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Marjatta Hietala and Mervi Kaarninen

The Foundation of an Information City – Education and Culture in the Development of Tampere

Introduction

I had, in the year 1812, spent some days at Tamerfers, in that country, and had remarked its admirable advantages for machinery, operations of any description. It was pleasantly situated, in a fruitful district, with immense, nay, in exhaustible water power. I had pointed out its great advantages to my friend, who was anxious to see the place. (Paterson 1858)

This is how clergyman and evangelist John Paterson (1776–1855) from Glasgow described Tampere in his memoirs published in 1858. James Finlayson came to Tampere for the first time with him in 1819 (Rasila 1988, 558–559). By the 1860s, Finlayson had developed into a major company even by international standards. One out of five Tampere inhabitants worked at Finlayson. Finlayson was a town within a town with its factory halls, schools, churches and hospitals. A century later the structural transition of Finnish society had a severe impact, especially on the traditional textile industry of Tampere, but new elements grew from the core of the old industry.

Starting in the early 1990s, Tampere has developed into an information city. The development of the Finlayson factory area symbolises the change from industrial production to the production of services. In the beginning of the 21st century the area housed many new media companies, becoming a large centre of leisure with its many cinemas, museums, art exhibitions,

restaurants, and cafes. The latest newcomer is a book fair organised every winter.

In this article we look at Tampere's development into an information city using a long time-span analysis to show how Tampere has invested in education and culture over the decades. This investment has built a firm foundation for creative innovation. Many researchers have shown the connection between education, new technology, and productivity (Webster 2001, 27–31; EU project <http://pareto.uab.es/wp/2004/63504.pdf>).

The development of Tampere bears out their conclusions. The educational history of Tampere started in the 1760s with a modest spinning school which operated for a few years. Tampere became a university town during the 1960s, and now, in 2005, the University of Tampere and the Tampere University of Technology boast a total of some 27 000 students.

We also analyse Tampere's image – the picture it has wished to present of itself in different eras – and the long evolution through which that image has gone from the 'beautiful city of factories' to an e-city. Image is a key part of city marketing (Webster 2001, 32). (See Sotarauta & Kostianen 2005: Tampere seemed to have a magnetism that attracts population growth, the growth of jobs in the new economy, the expansion of innovative activities and strengthening of the image, among other things. The good image supported the improvement of the city's appeal.) We will also look into the city's visibility abroad. Creativity and innovation have manifested themselves in different ways at different times. We will highlight certain individuals and institutions whose innovative and creative activities have had a decisive impact on the development of the city.

Theoretical aspects of innovativeness

According to Charles Landry, an innovative community consists of creativity, good organisation and various support services, such as traffic and communication networks. These are what Landry calls hard infrastructure. Another part of innovative community is soft infrastructure, which consists primarily of social networks, unofficial organisations and civic organisations, such as clubs and societies (Landry 2000, 87–90).

In the broadest sense, innovativeness stands for creative attitude and ability. While in the past innovation was commonly associated with invention, today it is increasingly used in a broader sense, as in social innovation and innovative, creative environments. Researchers such as Manuel Castells emphasise that democracy and a strong national identity create the necessary premises for innovativeness. In his books on ‘Information Society’ Castells argues that non-hierarchical practices and low borders between different social groups facilitate both innovations and the adaptation and dissemination of innovations. These factors can in part account for the success of the Finnish information society (Castells & Himanen 2002). Mobility, another characteristic of an innovative society, encourages Finnish innovativeness. In Finland the public sector has had a significant role in promoting the mobility of the experts, especially in following up the latest know-how. Examples of this kind of mobility can also be found in Japan and New Zealand (Hietala 1992, 275–279; Bell & Hietala 2002, 183–189, 294–302).

In Richard Florida’s latest work (Florida 2005, 37–39), which deals with creativity in American cities, the keys to success and competitiveness can primarily be found in high technology and education. He also adds to the list of prerequisites an atmosphere of openness, pluralism, and tolerance.

Florida builds a measurement system based on three Ts, the first of which is 'Talent'. Talent is calculated according to the percentage of the total work force employed in creative jobs and the rate this percentage grows, the percentage of 25- to 64-year-olds with at least lower-level university degrees, and the proportion of employees doing research. The second T stands for 'Technology', calculated by combining the research and development portion of the Gross National Product and the amount of technological innovation, measured through patent applications. The third T is 'Tolerance', which measures the attitudes towards minorities, the traditionalism or modernity of values, and the expression of self, which includes human rights and democracy. Florida's culture of creativity refers to a society with talented and tolerant people. The following indicators for Technology can be found in Tampere and in Finland. The feature of rapid adoption of the newest technology can be detected throughout.

