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Tapiola vs. Helsinki – Modernizing the Metropolitan Image

Introduction

My title refers to a period from the end of the Second World War to the end of the 1960s when Helsinki grew from a traditional center-oriented city to a Helsinki Metropolitan Region (HMR).¹ In the field of architectural planning pre-war ideas or utopias of the urban metropolis changed to post-war decentralization, proposed, among others, by Eiel Saarinen in his book *The City* published in 1943.² In 1946 large areas were incorporated to the city and several small municipalities vanished from the surroundings. As a result of this governmental act, Helsinki (proper) quintupled its area to a (greater) Helsinki of over 160 square kilometers. The population grew from 276 000 to 341 000.³ The enlarged Helsinki city was surrounded by municipalities which have since become the cities of Vantaa, Espoo and Kauniainen.⁴ The area formed by these became known as the HMR, or the Capital District of Finland (*Pääkaupunkiseutu*) mainly through the activities of the Helsinki Regional Planning Association (*Helsingin ja sen ympäristön aluesuunnitelmaliitto*) founded in 1947. During the 1960s the metropolitan development can be seen as having evolved from suburbanization of Helsinki city to growth of metropolitan region. The post-war era was also a period of effective development in terms of legislation, municipal administration and planning organizations in Finland. I will follow the history of "Tapiola Garden City" as an example of these processes.

Polycentrism and the Historical Dimension

There has been vivid discourse around the terminology of Polycentric Urban Regions (PUR) at the turn of the millennium. The main questions seem to have arisen on identifying polycentricity especially in relation to the definition of "region".⁵ One solution in clarifying these problematics has been division to intra-urban/regional and inter-urban/regional levels.⁶ In international and in interregional context Helsinki is definitely a monocentric metropolitan region. It is the only city of over half a million inhabitants in Finland and inside one hour commuting radius.⁷ Here I want to apply the ideas of polycentricity in smaller urban systems as Musterd and van Zelm have proposed⁸ and concentrate on intra-regional level.⁹ The definition of HMR has been expanding through decades, with the growth of population and the influence of international discussion. Yet the understanding of the HMR still oscillates between different historical definitions.

In local intraregional context Helsinki is evidently a polycentric region or "intermunicipal" region, with complicated physical, political and functional features as well as those related to identity. Even though Helsinki City is evidently the main center in the region, the other municipalities and smaller centers have also developed increasingly since the Second World War. The urban or suburban structure of HMR is largely based on decentralized understanding of planning.¹⁰ In political sense the polycentricity is supported by the uneasy co-operation between the municipalities. Today the debate between the municipalities has taken a step towards more integrated regional co-operation.

The historical dimension of the above described development is important because the profound problems have remained more or less unsolved since the Second World War. The typical concerns of post-war urbanization: regional public transport, traffic planning, harbours and logistics, high rise landmark buildings etc. have been under discussion for decades. These matters have sort of remained as unsolved since the democratic planning of large scale changes in physical environment with several actors is especially lengthy process. The importance of the historical dimension can be formulated as follows: today we live the future they planned back then, but while the problems have remained, the ideas of how they should have been solved have changed radically.

Identity and Architecture of Tapiola

Tapiola is located in the city of Espoo less than 10 km west of the Helsinki city center. It can be described as the first modern suburb in the country: it was located some distance from the existing urban structure and built with the extensive use of multistory apartment buildings, one the most evident features of the 20th century urban landscape expressing metropolitan spirit.¹¹ The planning of Tapiola started just after the Second World War. With its three residential neighbourhoods and its town/community centre, Tapiola's plan was based on the Anglo-American hierarchical city concept of residential unit, neighbourhood unit and community, adopted in Finland by Otto-livari Meurman who had done preliminary plans for the area in 1945. Meurman, who was the first professor of city planning in the country, introduced the concept in his Textbook of City Planning *Asemakaavaoppi* in 1947.¹²

