



# THE REGION, THE TOWN AND THE HERITAGE: FUNCTIONAL LINKAGES ON THE PERSPECTIVE OF INDIVIDUALS' SOCIAL PRACTICES<sup>1</sup>

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## Abstract

Improvements in regional transport infrastructure have stretched individual's alternatives in regards to places for living, working, recreating and participating in civic activities. Beyond enlarging labor markets, these improvements have also changed the social character and the spatial configuration of urban milieus affecting as well the urban heritage. This paper investigates the functional linkages between the region, the town and the heritage on the perspective of individuals' social practices. The theoretical approach hinges on two understandings (i) social and physical structures constrain and enable individual and social activities and (ii) individual and social activities are an outcome of various processes based on needs and desires, which are dependent on individual, social and physical prerequisites. Based on this reasoning the paper proposes a model that comprises the region, the town and the heritage. In depth-interviews are the sources to design three personas that belong and represent each one of these social systems. The interviews also describe personas' social practices which are the parameters to assess the functional linkages among the region, the town and the heritage. The model is tested in the empirical context of Mälardalen Region, in Sweden in which Mariefred is the town and Gripsholm castle is the heritage. The results suggest that the model is appropriate to depict the functional linkages between the region, the city and the heritage.

Key-words: regional integration, urban heritage, functional linkages

## 1. Introduction

Improvements in regional accessibility have changed commuting patterns and cities' demographic and social structures (Champion, 2001). According to urban economic theories one of the consequences is that there will be fewer and larger big cities and they will be further dispersed in space (Krugman, 1996). Thus while some cities will expand other cities will shrink.

The consequences of increasing regional accessibility on the internal dynamic of cities are uneven and at large extend unknown. The enlargement of job markets accessible to the population by means of better transport infrastructure might have negative effects in some cities, whereas others in the same region will benefit from the development. One result of better transport facilities is that competition between

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different localities most likely will increase, as a greater number of local places will come up for consideration when people and companies choose between possible locations. Improving regional accessibility also magnify individual's alternatives to perform their activities in different places within the region, altering thus, their character and consequently contributing to reproduce and transform the region as a whole and thus the cities which are part of it.

The intra-urban structure of cities is also influenced by improvements in regional accessibility. Taken heritage as one of the components of the intra-urban structure one can argue that the existence of heritage in a town associated with improvements in regional accessibility might influences individuals in regards to place for live. Thus, heritage might lead to urban development since it may attract newcomers. Furthermore, newcomers may imply urban expansion affecting negatively the conservation of heritage. For example, undeveloped urban areas which stand for heritage preservation might be target for development. The dual and conflicting role of heritage as an attractor and restrictor of urban development makes heritage an interesting example to discuss the effects of improvements in regional accessibility on cities' intra-urban structure.

In this sense this study deals with three different scales: regional, urban and intra-urban and focus on the functional linkages among them. Previous studies (e.g. Taylor, 2004) have dealt with urban networks in terms of volume of contacts between cities based on number of work places within firms. Others based on system theory have created linkages between urban sub systems based on flows of people, goods etc. Nevertheless, none of them have approached functional linkages based on social and system theories and on individuals' social practices anchored in structuration theory. We argue that the functional linkages between the region, the town and the heritage are product of how individuals stretch their territorial boundaries through their practices.

Therefore, this paper aims at increase understanding about the functional linkages between the region, the town and the heritage. Knowledge about these interdependences will enable estimate effects of planning initiatives in regional, local and heritage management and identify spillovers that procedures adopted in one level may have on the others. Thus, relying on social theories we design a model that assists to map the functional linkages between these social systems. Individual action is the parameter to measure these linkages. Thereby, this research contributes in improving the effectiveness in planning and heritage management.

Mälardalen region in Sweden, Mariefred town and Gripsholm castle are the empirical cases to test our assumptions. Mariefred and the nearby Gripsholm castle are of medieval origin and are today – due to transport investments in 1997 – spatially incorporated within the Stockholm labor market. Still, due to lack of knowledge regarding these interdependencies effects on the Gripsholm castle and in Mariefred from these investments are rather unknown.

In order to depict these interdependencies in-depth interviews with three individuals (the regional citizen, the local citizen and the heritage representative) are the sources to measure the functional linkages among the region, the city and the heritage. The actions performed by these individuals are what establish the functional linkages among the systems.

Following this introduction the paper is arranged in five sections. Next section presents the Mälardalen Region, Mariefred and Gripsholm Castle. Section three describes, the main theoretical standpoints used to build up the model which is explained and discussed in section four. Afterwards we present and discuss empirical evidences about the functional linkages between these social systems. Finally, section six outlines some implications for planning and also pinpoints some limitations and further developments of the study.

