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Pertti Haapala

## **History of Tampere: The Very Long Road to Informational City**

### **The perspective**

Historians do not usually believe in historical continuity, instead they consider it their duty to remind and warn wider audiences not to rely too much on linear development. There is evidence enough to claim that historical processes are mostly based on unexpected changes and that the prediction of the future has been for the most part a series of Utopias. On the other hand hopes for and fears of the future seem to be very similar from time to time. The logic determining how people analyse their conditions and possible futures and intentions repeats itself. Perhaps it is one of the lessons of history that our patterns of thinking change surprisingly slowly – even in the Information Age.

When we look back on 200 years of economic history, we can easily find analogies to the current world and to our expected future. None of the features of social developments, which now have new names (such as globalisation, competition, networks, knowledge, information, social capital, innovation, communication, regulation etc.) are new phenomena. People in the 19th century realised, for example, that success in business was based on knowledge, calculation and markets, not simply on material resources and regulation. It is a typical blind spot in historical understanding that we describe our world by representing the past as something different from, often exactly opposite of, today.

I make these remarks to justify my standpoint that looking at history might offer rewards even if we do not believe in the

possibility of finding the true past or any precise advice for the future. Past experiences offer at least interesting analogies which may clarify our understanding of the current world. Thus, the short history of Tampere below does not try to make a full analysis of a historical process, but rather brings together a selection of facts, features and conclusions which seem to relate to the theme of the book: what the informational city is about and how it has become feasible. This analysis focuses on infrastructure, economic networks and institutions and their more or less accidental changes and interplay, and regards the history of industrial society as a history of changing contexts rather than a study of the stages of development. The history of Tampere is analysed in three dimensions: as empirical economic history with actors and resources, as an experience with subjects and as conceptual history of an industrial society concerned with making generalisations about the development of the city (about the approach, cf. Haapala 2004).

The city of Tampere was founded in 1779, about the same time as the USA, and a decade before the French Revolution. These last two historical events are usually regarded as representing great shifts in the history of Western societies, i.e. the emergence of capitalism and democracy. In the case of Tampere, these big events had no immediate impact, but in the long run the social change in Tampere followed the same patterns as in all industrialising countries. In the first history of Tampere, written by Väinö Voionmaa one hundred years ago, the author takes the outspoken perspective of the birth of industrial capitalism and democracy. Besides economic factors, living conditions and political mobilisation, Voionmaa emphasised the role of the education of the masses. For him, a moderate socialist himself, the labour movement was 'fruit of the 19th century economic progress, democracy and education'. Though critical to capitalism, his idea of combining economic growth and civilisation was a

fresh and clear view compared to later historiography in which the ideas of class struggle and nationalism have dominated the historical imagination (Voionmaa 1903–1907, cit. Voionmaa 1936, 10).

Another striking point in Voionmaa's analysis was that he paid no attention to the fact that Finland and Tampere were located in a European periphery. Perhaps, as a specialist in economic geography, he was interested not in distances but in connections and communications, and how they change society.

In today's perspective, Voionmaa made two interesting conclusions. First, the location of Finland on the European periphery did not offer a relevant explanation for the economic history in the time of 'poor communication'. In fact Tampere was surprisingly well connected to European flows of production and information, and its industrialisation followed the same major patterns as elsewhere. Secondly, he based his idea of social progress on the same variables, i.e. economic growth, active civic society and broad education, which shape today's idea of the 'democratic information society'.

### **The beginning**

The industrial history of Tampere began with high hopes. The city was founded as a 'free city'. The charter of the city, given in 1779 by Gustavus III, the king of Sweden, granted the coming inhabitants several special privileges in order to encourage economic activity in the area. Tampere was to become a new centre of commerce and industry in Finland, the first major inland city of its kind. Among the many chartered privileges (mostly involving lowered taxation) the most important liberated the city from guild regulations. Every man was free to move in and start an enterprise. The only problem seemed to be the fear

that the city would grow too rapidly – the charter provided for lots only for 400 inhabitants.\*

Unfortunately the idea, state-ordered freedom of enterprise, did not work. Only a few artisans moved to Tampere, and, as soon as people were settled, they founded guilds and began to regulate the economic activity in the city, that is, the number of workers and burghers, trade and prices. One of the innovations of the time was to set maximum wages for workers in order to impede ‘unhealthy competition’. In that way the burghers – within the privilege of local self-governance – secured their livelihood. Their action was absolutely rational and accepted by the community. As a prominent member of the city court explained, ‘it certainly is not the purpose of the Emperor that the burghers eat each other’ (cit. Wallin 1902, 34). Despite its status as a free city, Tampere never experienced a boom of small-scale industry. Growth came only at the end of the 19th century as a result of the population growth and new demand, both outcomes of big industry.

