal points to identities of the actors they have the foundation of understanding assigned responsibility in the network. This actor does this and the other that. But in the discursive sense, this has meant creating associations between the discourse and an actor which is culminated into Enrollment. To Callon, if interessement is successful it will lead to enrollment where these identities are formulated into roles that are being produced by the actors.

So, in the case of understanding Visualising C in the terms of Callon’s interessement activity, we can understand that it was not a proactive actor in the beginning, but rather, a retrospective construction of the actor. That could be discerned in goals of each actor. Acting as a hidden, unveiled, unknown question mark as an actor yet to discovered or managed by the other actors. But as they were developing the center itself acted as a mediator for the discursive process of interessement where actors applied language as a tool to create what this synthetic actor will pertain to what it will be acting as.

What are the roles for the actors? How were they negotiated with discourse as a tool, is the question that could be further explored. In the paragraphs above we have briefly overlooked how the process of interessement and enrollment has taken place in the network that is connected to Visualising C. But concretely and discursively how does it

78 Åberg p. 162
look like? How does it relate to the overall goal of ‘developing’ the ‘right’ kind of knowledge?

In the case of Linköping University, the discourse has defined it as an institution of knowledge or ‘developer’ of knowledge where know, education and expertise is seemingly pouring out and need only to be directed, focused and captured for societal gain. The university itself claims this as well when it formulates its plans to cooperate with outside actors. For instance;

    We contribute to a societal development based on knowledge, something that necessitates a continual work to develop and strengthens cooperation with the surrounding society.  

This could be considered natural for the University and other actor to perceive them as, but by reflecting to what their individual (also, their commonality toward others) Obstruction Problem is we can start to pick apart their role and common interessement activity in the discourse. The lack of competence as their obstruction has created in the discourse a duality of their goals. Where as they seek knowledge, they also provide it to others. All while providing more subsequent ‘found’ knowledge to create more ‘competence’ See the figure they have made which simulates this very well.

This is further seen in the quote below.

    Our university us an open, creative knowledge environment where people and ideas meet and develop, a melting pot of influences where new knowledge is generated and communicated to an atmosphere that is characterized by genuine dialogue, scientific curiosity and desire.

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80 Linköping University, Cooperationpolicy for Linköping University Universitet, (2014) p. 3

81 Ibid p. 3
So, the University has taken on the role of knowledge instruction, provider and mediator for the network. That through the discursive roundabout of knowledge, sustainability, welfare, research, education all linking back to how development as master signifier is used in their discourse but also as a floating signifier. This perception is also strengthened in this case when the other actors come into play as using the ‘University’ as a nodal point to their interpretation of the master signifier. So, by process of including this actor into the network has also usefully negotiated a specific role for it. This role reaches further when Norrköping municipality has taken part in this discursive negotiation by strengthening its position by marketing this actor as part of the network outwards, with the employment of language as a marketing strategy. For instance;

The university in Industrilandskapet attracts more student and scientists. In an innovative environment stimulation of entrepreneurship and businesses, that with a scope and tip attract talent and different competences.\footnote{Norrköping municipality. \textit{Vision 2035}, (Accessed 05/2018)}

Norrköping municipality in this sense is connecting the university and itself as a focal point where nodal point of development are being gathered and mixed. Innovation, stimulation, entrepreneurship take center stage in the quote that attempt to show what it has and attempts to have.

This quote relates back to how ‘development’ is related to a market-based perspective for the municipality. Where ‘development’ is connected to ‘business’ as nodal point to whereas ‘business’ itself is in turn connected to ‘competition’ and ‘markets’, where the municipality is representative. Marking in this case, the city as market attractive, consequently marking Norrköping as a meeting ground for commercialization. Consequently, ‘developing the city’ in the eye of the municipality. But, the quote also highlights that the work of attracting other is with a multitude of components. We have already explored this in earlier chapters, where Brorström shows that what makes the city attractive is most likely dependent on several factors rather than one.