In 1951 several public utility organizations¹³ bought the land and established The Housing Foundation (*Asuntosäätiö*) to manage the project of building a new town. *"It's purpose is to overcome the housing shortage, to raise the general standard, and to create well-planned districts of park and garden character especially for the welfare of young people."*¹⁴ Lawyer Heikki von Hertzen, the executive director of The Family Welfare Federation (*Väestöliitto*), became the leader of the project. In 1952 construction started and five Finnish architects were assigned to design the project, among them Aarne Ervi, who won the Tapiola centre planning competition in 1954¹⁵ (and a decade later became the first Head of the newly-established Helsinki City Planning Department). Von Hertzen became the managing director of the Housing Foundation in 1954. According to the fashionable anti-urbanism of the time, the planners' core idea of Tapiola was to bring (or keep) nature close to the community's planned 15 000 original dwellers.¹⁶

Tapiola was largely Heikki von Hertzen's personal mission, though his ideas were supported by Meurman and Ervi among others. Von hertzen had published a pamphlet *Home or barracks for our children? Koti vaiko kasarmi lapsillemme?* in 1946.¹⁷ He demanded an alternative solution to the densely-built Helsinki city housing, following the international trend set among others by Lewis Mumford¹⁸. The purpose of the new town's design was to create a self-sufficient community in terms of services as well as working places offered to the inhabitants. This is the basis on which von Hertzen developed his ideas.

" <<The Housing Foundation will exert every effort to make Tapiola Garden City into a housing district protecting for man, his home life, rest, and recreation. A good and safe environment must be provided for children to grow up in and for the young. Traffic may

*not dominate here; it must be kept in check and limited to the needs of the inhabitants. Tapiola is intended for the residents who appreciate these viewpoints and are prepared to accept them.>> This is how the objectives and requirements are set out in the leaflet distributed to applicants for housing."*¹⁹

Community spirit was encouraged by the Housing Foundation. Name competitions were one way for this as the new town did not have a past. In 1953, shortly after the construction had started, the foundation arranged a public competition for naming the new community. As a result the name Tapiola was used for the first time in the announcement of the Center Planning Competition. Later similar contests became a tradition and they were arranged for naming the main buildings.²⁰ A large part of the place names in Tapiola refer to the Finnish national epic *Kalevala*.

By the early 1960s privately-developed Tapiola had something that could be described a semi-independent status within the Espoo rural commune. Since the foundation owned the land and financed the building, the administration of the small municipality (of only a few tens of thousands inhabitants) did not have much chance to influence the Tapiola planning, either legislatively or politically. It was the Uusimaa Provincial Government that was in charge of planning control in rural communes, like Espoo was, back then. Also the infrastructure and communal facilities were built by the foundation – not the municipality. Social democratic ideals, typical of Nordic Welfare States, were strongly present. The Scandinavian tradition of co-operation was taken as the form of retail trade of modern shopping centers under the guidance of the foundation. Tapiola was propagated from the beginning as an independent "small scale society", though it was above all a home ownership community since 80% of the dwellings were sold to the inhabitants.²¹

Architecture of Tapiola represented the modernity of the new community following the urban utopias by International Congress of Modern Architecture (CIAM)²². Suburban landmarks among the trees stood for the central places and represented the new town.²³ For example, the ten story office building Central Tower showed the location of one of the first shopping centers in the country.²⁴ Many innovations in building, such as a district heating system and pre-fabricated construction technologies, were introduced in Finland in Tapiola. The traffic circle and other road designs were more a statement of a new kind of mobility than pragmatic solutions for traffic growth. The landscape architecture of *Leimuniitty* central field was the visual symbol of the community when seen from the air. Ervi proposed that by the year 2000 helicopter cars would become a new form of transportation and such commuting would allow people to move from the cities to nature.²⁵ Tapiola has been typically described as town in a park or town in a forest.²⁶