- 1837 Finland's first modern factory building (Finlayson)
- 1843 Finland's first paper machine (Frenckell)
- 1882 The first electric light in Scandinavia (Finlayson)
- 1900 The first locomotive manufactured in Finland
- 1909 The first automobile manufactured in Finland
- 1923 Finland's first national radio broadcast
- 1965 Finland's first ice hall
- 1974 The world's first NMT phone call
- 1984 The world's first biodegradable implant
- 1991 The world's first GSM phone call
- 1995 The world's first walking forestry machine
- 1996 The world's first Communicator (Personal Digital Assistant, Nokia)
- 1998 The world's first second-generation communicator (Nokia)

The first phase

All books dealing with the history of Tampere's industrialisation describe James Finlayson's (1771–1852) arrival at the banks of the Tammerkoski Rapids in August, 1819, a time when Tampere had a little over 900 inhabitants. Finlayson's arrival is portrayed as a hallowed industrial legend. Finlayson was an experienced machinist, and in Tampere he saw that the natural conditions provided a good foundation for industry. After many preparations Finlayson began to build a factory by the Tammerkoski rapids. Both the town officials and the crown/emperor protected Finlayson. They understood his importance as the herald of new knowledge and expertise, and loaned him start-up money provided he assume a distinct teaching obligation. He was to educate skilled workmen for Finland from the poor local children accepted as apprentices in the foundry. He was also obliged to let any Finnish man come to the factory, see the machines and equipment, and receive useful information about their operation (Voionmaa 1903; Haapala 1986; Rasila 1988).

The factory's foremen and machinists came from England or Sweden since there was no skilled Finnish labour available. Artisans learned their professions through work as apprentices and then journeymen within a framework regulated by the guild institution not through formal technical education. Although the first technical institutes had been founded in Europe towards the end of the 18th century, none existed in Finland when Finlayson began operations. The world's first technical institute, the *École Polytechnique*, was established in France in 1795 and served as a model for technical institutes elsewhere in Europe – for the technological institute of St Petersburg, for example, founded in 1828. While a plan to establish a Finnish technical institute existed already in 1835, the project was considered too ambitious considering Finnish circumstance – elementary education was

lacking and the overall educational level of the people was poor. Only the university provided higher education in Finland at that time, and it trained officials for the needs of the bureaucracy, not experts for the needs of industry. Finnish industry made use of technology imported from elsewhere, as the example of Tampere shows. The Finlayson factory was a good school for machinists who later took to other places in Finland the information they acquired in Tampere (Nykänen 1998, 12–18, 54–59).

National aspirations to develop Finnish industry and improve the nation's economy led to the beginning of formal technical education in 1848 with the opening of the Helsinki Technical Realschule, which became the Helsinki Polytechnic School in 1872 and the Polytechnic Institute in 1879 (Bell & Hietala 2002, 93).

By the late 1830s Tampere had assumed the image of an industrial city; many visitors came to admire the factory buildings, and newspapers wrote about them. During the 1850s Finland's industrial committee suggested the founding of a technical institute in Tampere. The issue was later taken up by Agathon Meurman (1826–1909), a manor owner, farmer leader and Fennoman, who lived in Kangasala near Tampere. Writing, in 1857, about the importance of technical education, he claimed there was something wrong with the society if the children of officials and soldiers were educated only to be officials and soldiers, and he emphasised that technical schools would enhance the industrial spirit in Finland. In Meurman's opinion, Tampere was the most suitable location for a technical institute. The city already had several factories, and new ones would surely follow (Rasila 1984, 654–655; Nykänen 1998, 96–100).

In its initial phase, the creation and enhancement of the educational system was linked first and foremost to the development of professional skills and the production of skilled labour for the Tampere area industry. In 1845–1852 young

MA and journalist Zacharias Topelius wrote his book *Finland Framställdt i teckningar*. He described Tampere as the Manchester of Finland, presenting readers with Finlayson's six-storey factory building and an industrial landscape of smoking factory chimneys rather than the static idyll of other towns and villages (Maisemia Suomesta, 73). The notion of Tampere as Finland's Manchester lived on for several decades in literature written on Tampere. For example, the extensive Finnish encyclopaedia *Tietosanakirja*, published in the 1910s, states: 'After the 1850s, Tampere reached the status of the country's real industrial city that earned it the exaggerated honour of being called the Manchester of Finland' (Kuusi 1917; *Aamulehti* 20 June 1911).

Connections: Traffic, information, communications

The latter half of the 19th century was an era of great economic, social, and cultural development in Finland. That era saw the introduction and adoption of many innovations and inventions that have had a major impact on people's everyday lives. During this period Tampere got water pipes, sewers, and electricity as well as two theatres, several newspapers, and five schools providing university preparation.

At the end of the 19th century mutual co-operation across national borders was being established, first on a regional, and then on a national basis; soon this cooperation bloomed into an international phenomenon. In autonomous Finland (1809–1917), before Finland's independence, towns played a decisive role because of Russia's oppressive policy. Every big city in Finland had networks and reference groups of its own. The biggest Finnish cities, Helsinki (in 1905 100 000 inhabitants), Tampere (41 000), and Turku (43 000) followed keenly the latest know-how.

Representatives of big cities and decision-makers observed and learned from each other, thus facilitating the inter-city transfer of innovations, be they changes in municipal institutions or technological applications. Exhibitions and professional congresses that the officials attended furthered this exchange, as did the professional journals they read, and the systematic records and statistics that they kept. Exhibitions and international congresses provided professionals and experts in various fields, people working in town planning as well as in engineering, with opportunities to meet one another and exchange ideas. Towns acted as messengers of the government as their officials travelled to city exhibitions abroad, whose number increased rapidly after the 1890s (Hietala 1987, 396–406).

In the late 19th century, steamboats and trains replaced horse carriages and sailboats, transporting both people and goods much more rapidly. Connections to Helsinki were especially important, as the capital was home to central government, government offices, and the university. In the early 1870s travel from Tampere to Helsinki (a distance of some 200 kilometres) took one day, first on a boat to Hämeenlinna, and then on a train to Helsinki.¹ The extension of the railroad from Hämeenlinna to Tampere began in 1874, and passenger traffic began two years later. The journey by train from Tampere to Helsinki then took six hours (Rasila 1984).