## **2. Background**

### **2.1. Mälardalen Region**

The Mälardalen Region is constituted by five counties: Stockholm, Uppsala, Örebro, Södermanland and Västmanland (see Figures 1 and 2). The biggest county is Stockholm with 26 municipalities and population of almost 2 million inhabitants. In functional terms the region is considered as the largest one in Sweden with regard to population and economic competitiveness. There are tendencies that the Stockholm County polarizes the development.

The region is surrounded by railway and motorway networks that link several municipalities within the five counties (see Figure 2). In 1997 the implementation of high speed trains (Svealands line) made possible a journey of 115 km in just one hour. One effect of these investments was the enlargement of local labour markets and population growth in the neighbouring areas. This was a consequence of increased accessibility and supporting daily commuting which has balanced the housing and labor markets. Figure 3 shows the number of local labor markets from 1970 to 2008.



Figure 1: Swedish counties

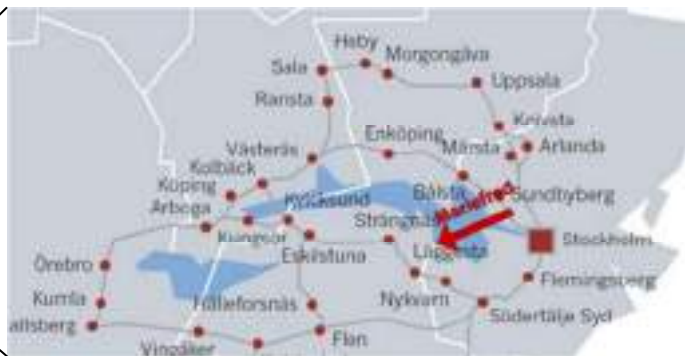


Figure 2: The railway system in the Mälardalen Region

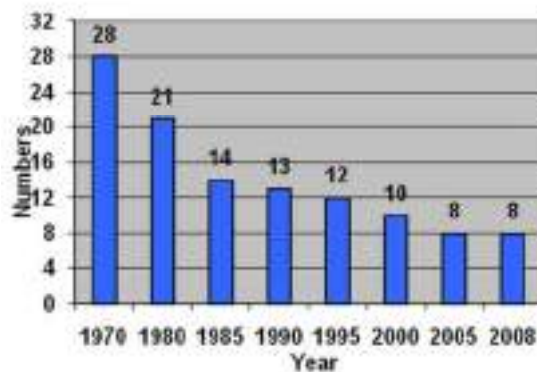


Figure 3: Local labour markets in the Mälardalen Region.

As can be seen from Figure 3 there were a quite significant number of labor markets in the region during the first 15 years from 1970. From 1985 and the following years the process of integration of labor markets decrease in general. However, the labor markets have become larger in size as a consequence of the increased commuting.

Previous studies (Copus et al, 2006; Johansson, 2009) show that even if ‘regional enlargement’ has increased as a function of the increased commuting, peripheral municipalities have lost in population size. On the other hand, municipalities around Lake Mälaren have experienced a favorable development during this period comparing with 1970s. The Figure 4 shows a schematic typology of the population development in Mälardalen Region 1973-1977 and 2003-2007 (Johansson, 2009). The color scale ranges from red that means a positive population development (positive net migration and positive natural population) to dark blue which depicts a negative population development.

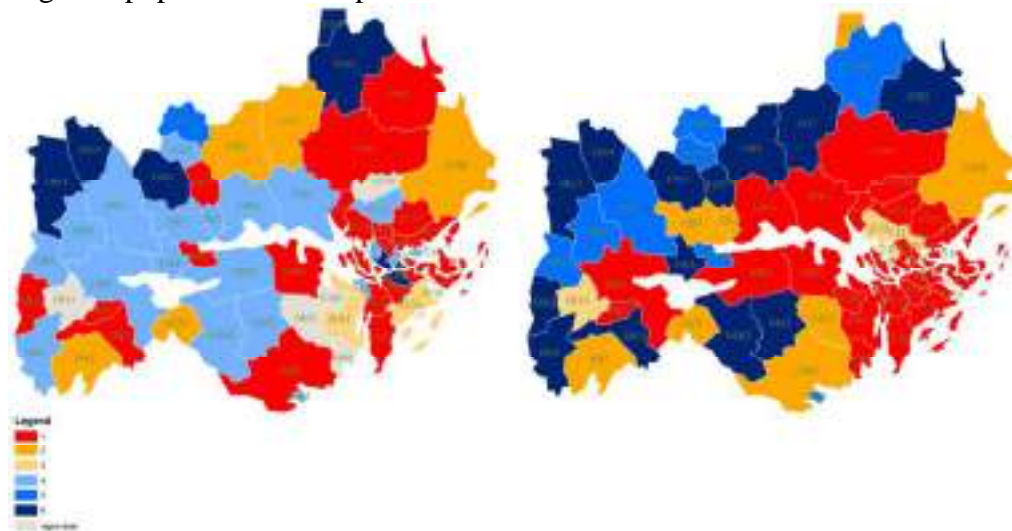


Figure 4: Typology of the population development in Mälardalen Region  
Source: Copus et al, 2006; Johansson, 2009.