Reactions to Suburbanization

In 1959 the legislation changed and master/general planning and regional planning became official forms of planning.²⁷ At the same time the suburbanization process exploded and the regionalization started in Finland especially in the HMR. The development was arranged with so called "site development agreements" between municipalities and private construction companies. The change led to the organization of municipal planning bodies and to a new kind of co-operation between Helsinki city and the surrounding municipalities, which at the time were under extensive administrative

development. Due to the change in legislation the Helsinki Regional Planning Association became the official body of co-operation. In 1965 architect Otto Flodin, the director of the association, referred to the Helsinki metropolitan region as "probably the smallest in the world".²⁸ In the article Flodin spoke of an area formed by the ten member municipalities (*Helsingin seutu*).²⁹ Helsinki city was seen to remain as the only true urban center in the area in the future. A grid of regional centres was introduced for the HMR in co-operation with municipal planning organizations and the Helsinki Chamber of Commerce. The unified and extended commercial core of Tapiola started to serve as one of the regional shopping centers. Flodin stated that "*These urban areas do not operate independently – it is unrealistic to think that such a thing would happen here – but as part of a greater whole.*"³⁰ (Translation by author). The perspective of the Association was still above all concentrated on the Helsinki city.

The "goals" of Tapiola were both rhetorical and idealistic. Heikki von Hertzen and the Housing Foundation were able to advertise Tapiola more extensively than municipal and governmental organizations could ever have. By the end of the 1960s some of the original ideals had been diluted. The self sufficiency of working places had not become a reality and the balanced social structure had changed towards an upper-middle class area. Tapiola had not received either independent municipal status as tried in early 1960s nor had it been incorporated to Helsinki city as was supposed in the 1950s. Instead it became administratively more closely tied to Espoo after State upgraded Espoo's municipal status (to a market town) in 1963. The discussion of further area incorporations continued to the early 1970s.

Visual and Printed Media

Tapiola's modern identity and visual image was used extensively for publicity purposes. "Tapiola Garden City" became the icon of modern Finland in the early 1960s, when the first part of the Town Center was completed. It even became a frequent site for official state visits. Von Hertzen, who understood the value of the media, had started the propagation immediately after the war.³¹ The newspaper office of the Family Welfare Federation and the Housing Policy *Asuntopolitiikka* –journal (editor-in-chief, Von Hertzen himself) published by the federation from 1950 to 1966 were concrete tools for this.

Von Hertzen adopted the American style polemic when dealing with the Housing Foundation's publicity matters. The Foundation had established an information unit and an Information leaflet/bulletin *Tapiola Tänään* (1954-1968) that became an important forum in which "community spirit" (or identity) could evolve. Apart from these "inner circle" forms of media, Tapiola received wide publicity in the Helsinki-based Finnish press. >From the early years an extensive selection of impressive visual material – scale models, arial and architectural photos, films, and postcards – was produced to advertise Tapiola, in both local and international forums. Modern style architectural photos as well as press-kits of the information office were delivered around Western Europe and the United States and they were published widely in the architectural press.³²

Exhibitions were another form of publicity³³ as well as planning conferences which von Hertzen attended around the world.³⁴ The active use of modernistic architecture as PR-material proved worthwhile when in 1967 the American Institute of Architects (AIA) established the R.S. Reynolds memorial award for community architecture. In the jury report the metropolitan development of Stockholm (Sweden) and the "New Towns" of

Tapiola and Gumbernauld (Scotland) were compared as the best examples, though in different scale, of modern planning.³⁵ In the same year in Finland a seminar "What did we learn from Tapiola?" was arranged by the Architects Association of Finland.³⁶ While the AIA jury praised Tapiola mainly by repeating the words of von Hertzen, at home it was already criticised for belonging to the past.