Along with the railroads, the telegraph spread around the world. The telegraph line between St Petersburg and Helsinki was finished in 1855 and reached Tampere in 1865. The Tampere telephone exchange opened in May 1882. Private telephone companies were established in 1882 in Helsinki, Turku, Tampere and Viborg, and within the next three years such companies were operating in 19 Finnish cities and towns. By 1900 all Finnish cities and towns had a telephone company linked to some 2000 kilometres of national telephone lines, and by 1916 the density

of telephone networks in Finland was higher than that in Russia (Turpeinen 1996, 167–168).

Knowledge, skill, and education – Tampere as a school town

During the late 19th century Tampere began to gain status as an important school town, both on the regional and the national level. Since the beginning of the 19th century local officials and citizens had made several attempts to improve the training possibilities in the city, and as a result practically all children attended municipal elementary school decades before passage of the compulsory education act of 1921. From the 1880s onwards, several secondary schools where the pupils could eventually pass their matriculation examinations had opened in Tampere. A realgymnasium was founded in Tampere in 1883, a school for Finnish girls in 1894, a coeducational secondary school in 1895, and a classical gymnasium in 1901. The following numbers of pupils enrolled in these schools during the first two decades of the 20th century.

1905/06	1351
1909/10	1646
1913/14	1724
1917/18	1728

The most significant vocational institute in Tampere was Tampere technical school, founded in 1886. This school was important for the industrial town, because the future foremen and clerical employees of Tampere metal and textile industries received their education there. The school managed to recruit to its board famous local industrialists, businessman and entrepreneurs. In

addition, several vocational institutes were founded in Tampere in the early years of the 20th century. Still Tampere students wanting to further their educations beyond their matriculation examinations had to leave the city; most secondary school graduates moved to Helsinki to pursue their studies. In the late twenties this exodus inspired a number of initiatives for founding a teacher's college for men and women in town (Kaarninen 1995, 148–154, 206–207; Valorinta 1986, 63–72).

In Finland and elsewhere in Europe, various scientific societies and associations have played an important role in city development, leading lagging city organisations in proposing significant innovative processes. In keeping with this tradition, Tampere Technical Society, established in 1893 and made up of engineers, architects, and businessmen, worked hard to improve technical education in the region. An initiative of the society made during its first years resulted in the 1912 founding of a technical institute in the city. This institute became prestigious and trained a large number of skilled professionals for the industries of Tampere as well as for the rest of the country. An excellent point of comparison for Tampere is Manchester, where various societies made initiatives to found a university many decades before the project was realised (Charlton 1951; Thackray 1974, 675).

Tampere was a pioneer in organising opportunities for study and self-improvement for the working population. The Tampere City Library began as a private library but was taken over by the city 1861. Popular lectures intended for the working population were organised as early as the late 1860s and plans for more regular lecture activities were made in the 1890s. Tampere city founded the country's first workers' institute, after the model of Stockholm, and it opened in 1899. The programme consisted of basic education as well as lectures and debates on scientific and social issues (Rasila 1984, 686–687; Jutikkala 1979, 262–263).

Tampere becomes a university town – ideas and initiatives

Demand for a second university in Finland had begun already at the end of the 19th century and had its origins in the language question. Since the main language of teaching at Helsinki University was Swedish, the aim was to establish a specifically Finnish-speaking university. Furthermore, proponents of a second university understood the regional importance of such institutions (see e.g. Sörlin 1996; Sörlin 2002, 377–388). They saw that the university could operate as a regional well of ideas and innovations if it got support from local sponsors. In this way, the university could benefit local and regional economies.

The years 1910 and 1911 saw a university movement in Finland: an enthusiasm for universities manifesting itself in the form of university committees being appointed in several small towns like Lahti, Jyväskylä, Turku, Mikkeli, and Kuopio. The committees set out to market the university idea and to make plans for getting a new, Finnish-speaking university in their towns. Helsinki newspapers and several local newspapers around the country issued articles and campaigned for a new university. Local university committees made plans and calculations. In Tampere the issue had not been approached until the local newspaper *Aamulehti* took it up. *Aamulehti* wanted to hear the opinions of municipal life, trade and education experts about whether a university or some other institute of higher education should be founded in Tampere and what the city could do to promote such a scheme.

Tampere did not witness the kind of enthusiasm that emerged, for example, in Turku, Lahti, and Jyväskylä although Tampere Mayor K. Hj. Schreck considered it important to get a university or an institute of higher education in the city because he was aware of the connection between higher education

and local progress and prosperity. According to Schreck, the development of the city had regressed after the end of the free city right and the yearlong general strike (*Aamulehti* 17 June 1911). Other important Tampere figures remained unenthusiastic about the university issue. Some of them thought that Tampere should concentrate on improving the industrial school.

From Tampere's point of view, the discussion on higher education became more lively in 1919 when there were attempts to get the Technical University to move from Helsinki to Tampere because the Technical University was in search of new location. This suggestion gave rise to lively debate in newspapers in 1919. The city was ready to provide the lot for the university building (*Aamulehti* 5 March 1919; 7 March 1919; 19 March 1919). In the end, the Technical University stayed in the capital, and the lively university discussion that had begun in the 1910s came practically to an end in the beginning of the 1920s, when two new universities were founded in Turku: the Finnish-speaking Turku University and the Swedish-speaking Åbo Akademi. Tampere had to wait four more decades for its own institute of higher education (Tommila 2002, 102–124).