This could also be the ground for how Region Östergötland is invited as an actor for the network. For them, development of growth is central. How they go about to achieve this is intertwined for how the cities and municipalities are being used in the network and what their roles are. Syssner mentions this notion in her introducing chapters of her report. She argues that regional development has recently been focused into term of growth internally and to engage in interregional competition, competition of investment, employment opportunities, companies, students, tourists and migrators. Further, that this is often referred by the discussion that successful regions are successful due to factors that based in social interaction, factors such as trust, entrepreneurial spirit and culture. Arguing it contributes to the ability of cooperation, learning and confidence. Further, in some
instances that this is found in the lively culture that consequently acts as a magnet for investors and qualified labor within a city. This could be related to the quote;

Within the area of visualization connect actors such as Interactive institute Swedish ICT and Visualisering C with research and experimental production within visualization and interaction design. The latter being a close cooperation between Norrköping Municipality, Linköping University, Norrköping Science park and Interactive institute.⁸³

So, for the network the role of Norrköping municipality is to market the city as a meeting place of all things that are included in the network. Competence, attractiveness and so on are being tied down to the city as characteristics. The role of the Region is to act as scaled up-version where it is supposed to attract interregional actors or international actors that could establish themselves inside the region that inevitably is fulfilling its goal. By the ‘development’ of competence they attain their goal of ‘development’ of growth. Therefore, in the discursive point of view they see the connection of Visualisering C as a means to their goal.

So, all the actors above we have come to understand that their roles have been to specialize themselves in the network in different aspects of the network, for LiU it is to create knowledge, meanwhile for Norrköping and the Region it is to market themselves towards others, nationally and internationally, as to make them viable toward others. In this interest and cooperation, they have made a new actor almost synthetically from their own goals that acts as an solution of their overall Obstacle Problem – lack of competence or the right type of knowledge. The center itself therefore acts as a packaged solution and operation that was made from picking parts of other actor within the network to create the qualities and characteristics is has made itself of. It is hard to distinguish whether it is an actor itself or an extension of the other actors, but we understand it better after we have examined the discourse that has taken place.

**Concluding remarks**

The analysis has been able to discern, that ‘development’ has been a master signifier and floating signifier in this discourse surrounding actors such as Visualisering C. But that the nodal points that have been associated to it is inherently different depending on what actor is at play. The university might see that the discourse is connected toward competence or knowledge for example. Meanwhile it is more focused around growth and competition for the Region as an actor. Therefore, the discourse is constructed differently depending on

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⁸³ Region Östergötland, *Smart Specialization strategy*, (Accessed 05/2018) p.21
who, and the actorial goals and interests are similarly different depending on their perspective but becomes unified when the actors see their interests align.

The construction of interests could be listed as secondary as they are being dependent on how the discursive master signifier could be identified and defined through the connections it makes toward other nodal points. Or in other words how these chains of equivalence are being eventually linked. This is even further shown when the actors different goals eventually come into play after the problematization and enrollment process starts. Therefore, after an actor has defined a master signifier. We can therefore see, it is inevitable from a discursive point of view that through this theory of alliance-making-networks they will be presented to other nodal points and moments within the discourse as they interact with other actors within the network. Consequently, connecting nodal points into each other’s perceived field of discourse. This discursive shift take place during the negotiating of Callons interessment and enrollment process. All because their interests, goals and are bargaining chips and tools to which they seemingly play to stay relevant in the formed alliance in the network. In this case, the network, has manifested as a pooling of interests into the creation of an actor that is a pre-package solution to their respective and common Obstruction Problem.

We can thereby conclude that the discursive field and its order does something when the network, negotiates and maneuvers in its allying phase. It could be understood as the interessement-activity taking shape into the discursive field and vice versa. As the nodal points connects actors through the interessement and enrollment process, it takes over to unify the actors into a cohesive network alliance. Solidifying how the discourse could be ordered through the identification of the actors but also through the mutation of the actors to fit respective actor’s goals, as it is in the case for Visualisering C. Adopting issues and solutions to package them in a one-size fits all actor, setting course for how the actors can develop their respective goals. Consequently, creating unison in their newly-shaped alliance. We can therefore understand that through the imbue ment goals for the Visualisering C we can conclude that it has become an epicenter, that is a mixture of symbol, branding and marketing for the municipality and many more. ANT has therefore in this study been a relational description to what happens when actors come together concurrently to how the discursive field has started to describe those relations as it has shifted. Shaping through how perception is being formed when others act upon it while acting toward themselves, which in this study case been to visualize a future, better city.