Conceptions of Regionalization

By the end of the 1960s Tapiola was more or less completed as it had been planned by the Housing Foundation. In 1968 Heikintori³⁷ (designed by Ervi), the first indoor shopping mall in Finland, was opened and Heikki von Hertzen had further development in mind. The extension of the commercial center was topical and the plans were prepared on the basis of a new paradigm of system architecture. During the decade the foundation had published two provincial plans meant this time as critical alternatives for the preliminary regional plans by the Helsinki Regional Planning Association: The Seven Towns Plan in 1962 and Uusimaa 2010 plan in 1967.³⁸ The perspective of the latter was strongly regional. *"Thus in seeking to change the position and structure of the Helsinki region, action should be directed to that region and to Uusimaa (province), with the main stress placed on the internal development of the region."*³⁹

The Helsinki regional Planning Association finally finished the regional outline plan in 1968 under the new leadership of architect Lars Hedman (who a year later followed Ervi as the head of the Helsinki City Planning Department). By the beginning of the 1970s Helsinki was no longer a city with surrounding agricultural landscape and occasional villages or communities. The population of the HMR had doubled to approximately 700 000. The urban image of the Finnish capital changed from a densely built city in a narrow peninsula to a region with a semi-circular form with several supporting centers. This growth created constant political difficulties in co-operation among the municipalities. In 1970 the four municipalities of the HMR (*Helsingin seutu*) established a new organization for the cooperation Helsinki Metropolitan Area Council (*Pääkaupunkiseudun yhteistyövaliokunta YTV*). Despite the activities of the council, regional identity has been anything but shared since. The regionalization process continues still today with ongoing and arduous political debate between the City of Helsinki and the cities of Espoo, Kauniainen and Vantaa as well as other surrounding municipalities.

Contemporary Situation – What Metropolitan Region?

In the last fifty years much has changed. Tapiola has naturally grown outside its original borders and its population has multiplied. Espoo is the second largest city in Finland with 224 000 inhabitants. Today Tapiola is one of the three centers of Espoo, which are also the regional centers as planned in the 1960s. When the suburbanization/regionalization process started, Tapiola served as an example for the following development. Not in the sense that its social and architectural ideals would have served as the practical model, but more as concrete evidence that it is possible to carry out this kind of large scale privately funded projects. In this the extensive publicity served without a doubt very important role. Tapiola with its modern architecture was very useful symbol of "building the nation" in the period when reconstruction changed to redevelopment and to the realization of the welfare state. The results of the extensive publicity are still evident today. Tapiola have been one of the most studied case in Finnish architectural and

planning history. In August 2003 Tapiola celebrated its 50th anniversary and an international conference, "Roots and Seeds of the Garden City – The Tapiola Case", was arranged on the site. Tapiola also has a status as a National Landscape with topical questions of the preservation of modern architecture at the same time its commercial center competes with the hyper markets of the current retail development.

Today there are 5,2 million inhabitants in Finland. Since 1946, the population of the HMR, the Capital District has tripled to one million. Three of the four largest cities in the country are Helsinki, Espoo and Vantaa. The growth of population in Helsinki and Espoo, with Tapiola, has stopped and moved to the surrounding municipalities. Now more than 1/5 of the Finnish population live inside the 25 kilometers radius from the Helsinki city center. The contemporary understanding of HMR varies from the area formed by the four cities to that of over 150 kilometer radius from the Helsinki including the cities of Hämeenlinna and Lahti among others (*Helsingin metropolialue*).⁴⁰ 1/3 of the Finnish population lives in this area. A new law for the HMR (*laki pääkaupunkiseudun yhteistyöstä*) has been under preparation in order to force the (14) municipalities to co-operate more closely. The municipalities who are against the governmental interference, (HELSINKI, ESPOO, KAUNIAINEN, VANTAA) established a Helsinki metropolitan area consultation committee (*Pääkaupunkiseudun neuvottelukunta*) in 2004 as a new body for their purpose – and in order to avoid the realization of the law.