## 2.2.The context: Mariefred, Strängnäs

Strängnäs is one of the municipalities in Södermanland County and Mariefred is one of the eight towns that belong to Strängnäs. The municipality has experienced the effects of being connected through an efficient transport infrastructure. Approximately 14% of Strängnäs’ population commutes in daily basis, most of them travelling to another county (SCB, 2010).

Between 1990 and 2009 Mariefred population has increased 33%. Mariefred is located 68.5 kilometers from Stockholm. Since 1997 with the implementation of high speed trains (Svealands line) the town has been seen as an attractive place for living. The Svealands line enables a trip between Läggesta (Mariefred’ train station) to Central Stockholm in only 33 minutes. This fact reflects in Mariefred’s commuting patterns; more than 20% of the population commutes in a daily basis: 38.9% of them to Södertälje, 25.3% to Stockholm and 13.4% to Strängnäs (SCB, 2006).

Changes in the social and demographic structure of Mariefred’s population have urged urban development. There is an increasing demand on urban services such as schools, daycares, etc. as well as new residential areas. Figure 5 show Mariefred’

urban structure and the existing built environments (grey) and those which are under investigation for future developments (dash grey colour).

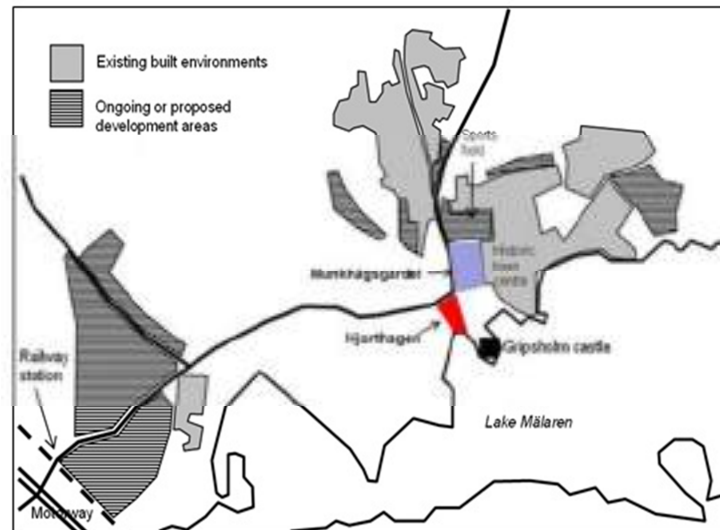


Figure 5: Mariefred and the region

Figure 5 shows that the area close to the railway station (Läggesta) is expected to expand considerably in the future. Nevertheless, the most sensitive areas for development are those close to Mariefred historic town centre where there has been a great pressure for relocation of communal activities to develop residential areas.

### 2.3. The object: Gripsholm castle

Gripsholm castle is one of Sweden's royal palaces. It was built as a fortress by Bo Jonsson Grip in 1380. In 1526 the King Gustav Vasa confiscated the fortress, tore it down and built a fortified castle as it stands today. Since then Gripsholm has belonged to the Swedish Royal Family and was used as their residence until 1713. The castle is now a museum and home to the Swedish national portrait collection.

The relations of production and consumption in the castle have changed along the history. The castle has functioned as fortress, residence, prison, and as museum. It means that different demands had to be fulfilled to enable these activities to take place. For example, when the castle was residence of the Swedish Royal family possibly few resources were enough to supply royal family's needs but when it became a prison there were also soldiers and prisoners who had another demands and so on. These changes in activities associated with technological changes (e.g. introduction of motorized vehicles, modernization of Svealands line) have changed the functional linkages between Gripsholmen, Mariefred and Mälardalen Region.

The castle underwent to rebuilding and redevelopment in several stages that has changed its built form and its surroundings. Nevertheless, some of them still remain the same. Figure 6 shows Gripsholm castle and its surroundings.



Figure 6: Gripsholm Castle

### 3. Theoretical framework

The understanding of the functional linkages between the region, the town and the heritage is theory/discourse dependent. In this paper we use basic components from system planning theory (McLoughlin, 1969) and Giddens structuration theory (1984) as the theoretical basis to design the model.