So how does this reflect to the research questions that I earlier formulated?

I had formulated;

1. How is the concept ‘develop’ perceived and understood by the associated actors of Visualisering C?
2. What do the actors seek to achieve with Visualisering C. How does it further their goals?
For this we can come to understand that the master signifier ‘develop’ each have their own meaning for every actor. That it formulates their goals in their respective organization and that it consequently ended in formulating the center as the means to attaining their goals. As previously reasoned in earlier parts of this chapter.

But how could the actors be understood in a larger scientific context? What could be used for future research? Syssner in her report, which I have used in this study, states that the municipalities cooperation strategies could be understood from several dimensions. She stated that from the perspectives of implementation and goal visualization there are subsequent models that could be used in order to understand cooperation strategies.

In the case for goal visualization they could either be unitary or pluralistic, meaning that the work be directionally unitary toward a singular goal set in mind that is applicable for the municipalities strategy of local development. While on the other side of this spectrum we have the pluralistic formulation, stating that the work could be dispersed to include several end goals that is applicable for different aspect of the work inside a municipality.

Secondly, for the implementation of these goals, Syssner argues that this could be understood on the spectrum of uniform versus interactive. That, on one side we have the municipality as a role-model taking the matter into own hands and expecting other actors to jump on the bandwagon to achieve their goals while on the other side we have the interactive municipality where they facilitate, ease and encourage development

With this we might understand the translative movements that Callon describes even further as it shows and highlights the characteristics of actors and how we can more interactively understand their position in their networks. But how they are constructed more detailed and how they are acting in roles could be even more interesting to research if the combination of the figure spectrums were to happen. Syssner makes this point and show the very combination of these qualities might take shape to create the kind of municipality that inhibits a variety of positions in this spectrum. To Syssner this combination of these two spectrums and the subsequent creation of the model could be related to the way of how municipalities are politically legitimized from their ideas of implementation and goal visualization as reflected on those who elect the municipalities. Bringing in another dimension that could potentially be worth of studying further. As in the sense of ANT, it could relate to the understanding of goal formulation and Obstruction problems. But also, how the actors could be used to attain goals within a network. For instance, in this study I could’ve explored the effects of the municipality has formed its goals as part of democratizing technological supplier. How visualization could have been brought to be part of a broader market solution to lower costs in welfare, areas such as elder care, education and seeing how that could have taken form in relation to ANT and these models that Syssner has presented as a tool for empirical analysis. How these actors act to be a mediator of the supply and demand of technological tools or in ANTs case actors.
This argumentation could be further explored by using the fourth type of translation from Callon that is relevant in understanding actors is if the actors could be representative.

As public actors that are acting inside the network could be understood as responsible in a democratic sense. Actors that could be understood to act as an actor with a legitimacy issue, where as they have to present themselves as legitimate in seemingly strange and impractical investments. But where it is retroactively being portrayed as a good. Many in small communities might recognize this notion, that investment is being spent on projects that might lead nowhere but is still being actively marketed part of the community. Begging the municipal council to rather spend their tax revenue on ‘real’ problems that the inhabitants themselves concern with on a more day-to-day basis. This is legitimate perspective therefore open up the area for studies where legitimacy of political actors can come into play, whereas they could possibly belong through the argumentation of how the other social issues could be represented. For instance, issues of class, gender and so on.

This is where I would like to encourage other to contribute and to further explore how ANT could be applied society as a whole. I encourages others to be creative and find other iterations of the networks that I have already mentioned as ANT has seemingly endless opportunities.
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