What comes to the question of polycentric urban regional identity, raised among others by Kloosterman and Musterd,⁴¹ it is easy to say that it does not truly exist in the HMR case. When considering the smallest definition of HMR, the Capital District, (*Pääkaupunkiseutu*) the regional identity is based on the physical urban structure where Helsinki City center is definitely the Center. It is very much monocentric because of historical reasons. On the other hand the identities of Helsinki, Espoo and Vantaa are politically relatively segregated. When considering the wider definitions of HMR, Flodin's definition (*Helsingin seutu*) and the contemporary definition (*Helsingin metropolialue*), in order to become reality this kind of identity requires a strong agent, such as the Housing Foundation led by von Hertzen in the Tapiola case or normal city administration. Naturally the situation is different since Tapiola was planned as a suburb of Helsinki city before the development led to decentralized region with sub-centres, not to mention the contemporary understanding of HMR.

¹ The city of Helsinki was founded in 1550 and it became the capital in 1812. In 1917 Finland received independency. Before that it was Grand Duchy of Finland, an autonomous part of Russian empire. The urban structure of Helsinki, the capital of Finland, started to grow outside its (municipal) borders in the early 20th century.

² Saarinen, Eliel. 1943. *The City. Its Growth, its Decay, Its Future*. New York: Reinhold.

³ The population reference is through this article *The Statistical Yearbook of Finland* published annually by Central Statistical Office/Statistics Finland, Helsinki.

⁴ During recent decades Espoo's municipal status has changed from rural commune, to market town in 1963, and finally to city in 1972. The City of Vantaa was known as the Helsinki rural commune until 1972. Kauniainen market town is today city and located inside Espoo city borders.

⁵ Especially in the pages of: *Urban Studies*. Vol. 38. No. 4. April 2001. Special Issue: Polycentric Urban Regions: 'Polycentrism, basically denoting the existence of multiple centres in one area.' Kloosterman, Robert C. – Musterd, Sako. 2001. "The Polycentric Urban Region: Towards a Research Agenda." Introduction to Special Issue. (623-633), 623; Champion, A.G. 2001. "A Changing Demographic Regime and Evolving Polycentric Urban Regions: Consequences for the Size, Composition and Distribution of City Populations." (657-677), 663-665; 'Literally, polycentricity in urban form refers to nothing more than the existence of more than one centre in a

city, region or other geographical unit.' Musterd, Sako – van Zelm, Ingrid. 2001. "Polycentricity, Households and the Identity of Places." (679-696), 679.

⁶ Kloosterman, Robert C. – Musterd, Sako. 2001. "The Polycentric Urban Region: Towards a Research Agenda." *Urban Studies*. Vol. 38. No. 4. April 2001. Introduction to Special Issue: Polycentric Urban Regions. (623-633), 624.

⁷ 'Monocentric metropolitan area (compared to polycentric metropolitan area) is dominated by a city with at least 500 000 inhabitants and its surrounding area is within one hour by road. Polycentric region with more than two medium-sized cities with population of 200 000 – 500 000.' Johansson, Mats. 2002. "Polycentric Urban Structures in Sweden – Conditions and Prospects." *Facing ESPON*. Ed. Christer Bengs. Nordregio Report 2002:1. Stockholm: Nordregio. (99-118), 101.

⁸ Musterd, Sako – van Zelm, Ingrid. 2001. "Polycentricity, Households and the Identity of Places." *Urban Studies*. Vol. 38. No. 4. April 2001. (679-696), 687.

⁹ 'In respect of polycentric development in Sweden it is primarily at the intra-regional level that this has some relevance.' Johansson, Mats. 2002. "Polycentric Urban Structures in Sweden – Conditions and Prospects." *Facing ESPON*. Ed. Christer Bengs. Nordregio Report 2002:1. Stockholm: Nordregio. (99-118), 99.

¹⁰ Since the early planning based on the decentralization of monocentric model has heavily relied on the handling of goods and commuting, the circular (east-west) traffic and commuting is a major problem in Helsinki regional development today. Kloosterman, Robert C. – Musterd, Sako. 2001. "The Polycentric Urban Region: Towards a Research Agenda." *Urban Studies*. Vol. 38. No. 4. April 2001. Introduction to Special Issue: Polycentric Urban Regions. (623-633), 625-626.