System theory contributes with a framework that explains how the region, the town and the heritage are functionally interlinked. Mariefred and Gripsholm castle are here regarded as social system that are affected by the surrounding – the region. The affect from these social systems on the region is not of concern here. Due to the need and desire for consumption and production there is a flow of goods, people, money, etc. between the surrounding and the social systems. A change in one component will imply a change in all other parts

The structuration theory contributes with a conceptual framework that integrate the individual in 'social systems' how individuals reproduce these 'social systems' (the Mariefred and the Gripsholm castle), the linkages among them and how knowledge about the society is connected to actions. A simple example of a social system could be a supermarket. Individuals go to the supermarket and buy goods, and by doing that they reproduce the supermarket every day. Therefore the supermarket is also a resource for other people, ultimately the supermarket exists because people go there and buy goods. Nevertheless, to go to the supermarket and reproduce it the individual needs to have knowledge that the supermarket exists. Thus knowledge and motivation are essential for individuals' actions, which is what reproduce and transform the social systems and the linkages among them. Hence, the structuration theory provides a framework for incorporating the individual in a social and physical context. This concept can be extended to a region, a town or a heritage.

### **3.1.Functional linkages**

In this study a functional linkage is related to individuals' actions to supply their demands in the surrounding (region) and in the social systems (the city and the heritage).

System theory acknowledges that the town comprises a number of constituents or parts: residential areas, industrial areas, etc. Each part could also be regarded as a system. They are interconnected and interdependent since change in one part influences the other parts, affecting the entire urban system (McLoughlin, 1969). The system perspective thus provides a dynamic functional approach on the heritage, the town and the region. This approach also makes possible to integrate the heritage in the town and in the region as one of the urban component among others.

Structuration theory (Giddens, 1984) is used to understand each part – each system – and their interdependence. The theory brings in the knowledgeable reflexive individual who – by his/her activities – contributes in reproducing the society. This theory acknowledges the ongoing reproduction of the town. By performing activities individuals' reproduce their homes, work place, the food store – and the town. Thus the individual by his/her actions also reproduces resources for other people. These resources is by Giddens divided into three external 'constraints': material, regulations and institutions (patterns of activities). For instance, the possibility for an individual to perform an activity depends on the material shape of her/his home, her/his town, if roads are available, etc. Further on, also laws and rules regulates the opportunities for activities, and last the individual is also dependent on others peoples activities in maintaining for instance a shop. The individual uses memories of these external constraints as a resource in his/her internal action generating process. Other influencing factors are the individual motivations and consciousness. Examples of these kinds of resources are work places, shops, supermarket (see example below) etc. For a more detailed description see Giddens (1984) and Ritzer (2008)

In this paper the town (Mariefred) and the heritage (Gripsholm castle) are regarded as interlinked social systems that are continuously reproduced by individuals. The region (Mälardalen) is – according to the system planning terminology – regarded as the surroundings. These social systems are understood to be constituted by material, regulations and activity patterns. When people perform activities they use their knowledge – stored as internal memories – about these social systems in the action generating process.

## **4. Methodology**

### **4.1.The model**

The model enables to analyze the relations among the surroundings (region) and two social systems (town and heritage).The main objective of the model is to describe,

from a social perspective, the functional linkages among them in order to provide some insights about how planning at different levels affects and is affected by the other levels.

The region provides a framework that contributes to shape the town and their objects components (e.g. the heritage), physically and socially, and, at the same time, the physical and social character of the towns build-up and constitute the region. The region is understood in morphological and relational sense. In a morphological sense a region is constituted of towns which are linked by efficient transport infrastructure, that enhance regional integration. The relational aspect stands for the (functional linkages) that the physical morphology enables. An example is the circulation of flows of people, money, information, goods, etc. which is enabled by regions' physical structure and also by cooperation between individuals and/or organisations.

The towns, besides being part of the region they are the environment that contains the objects (any built form). Thus, the town is the urban settlements which contains a form and enable/constrain individuals' action. The town is a system in itself that provides the necessary resources for the reproduction of each urban object. According to system theory changes in the town also imply changes in the urban objects and vice versa. What determine the level of dependence between the town and the object (urban heritage) are their linkages, which are depicted through individuals' social practices.

The town is understood as association of two basic components: (i) the morphological, which refers to the material part (buildings, streets, open spaces, etc) and (ii) the relational, that refers to the activities, not only those embraced by buildings (residential, commercial, leisure, industrial) but also those that take place in public spaces (meetings, leisure, etc.). While the morphological part is more permanent in time, i. e., it might take a long period to change the relational component is more ephemeral and fluid because changes depending on immediate individuals' action.