Some key trends emerge in the analysis of Tampere's educational strategies at the turn of 20th century. The aim was to strengthen Tampere's industry through education by increasing the technical know-how of its citizens and by attempting to secure the availability of a skilled labour force. On the other hand, the Fennoman language policy and aspirations to create a Finnish-speaking educated class also shaped strategy. General and vocational education were pursued side by side and simultaneously in the city, creating the infrastructure of education. A simple justification for both was that now there was no need for the town inhabitants to move from their hometown to study elsewhere. The same justification was still used in the 1950s.

The image of Tampere – City of factories, city of theatres, university city

Among the illustrations in the book *Tampere – kotimarkkina-teollisuuden kaupunki* (Tampere – City of domestic market industry) published in 1934, we see the factory hall of the Tampere engineering shop. The legend calls it 'Temple of Work'. Along with industrial scenes, water is always an important and visible element in pictures of Tampere. We can also see glimpses of the Tampere Theatre, opened on the city's main street in 1913, and the statue of the national author, Aleksis Kivi.

The image of a city has proved to be an important part of city marketing, and it can also be an important political tool (Webster 2001, 32; Niemi 2001, 13–27). In the 1920s and 1930s Tampere continued to construct a self-image of an industrial city, the Manchester of Finland. In an illustrated book about Tampere published in the 1920s we read the following:

As the train approaches Finland's most typical industrial city, the Manchester of Finland, one instinctively envisages a forest of factory chimneys, black and sooty smoke rising from every one of them. Tampere – Finland's Manchester – is a beautiful and interesting industrial city in beautiful and interesting Häme district.

In the beginning of the 1920s Tampere was considered the centre of Finland's industry for the domestic market. During the inter-war period Tampere made itself known by participating in Finnish fairs and exhibitions in various European countries. Although the city was one of the candidates to host independent Finland's first fair, that event actually took place in Helsinki in 1920 and 1921. Textile factories in Tampere such as Suomen Trikoo, Tampere Verkatehdas and Lapinniemi Puuvillatehdas all had their own stands. Finlayson exhibited a spinner that was

occasionally turned on during the exhibition (Rönehholm 1945, 99–119).

Plans had also been made to organise the 12th general agricultural fair in Tampere in 1922. Eventually that fair merged with the third national fair, albeit in a truncated form. The architectural design for the fair was commissioned from architect Alvar Aalto. The fair exhibited mainly products from the wood industry and the home industry as well as the machining industry. The audience could also see competitions related to craftsmanship and exhibitions ranging from carving a shaft of an axe to patching a pair of mittens. The stands of Tampere businesses received much attention. For example the Tampere-based belting factory and safe factory represented the rationalisation of work (Rönehholm 1945, 128–135).

In 1923 Tampere was invited to participate in an exhibition organised in connection with the 300th anniversary jubilee of Gothenburg. The city sent drawings and town plan replicas to the exhibition. An English Week, connected with the English Week organised in Helsinki, was organised in Tampere in 1933. Two years later Tampere participated in the Brussels World Fair and exhibited pictorial material, which particularly highlighted Tampere's industrial milieu alongside the rapids (Annual Reports of the Tampere Municipal Administration 1920–1939). Tampere businesses had a strong presence at the Finnish Fair in 1935 in the new Exhibition Hall of Helsinki (Rönehholm 1945, 352, 404).

Tampere constructed international networks on many levels. Tampere sent annually several municipal officials and experts on study trips in Europe in order to search out the newest advances in city planning and infrastructure. This practice was common in other major Finnish cities too, particularly in Helsinki (Hietala 2005, 127; Bell & Hietala 2002, 113–133, 183–189). The Scandinavian countries were the favourite destinations for groups

from Helsinki as well as from Tampere. Tampere also annually received representatives from many different professional groups; the city provided programmes and hospitality for them (Annual Reports of the Tampere City Administration 1920–1939).

New era, new challenges

After the Second World War and the reconstruction period in the early 1950s, a huge social construction programme began in Tampere. The town was involved in a central hospital project, new municipal kindergartens were under construction, the home for the aged was being extended, a sports centre was built, sewage and water networks were being constructed and a new workers' institute was erected. The town leaders wanted to build a city that would be an attractive place to live.

In the early decades of the 20th century a small number of writers had lived and worked in Tampere, but the late 1940s witnessed the birth of a Tampere school of writers (The Mäkelä Circle). This group included some of the most significant Finnish writers, most notably the novelist Väinö Linna and the poet Lauri Viita. The Tampere school differed from the capital's literary circles both stylistically and thematically. In the field of visual arts, a Tampere group known as 'Group 9' emerged in the 1950s, the key figure being Erik Enroth. The group also included Kimmo Kaivanto, the most famous Tampere visual artist for the next decades to come. With the help of writers, visual artists, and the theatre, Tampere gradually became known for its culture as well as its industry (Rasila 1992).

From the 1940s to the 1960s, Tampere is portrayed as a beautiful city of factories. But aside from pictures of factories and rapids, public buildings such as schools and theatres as well as the city's public monuments begin to gain more and more visibility

in books introducing the city. These publications increasingly highlight the Pyyrikki area and Tampere lake landscapes as central elements characterising the city (e.g. *Tampere – tehtaitten kaunis kaupunki* 1943).