¹¹ E.g., Larsson, Lars Olof. 1984. "Metropolis Architecture." *Metropolis 1890-1940*. Ed. Anthony Sutcliffe. London: Mansell., 191.

¹² Meurman, Otto-livari. 1947. *Asemakaavaoppi*. Helsinki: Otava.

¹³ Väestöliitto (The Family Welfare Federation), Mannerheimin lastensuojeluliitto (The Mannerheim League for Child Welfare), Suomen ammattiyhdistysten Keskusliitto SAK (The Confederation of Finnish Trade Unions), Suomen Siviili- ja Asevelvollisuusinvalidien Keskusliitto (The Finnish Association of Disabled Veterans and Servicemen), Virkamiesliitto (The Society of Civil Servants), Vuokralaisten Keskusliitto (The Central Association of Tenants).

¹⁴ *Tapiola: Garden city – Cité-jardin – Gartenstadt*. 1957. Text Heikki von Hertzen. Editors Aulis Blomstedt and Matti J. Vuorela. Helsinki: (Asuntosäätiö), 3.

¹⁵ The name of the competition entry was "The Village of Don Hertzen" referring obviously to Heikki von Hertzen.

¹⁶ For more on Tapiola, see: von Hertzen, Heikki – Spreiregen, Paul D. 1971. *Building a New Town. Finland's New Garden City Tapiola*. Cambridge Massachusetts and London: The MIT Press.; Tuomi, Timo. 1992. *Tapiola: a History and Architectural Guide*. Espoo: Espoo City Museum.

¹⁷ Hertzen, von Heikki. 1946. *Koti vaiko kasarmi lapsillemme: asunnontarvitsijoiden näkökohtia asunto ja asemakaavakysymyksissä*. Helsinki: WSOY.

¹⁸ Mumford's book *The Culture of Our Cities* (1938), was translated in Finnish *Kaupunkikulttuuri* only in 1949, but since Finland is a bilingual country the Swedish translation *Stadskultur* of 1942 was already in use.

¹⁹ *Tapiola: Garden city – Cité-jardin – Gartenstadt*. 1957. Text Heikki von Hertzen. Editors Aulis Blomstedt and Matti J. Vuorela. Helsinki: (Asuntosäätiö), 3.; Heikki von Hertzen. Tapiolan puutarhakaupungin suunnittelusta. *Arkkitehti* 1-2/1956, 1.

²⁰ Central Tower (*Keskustorni*) in 1961, Shopping Center *Heikintori* in 1967 as well as for the squares, parks, and fields (e. g. *Leimuniitty*) in 1966. Viljamaa-Laakso, Marja. 1992. *Place Names in the Tapiola Cityscape*. Espoo: Espoo City Planning Office Place Names Unit, 5, 11-15.

²¹ Tuomi, Timo. 2003. "Tapiola Garden City." *Tapiola – Life and Architecture*. Ed. Timo Tuomi, Kristiina Lehtimäki, Kristiina Paatero. Helsinki: Building Information LTD, 10.; Nikula, Riitta. 2003. "Housing policy, architecture and the everyday." *Tapiola – Life and Architecture*. Ed. Timo Tuomi, Kristiina Lehtimäki, Kristiina Paatero. Helsinki: Building Information LTD, 120-121.

²² Congès Interationaux d'Architecture Moderne had had its eighth meeting in Hoddeston England in 1951 with the theme "The Heart of the City". CIAM 8. *The heart of the City: towards the Humanization of Urban Life*. 1952. Edited by Thyrrwhitt, J, Sert, J.L., Rogers, E.N. Lund. London: Humphries.

²³ These complexes (Shopping Centers) were conceived of not just as concentrations of business, but as a landmarks on the metropolitan periphery, functioning much like recreation centres and public and religious institutions as a focus for human interaction and as a definer of place.' Longstreth, Richard. 1997. "The Diffusion of the Community Shopping Center Concept During the Interwar Decades." Article in *Journal of the Society of Architecture Historians*. Vol. 56, no. 3. September 1997, 270.