In this study the heritage stands as an urban object. Nevertheless, urban objects could also be a sport field, a food store, a house, etc. They are reproduced in time and space by individual activities, and consequently they are also resources for other people (Giddens, 1984). According to system theory the urban objects are perceived to interact with each other through individuals' action which reproduce and transform them in time and space. The town is seen as the interaction among different objects. It is not our intention disregard the on-going discussion about what heritage is, but this issue is not the focus of our paper. Nevertheless, the heritage is assumed as a build-up form recognized by authorities as such. It is urban because it is an interactive part of an urban structure; it changes functionally and is dependent on appropriation by individuals. It is heritage because it is associated with knowledge, culture and identity.

The model acknowledges the individual as a key actor as she/he by her/his daily activities, of different spatial stretches and duration reproduce the social system. So the individual is the agent who, through her/his action is able to assess the functional linkages between the social systems. The individual is reflexive (has a free will) although she/he is constrained by external resources.

The functional linkages are assessed by three individuals that belong and represent each social system: the region, the town and the heritage. Their actions and the resources that they need to perform their daily activities (professional and private) describe the functional linkages between the social systems. These individuals are designed as personas. This technique is further explored in the following item. Figure 7 illustrates the model.

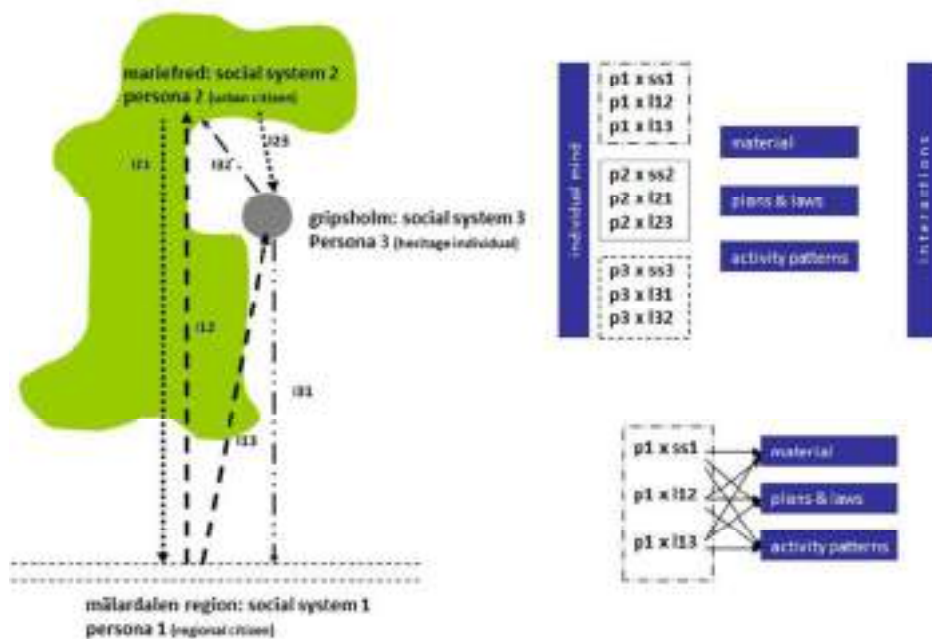


Figure 7: Model of interactions between social systems

Figure 7 shows the social systems (ss) and the lines represent the different linkages between them (l12, l13, etc.). In each social system there is a persona (p1, p2 and p3) who belongs, represents and assesses the linkages between this social system and the others through her/his professional and private social practices. For example, persona 1 (p1) is located and represents the region (ss1) since she/he perceives the region as a resource for her/his own actions. Therefore, this persona, by describing her/his actions, needs and knowledge indicates the interactions between the region and the other social systems: the town (l12) and the heritage (l13). This procedure enables to draw a functional map of interdependences between the region, the town and the heritage on the perspective of individuals.

## 4.2. Techniques

In depth interviews was the main resource to design the personas and to describe the functional linkages between the social systems.

Persona is a technique that was initially used for software design (e.g. Haikara, 2007). Nevertheless, its use has extended to other fields, such as travel behavior (Henriksson & Räsänen, 2010), consumers preferences (Palmgren & Zapico, 2008). These studies used personas as a means to describe patterns of behaviors and individuals' needs. The technique consists of a precise description of a user's characteristics and what she/he wants and needs to accomplish a given task (Cooper & Reimann, 2003). A persona can be designed based on a single interview or can be a 'collage' of perspectives of many interviews, depending on the objectives of the designer in the process.

Since we focus on the region, the town and the heritage as a resource for individual's action we believe that personas technique provides a reasonable way to depict the functional linkages among them. Personas' concept is very much associated with products and services so it is our perspective about the region, the town and the heritage.