In the 1940s and 1950s planners presented visions of Tampere that would reach far into the future, all the way to the 1990s. These plans included major construction schemes like congress halls, churches, hotels, roads and railroads (Rasila 1992, 42). From the point of view of Tampere's development in the years and decades to come, the most important scheme by far proved to be the plan to turn Tampere into a university city, a plan hatched in the late 1940s. A particularly active proponent of this project was Erkki Lindfors, mayor of Tampere 1957–1969. In 1947 the City of Tampere set as its public local political objective an institution of higher education. Lindfors and other town leaders wanted an institution of higher education in the city for several reasons. One of the reasons was the image of Tampere, how the city was known in Finland and abroad. Helsinki, Turku and Tampere were the largest cities in Finland. Helsinki and Turku were cultural centres. Tampere was known for its factories and working population.

But the traditional industries could not guarantee the city's success; something new was called for to increase its attractiveness. Citizens of an industrial city catering to the needs of the domestic market had a demand for services too. All in all, the new demands increased. Certain leaders of the city avidly supported university education and academic careers since Tampere, with its many secondary schools, had by the 1940s grown into an important provincial centre for education where the youth of the surrounding countryside came for their matriculation examination. A university in Tampere would keep local students and their money from leaving the city as well as attracting students from the surrounding rural areas.

In order to support the city's industry, local authorities took as their first goal establishing a technological university in Tampere. But when The School of Social Sciences in Helsinki, founded as a Civic Academy in 1925, was struggling with both economic and premise problems, the City of Tampere actively sought the transfer of this university-level School to Tampere. The city's campaign was complicated by the fact that Helsinki University had founded a Faculty of Political Science which both the teachers and students of The School of Social Sciences found appealing.

The City of Tampere was prepared to make great sacrifices in order to get the institution. It tempted the institution with economic favours, and after nearly a decade of debates and negotiations, the School of Social Sciences was opened in Tampere in 1960 and the new building was inaugurated in 1961.

The rapid growth process in the School of Social Sciences started in the early 1960s. In 1960 the institution only had a faculty of social sciences. The faculty of humanities was founded in 1964, the faculty of economics and administration in the following year 1965, and the faculty of medicine in 1972. Additional plans to found a faculty of mathematics and natural sciences failed. The institution ceased to be a school specialising in social sciences, and in 1966 it received university status. The city of Tampere provided important economic support especially to the funding of new teaching posts (Rasila 1973, 213; Kaarninen 2000, 20–25).

Paavo Koli, the rector of the School of Social Sciences, was an innovator with many ideas and the capacity to realise large-scale schemes swiftly in co-operation with mayor Lindfors and the financial aid of Tampere. Lindfors and Koli were among the visionaries who had courage and faith in Tampere's future as an attractive university city and centre of culture. In a short time Koli was able to devise several plans that have in retrospect

proved to be exceptionally far-sighted. Koli's grand idea was to create an international university that could serve as a meeting place for researchers from different countries. Koli had negotiated on questions related to grounds and premises with town manager Erkki Lindfors already in 1964. In 1967 Koli vigorously started to plan an international university and research centre in Tampere. The objective was to create an international research centre of high standard where researchers from around the world could pursue their work.

Paavo Koli's important idea was that the university should educate experts for the various fields of society. This notion resulted in the founding of new chairs then unknown in other Finnish, and even some Scandinavian, universities. Koli for example initiated calculations on how many ADP planners and programmers would be needed in Finnish society in future years to cope with the practical work. Based on those calculations, the first chair in computer science in Scandinavia was founded in Tampere. The chair took academe by surprise, as similar chairs were not founded in Helsinki and Jyväskylä until two years later (Kurki-Suonio 1990, 1–5). The school recruited experts from the electronics department of the Finnish Cable Factory (Suomen Kaapelitehdas, owned by Nokia), where various kinds of electronic equipment were being designed. At the time Finland's best expertise in computer technology resided precisely at the cable factory, a part of the Nokia company. In Tampere, the connections to Suomen Kaapelitehdas were very significant in terms of developing the university's computer centre and computer science (Kaarninen 2000, 33–35; Häikiö 2001, 34–36).

Another institute of higher education came to Tampere in the 1960s. The city had looked into the prospects of teaching in technical fields, and local industry was firmly behind the scheme. A branch of the Helsinki University of Technology started in

Tampere in 1965 and became independent in 1972. In the mid-1970s, the Tampere University of Technology began to plan and organise teaching in the field of electronics. Microprocessors were a new invention, and training related to them was arranged for businesses as well as for students. Small and large businesses were very eager and enthusiastic to start using information technology. Computer science grew fast, and prominent Finnish scientists worked at the university as lecturers and professors. Many partners, among others the Tampere Chamber of Commerce, helped the University stay in contact with the world of business (Ahonen 1993, 371–377).

The University of Tampere and the Tampere University of Technology have participated in making Tampere an important centre of education and research with international appeal. As a university rector, Paavo Koli was ahead of his time. Most of his ideas became reality by the beginning of the 21st century. In the beginning of the 21st century, the universities of Tampere are international (Hietala 2005, 127–142) even though it is not quite possible to talk about the kind of research centre Koli had envisioned. Due to the growth of these universities, the level of education in Tampere has increased, e.g. in 2003 29 per cent of Tampere inhabitants over the age of 15 had received some higher education. The corresponding national figure was 26%. It seems that Tampere had met the criteria of high educational level in Richard Florida's prerequisites for creative cultures.