²⁴ Lahti, Juhana. 2003. "Tapionraitti – the backbone of the pedestrian precinct." *Tapiola – Life and Architecture*. Ed. Timo Tuomi, Kristiina Lehtimäki, Kristiina Paatero. Helsinki: Building Information LTD.

²⁵ He spoke of the subject in lectures held in Scandinavia in the end of the 1950s. Ervi, Aarne. "Kaupunkiemme keskustakysymykset". 1959. Museum of Finnish Architecture.; Ervi, Aarne. 1961 "Staden och människan". Museum of Finnish Architecture.

²⁶ Jokinen, Teppo. 2000. "Stadt und Wald: Alternative städtebauliche Strategien in Finnland." *Die Architektur, Die Tradition und der Ort. Regionlismen in der Europäischen Stadt*. Hrsg. Vittorio Magnago Lampugnani. Stuttgart/München: Deutsche Verlags Anstalt.

²⁷ Rakennuslaki (Building Law) 370/1958.

²⁸ Flodin, Otto. "Helsingin metropolitanalue pienimpiä maailmassa." *Arkkitehti* 7/1965., 186-188.

²⁹ Helsinki city, Helsinki rural commune (Vantaa), Espoo rural commune/market town, Kauniainen market town, Kerava Market town, as well as the rural communes of Kirkkonummi, Järvenpää, Nurmijärvi, Vihti, Tuusula (and Sipoo).

³⁰ 'Nämä yhdyskunnat eivät toimi itsenäisinä – ajatukset selllaisten muodostamisesta tänne ovat epärealistisia – vaan jokainen suuren kokonaisuuden osina.' Flodin, Otto. "Helsingin metropolitanalue pienimpiä maailmassa." *Arkkitehti* 7/1965, 186-188, 186.

³¹ Tuomi, Timo. 2003. "Heikki von Hertzen and Tapiola." *Tapiola – Life and Architecture*. Ed. Timo Tuomi, Kristiina Lehtimäki, Kristiina Paatero. Helsinki: Building Information LTD., 47.

³² *Arkkitehti, Das Werk, Bauwelt, Bauen und Wohnen, Architectural Design, Habitation, Forum, Casabella, Larchitecture d'aujourd'hui, Baumeister, Architectural Review* etc.

³³ Apart from exhibitions in Finland, The Tapiola exhibition toured for example to the USA 1963-66 in New York Architectural League, Washington D.C. National Housing Center etc.

³⁴ In 1965 the University of Pennsylvania New Towns Seminar was held in Tapiola.

³⁵ "From Three Emerged One." *AIA Journal*. July 1967. (36-58).

³⁶ Mitä opimme Tapiolasta? Seminar Proceedings. 15.-16.9.1967.

³⁷ "Heikki's Market" referring again to Heikki von Herzen.

³⁸ In the leading Finnish journal *Suomen Kuvalehti*.

³⁹ Suunnittelutoimisto Iharvaara – Tausti. *Uusimaa 2010*. Summary (218-245) Espoo: Asuntosäätiö, 225-226.

⁴⁰ 'Helsinki Metropolitan Region, the Capital district of Finland (HMR), consisting of the three neighbouring cities Helsinki, Espoo and Vantaa is a pocket-sized metropolis of great national importance.' Vaattovaara, Mari – Kortteinen, Matti. 2003. "Beyond Polarization versus Professionalization? A Case Study of the Development of the Helsinki Region, Finland." *Urban Studies*. Vol. 40, No. 11, October 2003. (2127-2145), 2129.

⁴¹ Kloosterman, Robert C. – Musterd, Sako. 2001. "The Polycentric Urban Region: Towards a Research Agenda." *Urban Studies*. Vol. 38. No. 4. April 2001. Introduction to Special Issue: Polycentric Urban Regions. (623-633), 628.