Therefore, based on in depth interviews with three individuals we designed three personas that belong and represent the surrounding and the social systems: the region, the town and the heritage. It is assumed that she/he belongs to the social system because she/he take from this social system most of resources that she/he needs for act. She/he represents the social system because she/he by acting establishes functional linkages with the other social systems. For example, an individual who works in another place in the region but lives in Mariefred is an individual who belongs to the region. Ultimately it is in the region that this individual takes her/his main resources to perform her/his activities. This individual represent the region by establishing, through her/his actions, connections with other social systems to supply her/his demands, which are not satisfied in the region. Therefore, she/he through his/her social practices is able to map the functional linkages between the different social systems.

The selection of the individuals followed some criteria: (i) their belonging to the surrounding and social systems should be explicit; and (ii) they should have a position in respective system where they have a comprehensive overview of the activities that take place in the system and the flows in both direction that link the systems with the other system.

Giddens' theory (1984) was the starting point to design the interviews, which covered questions about the individuals' mind and also about the material resources (built environment), sanctions (plans and & laws) and structural (patterns of activity). While information about the individual mind aided to design the personas, the other data helped to define the functional linkages between the social systems. In the

individual mind knowledge about normative rules, authoritative and allocative resources are stored as memories. Allocative resources are the internal 'picture' of the external resources. The knowledge is also connected to degrees of consciousness. Thus is where action generating process – connected to motivations, and reflexion monitoring about actions – take place (see Giddens, 1984)

### **4.3. The personas**

Based on Giddens (1984) and in three interviews we designed three personas: (i) Persona 1: the regional citizen. He lives and works in different cities within the region. (ii) Persona 2: the local citizen. He is manager of a hotel/restaurant in Mariefred and (iii) Persona 3: the heritage representative. He is Gripsholm's castle manager.

***The regional citizen: Matts*** is 54 years old. He is married and has two teen aged daughters. He is from Uppsala (town close to Stockholm) but moved to Mariefred in 1989. He commutes every week day to Stockholm where he works as chemical engineering. He works irregular hours so when it is possible he takes the train to work otherwise he drives. Mariefred's' historical landscape, aesthetic characteristics and the cosy and nice atmosphere were the main motivations for him and his wife to move to Mariefred. Matts is engaged in local political processes. He is interested in the future development of Mariefred.

***The urban citizen: Daniel*** is in his late 20's and is single. After spending some years abroad he came back to live in Stallarholmen (a small town close to Mariefred) where he was born. He was working as manager in a hotel in Strängnäs but since June 2010 he has been working as a manager in hotel and restaurant in Mariefred. He travels everyday by car to his work. He barely travels by train. He enjoys living in Stallarholmen because his family and friends live there and because it is close to the nature. He recognizes the importance to preserve Mariefred as a historical site and its importance for the success of his business.

***The heritage representative: Lars*** is 66 years old. He comes from Vaxholm (small town close to Stockholm) but he moved to Mariefred five years ago to work as governor of Gripsholm Castle. He and his wife live in a building close to the castle. He travels by car to Stockholm for professional purposes twice a month. He is a member of Folklore society and participates in other social activities such as discussions about Mariefred development. Lars enjoys living in Mariefred because it is similar to Vaxholm and the community is very friendly. He acknowledges that the origin of Mariefred is connected to the development of the castle.

## **5. Analysis**

Following the theoretical reasoning the analysis was divided into two themes: knowledge about what the personas know about the functional linkages and the functional linkages.

## **5.1.Knowledge**

The theoretical framework already highlighted the importance of knowledge in order to reproduce the social systems and the surrounding. Based on the interviews we present personas' knowledge in regards to the functional linkages between the social systems and the surrounding.

The regional citizen, Mats, is aware about the dependencies between the museum in the castle and Mariefred. His main motivation to move to Mariefred was the landscape's aesthetic values. However, he has limited knowledge about the historical relation between the castle and Mariefred. He is concerned with the development of Mariefred but has mixed feelings about development/preservation. At the same time that he believes that Mariefred should grow to offer opportunities to newcomers he is also concerned with the effects of the development on the urban heritage. Mats argues that Mariefred's' historical core must be preserved but the town should expand in the periphery. In his opinion Mariefred could host activities such as advertisement, computers, and distribution hub due to its location close to highway. Nevertheless, big industries are not welcome in the town because they would compromise the town's characteristics.

Daniel, the restaurant manager is also responsive to the dependences between the museum in the castle and Mariefred. He recognizes that the restaurant and hotel would not be economically viable if the castle would not exist. Therefore, he stands for urban heritage's preservation and acknowledges the role of the landscape's historical and aesthetic characteristics as influential for the success of his business. Daniel believes that Mariefred should maintain its character of small and cosy place. In his opinion there is no place for activities such as night clubs or big shops in the town.