Culture as a factor in the city's success

At the moment, research has been increasingly directed at cultural factors behind successful innovative societies. This research seeks to discover and articulate the significance of culture in economic growth and regional attraction. In *Kulturen i kunskapsambället: Om kultursektorns tillväxt och kulturpolitikens utmaningar*,

Sverker Sörlin examines the significance of the cultural sector to innovativeness. According to Sörlin, the cultural sector is notable in employment first, because producing contents requires experts from various cultural fields; secondly, because cultural events and festivals offer a meeting place for people of different age groups, areas and professions; and thirdly, because cultural services increase the attractiveness of the area.

Peter Hall's book titled *Cities in Civilization* includes several historical examples of innovative cities (Hall 1999, 279–309). Innovative cities can be found in the Northern Italy during Renaissance. Dutch cities during 16th and 17th centuries and Vienna, London and Manchester in the 18th century are also part of this group. During this period, London became a global port city and business centre, which attracted entrepreneurs and merchants. From the 1780s onwards Vienna attracted musicians from German-speaking countries, especially from Germany (Hall 1999, 159–200).

Increased marketing of Tampere begins in the 1960s²

The Tampere city strategy 2001–2012 places a strong emphasis on cultural services in terms of the city's success. According to the strategy: 'The city's cultural structure is an essential part of the city's attractiveness and provides important surroundings for the environment's innovative education, research, and business life. Tampere is an innovative city in sciences and in arts.' The cultural structure mentioned in the Tampere strategy was born during a period of more than a century, but since the 1940s and particularly in the 1960s many new events emerged that made Tampere known nationally and internationally.

During the 1960s Tampere became a centre for theatre and many other cultural fields. Erkki Lindfors was interested in increasing the visibility of Tampere. Tampere actively participated

in international exhibitions, created the Tampere International Theatre Festival and started the Tampere Illuminations. Together with Helsinki and Turku, Tampere organised an exhibition in Vienna. The exhibition circulated in Germany, France and the Nordic Countries. This exhibition was an exchange exhibition to a Vienna exhibition organised in Helsinki, Turku and Tampere in 1964.

The exhibition opened in Vienna in April 1965, and Erkki Lindfors went there from Tampere. The Austrian foreign minister Kreisky attended the ceremony and in his opening address emphasised the importance of Finland's model of neutrality and co-operation between the EFTA countries. Austrian television was interested in filming a documentary about Finland, among others 'Kennst du das Land?' and a programme about the vigil for neutrality in Finland, one of the three neutral countries in Europe, and her defence establishment.

The exhibition was organised in a central location at the Volkshalle des Rathauses. It aimed to focus the attention of Vienna inhabitants on Finnish cities and polish of the image of Finland. This goal was realised in cooperation with certain important businessmen representing Finnish products in Austria. A sales week was organised in department stores and shops in the heart of Vienna. For example Philipp Haas et Söhne, the main customer of Finlayson's interior textiles, was prepared to post advertisements in display windows in nine shops in Vienna and six shops in the capitals of other Austrian provinces.

The Vienna exhibition included industrial products from Tampere, such as Finlayson textiles, and three miniature models of suburbs in Helsinki as well as a miniature model of the new Tampere Ice Hall, the first ice hall in Finland. The intention was to advertise the world championship tournament of ice hockey and the world championship tournament of wrestling to be organised in Tampere in the spring of 1965 (Rasila 1992, 543).

After Vienna the exhibition circulated in German towns (Essen, Bremen, Hanover, Cologne, Nuremberg, Munich, Frankfurt am Main, Lübeck, Hamburg) and France (Paris, Nancy, Strasbourg, Caen), it went to the USA and Canada. In addition, the committee planned a new round trip of a renewed exhibition to Sweden in 1967. Further plans were made for circulating the exhibition in England, the Benelux countries, Switzerland and the Soviet Union.

West Side Story takes Tampere to Europe

The most important cultural events were the West Side Story shows by Tampere Theatre, lectures arranged at people's college Urania, and a poetry evening. The press covered Finnish design, arctic life and music on many pages. The *Arbeiter-Zeitung*, the Austrian Social Democrat Party organ, published on April 4, 1965 a Finland supplement edited by Alois Brunthaler, correspondent for the Scandinavian press. He had visited Tampere during the winter 1964. The paper made positive remarks about Finland's technological progress and mass transportation and praised the way the country kept up with technological developments. The examples mentioned were Finnair's six new Super-Caravelle airplanes and the modern equipment of the Star pharmaceutical factory in Tampere. The articles dealt with the cities of Tampere, Turku, and Helsinki; Finnish standards of housing; the political status of Finland, Austria's EFTA partner; sauna; and Finnish design. Tampere was depicted as a green and lively city ideally situated between two lakes.

In addition, the Viennese *Die Presse* issued a special Finland page. Tampere was praised for her theatres and ice hall, an excellent outdoor theatre and its rotating auditorium. Turku presented her two universities and the Turku stall also exhibited

Finland's biggest dockyard in Turku (*Die Presse* 3 April 1965; *Volksblatt Wien* 4 April 1965).

One of the most important cultural events during the week was Tampere Theatre's *West Side Story* (Rajala 2004, 479–485). The actors from Tampere arrived on April 6, 1965, and performed three times at the Theater an der Wien. 'The premiere in Vienna on April 8, 1965, had a great ending: the audience gave a standing ovation! After 18 minutes of applause I interrupted the audience for some reason . . . but the applause, thumping and shouts lasted only for 15 minutes after our other shows. . . . However, even that was by far the longest and loudest in our experience before and after the trip to Vienna.' Few could have imagined that the musical filmed in the late 1950s could have been brought to the stage, let alone by Finns.

The visit of the *West Side Story* was advertised on radio and television in Austria, the theatre manager Rauli Lehtonen and conductor Juhani Raiskinen were interviewed; Tapani Perttu playing the part of Tony and Kaija Sinisalo playing the part of Maria were praised and photographed; and hordes of autograph hunters besieged them. One factor contributing to the musical's success was the fact that it was performed in the restored premises of the Theater am Wien.

The *Volksstimme* described Tampere as Finland's Salzburg. According to the paper the secret lay in the actors' enthusiasm, which is a huge benefit in a musical (*Volksstimme* 10 April 1965). The *Wiener Zeitung* headlined its review of the evening: 'Welcome theatre guests from Finland' (*Wiener Zeitung* 10 April 1965). The wide repertoire presented in the programme leaflet of Tampere Theatre, celebrating its 60th anniversary, was also received favourably (*Arbeiter-Zeitung* 10 April 1965). The *Arbeiter Zeitung* compared the stage performance with the movie and commented that the Tampere actors had no cause to be ashamed

of their production. 'The theatre of a small Finnish town has shown how to perform a musical.'

Franz Hitzengerger described the Finnish West Side Story as brilliant (*Neues Österreich* 10 April 1965). The reviews also paid attention to how many production varieties the theatre had discovered (*Die Presse* 11 April 1965; *Kurier* 9 April 1965). The only negative remarks were made in connection to the actors' singing skills (*Volksblatt Wien* 4 May 1965).

The positive international reviews created a demand for Tampere Theatre, and after Vienna a flood of invitations came in from Canada and the United States, Norway and Copenhagen. Due to shortage of funds, those tours were not as successful as the Vienna trip, where the support of the City of Vienna was decisive. In Vienna, the use of the local theatre premises and its entire personnel cost nothing. There was also support from the City of Tampere and Finland's Ministry of Education.

Theatres in the summer of Tampere

Ever since the 1960s, theatre has played an increasingly prominent role in the summer image of Tampere. Summer theatre performances were held on Pynnikki Ridge in Tampere in the 1950s. Pynnikki Summer Theatre got massive national publicity when in 1960 the City of Tampere built the theatre a unique rotating auditorium, making possible the use of exceptionally beautiful lake landscape during plays.

The Tampere International Theatre Festival was organised for the first time in the summer of 1969, when the audience amounted to 40 000. The festival is linked to the attempt to create a series of Finnish cultural events with only one event per field of art. One of the first examples was the Jyväskylä Festival began in 1956. One important promoter of the idea was Olavi Veistjä, journalist for the local Tampere newspaper *Aamulehti*.

He was an esteemed cultural critic whose voice was heard. By writing an *Aamulehti* article where he described other, already existing cultural events and commenting that the Finnish summer was already filled with events, he participated in the founding of the Pyynikki Summer Theatre and Tampere Museum of Modern Art.

The Tampere International Theatre Festival caused emotional upheavals in the early 1970s when Olavi Veistäjä welcomed free theatre groups. A new kind of opening was to invite exotic groups like the Abafumi theatre from Uganda, later also domestic theatres and famous foreign artists. Tampere became the city of Italian Dario Fo after he had made his audiences laugh in the shows he directed (Lehtola 1989, 242–244). Criticism against the theatre festival and Veistäjä continued relentlessly, but it also served to keep the theatre critics on their toes and Tampere in the public eye. In the beginning of the 21st century the Tampere International Theatre Festival is one of the largest Finnish cultural events alongside the Helsinki Festival, Pori Jazz Festival, and Kotka Maritime Festival (*Kulttuuritilasto* 2003).

The first Tampere International Short Film Festival was organised in 1971, only two years after the birth of the theatre festival. The City of Tampere was involved in this project and supported it financially.

Tampere Illuminations

A third event to stir the hearts of Tampere inhabitants and visitors in the 1960s was Tampere Illuminations, where the main streets were illuminated with electric light ornaments. The birth of the Illuminations was inspired by Tampere's twin city Essen, where the first Illuminations festival was organised in 1949. In autumn 1965, Erkki Lindfors invited a group of Tampere entrepreneurs to look into an opportunity to follow the example of the twin

city Essen and organise Tampere Illuminations to liven up the business district during the quiet autumn season. In order to make the festival happen, a society was founded and received funding from the city. Some 200 companies joined the society. The light ornaments were ordered from Essen, and they lit up the streets in October 1965. The society owned the ornaments, as it does today, and paid for the electricity. Tampere Power Utility was in charge of installing, maintaining and repairing the light ornaments. When the Illuminations had its 30th anniversary in 1995, the town was lighted by 184 different light ornaments employing nearly 37 000 light bulbs. While designing the ornaments, special attention was paid to ageless themes, style and harmony of the lighted themes. Leaf patterns, floral patterns, tulip patterns and various animal shapes have become familiar to townspeople as well as tourists (*Tammerkoski Journal* 9/1966, 228).