Lars, the castle manager, is aware about the dependencies between the museum in the castle and Mariefred. He acknowledges that Mariefred is highly dependent on the castle and vice versa but not in the same extend. He stresses that the historical process of urban formation of Mariefred was a consequence of the functional demands of Gripsholm Castle (employees, services, resources). In his opinion the improvement in regional accessibility has not influenced the number of visitors in the museum and in the castle.

## **5.2.Functional linkages**

As stated before interviews were the source to map the functional linkages between the three subsystems. Information about which kind of resources the personas needed to perform their daily activities were classified into two categories: professional and private. Professional activities hold specialized and non-specialized services and employees, goods and customers. Private activities were classified in civic activities (participation in social organizations such as religious, political, etc.), leisure, shop of groceries (daily stuff) and more specialized goods (clothes, shoes, books, furniture,

etc.). The graph below (Figure 10) was used to plot the personas spatial footprints. It distinguishes between four different spatial levels (local, regional, national and international) enabling a visualization and comparison of the results. Even though the paper deals with the functional linkages among the region, the town and the heritage, the interviews showed that some individuals also need resources from the national and international level. Table 1 summarizes personas' spatial footprints.

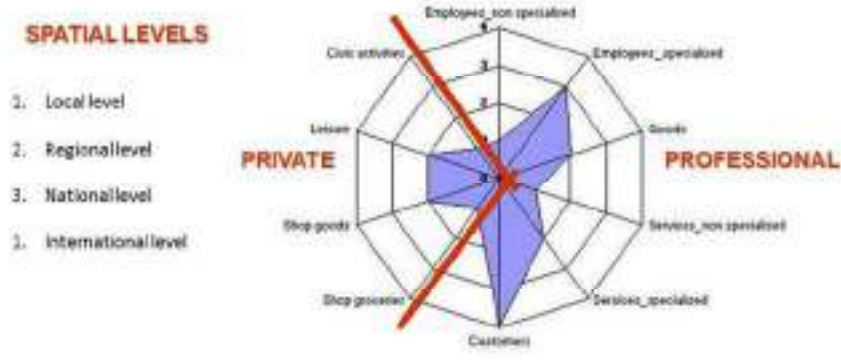
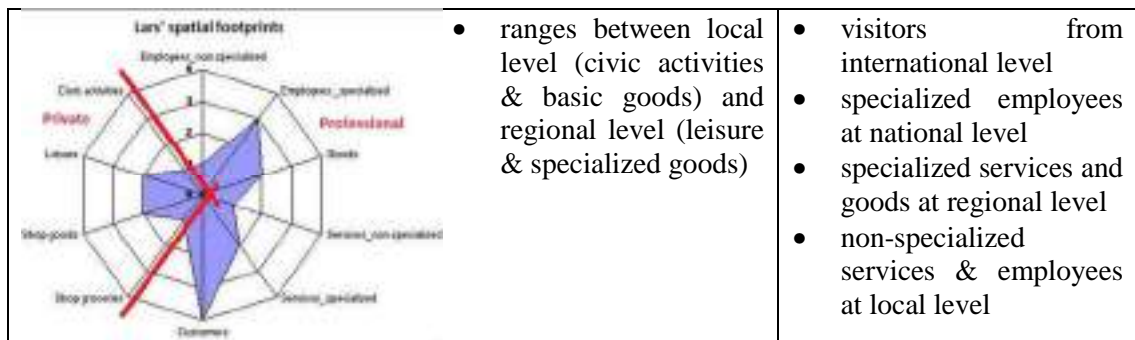


Figure 10: Personas' footprint

Table 1: Personas' spatial footprints

CHART	PRIVATE	PROFESSIONAL
<p><b>Matts' spatial footprint</b></p>	<ul style="list-style-type: none"> <li>• ranges between local level (civic activities &amp; basic goods) and regional level (leisure &amp; specialized goods)</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable. Matts' job locates in the region thus the spatial reference of resources' provision changes in relation to Lars and Daniels' professional activities.</li> </ul>
<p><b>Daniel's spatial footprint</b></p>	<ul style="list-style-type: none"> <li>• shopping (specialized and non-specialized) at local level</li> <li>• not engaged in any civic activity</li> <li>• leisure at regional level</li> </ul>	<ul style="list-style-type: none"> <li>• National customers but also few international</li> <li>• specialized goods and non-specialized employees at local level</li> <li>• non-specialized goods at regional level</li> <li>• specialized employees at national level</li> </ul>



- ranges between local level (civic activities & basic goods) and regional level (leisure & specialized goods)
- visitors from international level
- specialized employees at national level
- specialized services and goods at regional level
- non-specialized services & employees at local level

In regards to private footprints, Lars and Matts present a similar pattern. Both of them participate in civic activities and shop groceries in Mariefred but their boundaries stretch to the regional level concerning to leisure activities and shop of goods. On the other hand Daniel is not engaged in civic activities, he shops groceries locally and specialized goods on the Internet, and therefore the spatial level was disregarded. Like Lars and Mats Daniel also performs leisure activities at the regional level.