The Tampere Floral Festival was planned as a major summertime attraction. The Tampere Tunnetuksi ry (Publicity for Tampere Association) has annually organised the Tampere Floral Festival in June and August to enliven street sales. The festival was intentionally organised to coincide with the Tampere International Theatre Festival. Special subject days were planned and the shops were given an opportunity to sell their products in the streets. More street cafes were built. In addition to the Tampere Tunnetuksi Association, the City of Tampere and Tampere Chamber of Commerce are also involved in the organisation (*Tammerkoski Journal* 1/1984, 41).

The Tampere Hall was inaugurated in September 1990 after a long planning process that began in the 1950s. It became the largest concert and congress hall in Scandinavia. Tampere Hall strengthened the city's music life and turned Tampere into an internationally prestigious city of meetings and congresses. The University of Tampere and Tampere Hall as the university's

next-door neighbour provide good settings for international conferences (*Tammerkoski Journal* 9–10, 1996, 12–13).

Conclusion

The novelist, professor Zacharias Topelius described Tampere and her inhabitants in 1873:

Millions the rapids devoured, but it multiplied them and lifted them back on its banks as if they were golden sands. Now its labour spins and weaves cloths of wool, cotton and linen, mixes rags into paper, sets up machine shops and all manners of other factories. More than 6000 heed the call of factory bells; their offspring gather in schools, the sailboats carry more fresh troops to add to the growing number of the townspeople. Time has it taken before the freedom-loving folk grown up in desolate forests has gotten used to the milling throng in the factories, the stale air and the monotonous work. But the patient, tolerant Finnish character, so willing to learn, has gradually accustomed to it, and from Tampere a new form of culture – factory industry – has spread past the southern and western corners of our land. (Topelius 1998, 90)

Factory industry raised people who had to learn to live at the pace of the factory whistle. The factory determined the life order. Information technology, computers, mobile telephones, communicators – microprocessors have once more made people adopt a new kind of behaviour. In this new life Tampere was one of the pioneers. With the help of the university's data processing and the technical university Tampere got an edge as the place where ADP experts were educated and the field was being developed. The use of computers became common in society in the 1970s and 1980s, and the fact that specialists in the field were available in Tampere was extremely important. In an information society people process information, fetch it, shape it.

The information technology industry has created the proper tools to accomplish these tasks. The key objective is to communicate new information faster. This also means that in principle people should be constantly available. They also should get there faster. Citizens should possess skills of performing everyday tasks like paying bills or checking timetables through the Internet. Tampere universities, comprehensive schools, high schools, libraries and people's institutes have educated people into a new way of processing the existing information.

The industrial heritage has not been forgotten in Tampere; instead, museums have been erected at the birthplaces of the oldest industry. Tampere was being shaped into an important school town ever since the late 19th century, and a permanent foundation for the future was created in this shaping. Tampere culture was backed up by the library institution and the first Finnish centre of popular education, the workers' college. Around the same time Tampere began to become an important centre of theatre.

The city image of Tampere has been modified systematically since the 1950s and 1960s. There have been intentional attempts to portray Tampere as a university city and an original cultural city with her theatres, writers, and visual artists. Tampere theatres were a phenomenon in their own right in Finland of the 1960s and 1970s. The University of Tampere contributed to the city's cultural climate. The university and the other institutes of higher education attracted new inhabitants to the city. In the 1970s, Tampere saw the birth of an original music phenomenon called Manse rock that received wide national attention.

Creativity is not born in confinement, as the Tampere International Theatre Festival and the success of Tampere Theatre around the world show. Creative people and creative cities have to have faith in the future and the courage to take risks. The many ideas of marketing Tampere have been created by individual

agents such as theatre directors Eino Salmelainen and Rauli Lehtonen, mayor Erkki Lindfors, culture critic Olavi Veistjä, and the representative of the academic world, rector Paavo Koli. They have had this faith and courage.

Public sponsorship has been an important factor in Tampere's cultural life. The city agreed to sponsor Tampere Theatre's conquest of the world with the *West Side Story*, the Tampere International Theatre Festival and Tampere Illuminations. These events provided Tampere with an unprecedented amount of attention and respect. It is difficult to measure the impact of culture on a city's attractiveness. Still, in the case of Tampere, we should take notice of the huge amount of positive theatrical reviews in national and international press as well as the vast audiences the events have attracted to Tampere. The cultural events that started in the 1960s brought unprecedented fame to Tampere alongside the products of the Tampere textile industry. The construction of the Tampere Hall as a centre of culture, exhibitions, and congresses can be seen as a direct continuation of the city image construction that began in the 1960s. The same category also includes the construction of Tampere's new library and the excellent library services provided to the citizens by eTampere.

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Notes

- ¹ In 2005, the journey from Tampere to Helsinki takes 1.5 hours by train.
- ² The analysis of the exhibitions of three towns Helsinki, Turku and Tampere is based on annual reports by the Tampere City Council, archives of the organising committee of the exhibitions 1965 (The City Archive of Tampere), unprinted documents such as promemorias by ambassadors of Finland, correspondence between ambassdors of Finland and organisers of exhibitions (The archives of the Ministry for Foreign Affairs: MFA) and articles published in newspapers and journals in Finland and in Austria.