Lars and Daniel professional footprints are almost the same, excepting for their customers that in the case of Gripsholm castle are significantly from the international level while for restaurant in Mariefred are from the regional/national level. The results also show that specialized employees such as guides for the castle and chefs for the restaurant usually come from the national level. Daniel also mentioned that the restaurant uses local products such as homemade beers and vodka but the regional level supplies the restaurant with most of the resources for food.

**5.3.Results & discussion**

This section summarizes the information about knowledge and functional linkages on the perspective of the personas. Table 2 provides an overview about the type of resources the personas need to perform their activities and from where they come from (region, city and heritage).

Table 2: Personas and resources for action

<i>Persona</i>	<i>Region</i>	<i>City</i>	<i>Heritage</i>
<i>Matts</i>	- work - specialised goods - leisure	- non-specialized goods - non-specialized services - civic activities - leisure	- nothing
<i>Daniel</i>	- leisure - non specialised goods - specialised employees	- work - leisure	- nothing
<i>Lars</i>	- wages - specialized services - financial resources for management	- non-specialized services - non-specialized employees - non specialised goods	- work

	- specialized employees - guidance for his work	- civic activities	
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Based on the interviews Table 3 compiles the information about the functional linkages described by the model (see Figure 7). When analyzing the linkages between the region (R), the town (T) and the heritage (H) the activities/resources selected were those which fit to answer the question: what does this system provides to another? The grey color indicates that there is a linkage.

Table 3: Functional linkages

<i>Types</i>	<i>Services</i>		<i>Goods</i>		<i>Employees</i>		<i>Customers</i>	<i>Leisure</i>	<i>Money</i>		<i>Regulations</i>	<i>No links</i>
	<i>s</i>	<i>n-s</i>	<i>s</i>	<i>n-s</i>	<i>s</i>	<i>n-s</i>			<i>w</i>	<i>p</i>		
<b><i>R-T</i></b>												7
<b><i>T-R</i></b>												4
<b><i>R-H</i></b>												5
<b><i>H-R</i></b>												2
<b><i>T-H</i></b>												3
<b><i>H-T</i></b>												4

(s) specialized; (n-s) non-specialized; (w) wages; (p) payments.

The Table 3 shows that the region is quite influential for both the town and the heritage. The strongest linkage (R-T) shows that Mälardalen complement Mariefred in regards to services, goods, employees, etc. The region also plays an important role for the heritage. It affords services, employees, customers, regulations and financial resources for management. On the other hand the weakest linkage is between the heritage and the region. The heritage provides leisure opportunities to the region and some financial resources from the museum entrance fee.

## 6. Discussion

The model provides a systematic way to depict the linkages between the region, the town and the heritage and shows in which way they are interconnected. In regards to planning at different scales some estimation can be pinpointed.

The interviews showed that the modernisation of Svealands line in Mälardalen region did not strengthen Gripsholm castle as social system. Even though most of visitors come from the regional/international level their visit do not depend on the capacity in the railway system. Nevertheless, Svealands line strengthens Mariefred as social system, because it attracts newcomers. Attracting newcomers implies a need for urban development, which might threat heritage as spaces close to the castle may

come up as alternative areas for urban expansion. The understanding of these implications it is beneficial for planning.

From the heritage management perspective it is worth to mention that the introduction of entrance fees to visit the museum in Gripsholm castle in 2007 caused a drop of 30 000 visitors/year. Certainly it influenced Mariefred's' local economy. This fact reveals the strong interdependence between Mariefred and Gripsholm castle and also suggests that both local planning and heritage management should coordinate their actions through cooperation. Evidences from the interviews also indicated that the castle is one of the main aspects that influence newcomers to move to Mariefred. It reinforces the dependences between Mariefred and the castle.

## **7. Final considerations**

The paper presents a new approach to disclose the interdependences between the region, the city and the heritage. This approach considers system and social theories as the basis to envisage the interrelations between different planning scales; therefore it enables to estimate consequences of changes contributing for planning practice.

However, the study presents some limitations. A larger number of interviews would enrich the personas profile, aiding to deepen the analysis. Still, the model needs further development. The consideration of volume and intensity of flows certainly would provide a more accurately measure of the functional linkages between the surrounding and the social systems.

From heritage management and planning perspectives, the use of heritage as one of the social systems disclosed how social and system theoretical approaches could deepen the knowledge of how heritage is integrated in urban and regional contexts..

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