How did the crown of Sweden get the idea to build a new city between two lakes, but actually in the middle of nowhere – the site of only a tiny village, some flour mills and an annual fair for rural people? The area could lay claim neither to industrial activity, merchants nor remarkable manors generating industrial activity, such as saw mills or iron works. Still, the crown hoped to make Tampere a centre of iron production. Planners expected

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\* The text here is based on my long-time (and still ongoing) work on the history of industrial communities. References to original sources and company histories are left out here. Much has been written about the overall history of the city but no works analyse on any conceptual level the city’s economic history before the 1990s. The article by Sotarauta and Kostinen (2003) is an informative exception but their historical analysis relies too much on inadequate literature and lacks broader national context. A basic history on the technological development in Tampere is *Tekniikan Tampere* (1993).

to find plenty of iron ore in the lakes, ore that could be smelted in furnaces fuelled by the charcoal available in the surrounding forests. The ultimate goal was to increase state revenue by exporting iron, which was so important for the kingdom of Sweden throughout the 18th century (Voionmaa 1903).

That policy failed, too, because of the lack of resources, and Tampere remained a tiny village of few hundred people. The only larger business in the city was a state distillery. The crown maintained a monopoly in producing and selling spirits. The state distilleries bought grain from the farmers and sold them back alcohol at a good price. Even that enterprise proved to be a poor business. It was a mere accident but illustrative enough that the first lease holder of the state distillery of Tampere was executed as a rebel by Gustavus III in 1790. The incident cost the king his life two years later.

#### **Another beginning**

Things began to change in Tampere only after Finland was annexed to Russia in 1809 as a result of the Napoleonic wars. The occupation of Finland was based on the agreement between Napoleon and Alexander I in Tilsit in 1807. Though Finland became a Grand Duchy of Russia, the Swedish legislation in Finland stayed in force, and the institutions were not Russified. Instead, Finland enjoyed a central administration of her own including the senate, state budget, customs area and economic policy. All this autonomy affected Tampere greatly, especially when Alexander I reinforced the privileges of the city of Tampere. He visited the city, and a memorial plaque of the time tells how he 'ordered the natural forces, the rapids of Tampere, to serve the purposes of man' (Voionmaa 1905).

The words of the Emperor did not help much. Anyway, the government, the new senate of Finland, and the Emperor,

intended to develop Tampere along the lines of the *Privilegium Tammerfors*, i.e. encouraging economic growth through freedom of enterprise. The new letter of privilege included exemption from customs fees for importing machinery and raw materials from the Western countries. Here lay quite an opportunity, because Russia had high barriers for trade. Unfortunately there were no capitalists in Tampere who could take advantage of these benefits – until James Finlayson came to town in 1820.

Finlayson was a Scotsman who had moved to Russia and served as a director of imperial cotton mills in St. Petersburg. His connections to Finland and Tampere were based, however, on the Quaker community. After becoming aware of the possibilities in Tampere, Finlayson applied for and received a state privilege to found a machine shop, and later a cotton mill. His privilege included the land by the rapids, licence to hydro-power, and release from customs fees in importing machinery and raw materials and in exporting goods to Russia. To start a business he was given a generous state loan. His vision was now to make Tampere a centre of machine manufacture. What happened? Almost nothing. Finlayson proved to be a poor businessman, and, after many tries, he gave up. His small business went bankrupt, and he left for Scotland in 1835 (Lindfors 1938).

Again, Tampere did not seem to be an ideal place for large-scale industries. There were the river and rapids, but nothing else – no raw materials, no skilled labour force and poor communications. Later historiography has often repeated the story of Tampere's exceptional natural resources, i.e. the chance to exploit the rapids as a cheap energy resource. That explanation forgets some important facts: Finland was full of rapids; the steam engine was in wide use already; and, above all, no one had yet devised a scheme to make use of that imagined resource.

#### **Greater forces**

The third start of industrial development in Tampere began in the late 1830s, sixty years after the founding of the city and thirty years after the annexation of Finland to Russia. Two Baltic-German businessmen who lived in Russia, Carl Nottbeck, a merchant of textiles, and Carl Rauch, a personal physician of the Emperor, bought James Finlayson's company. What they actually got was the privileges of the company. They received some new privileges as well, such as freedom of religion and freedom from taxes for foreign specialists. Nottbeck and Rauch began big business in Tampere and built the first real factory in Finland, a cotton mill starting with 500 workers. They succeeded in creating the largest and the most profitable company in 19th-century Scandinavia. Finlayson & Company (the name was retained) was a modern capitalist enterprise bringing together strict calculations of productivity, technological innovations and market analysis. The number of workers soon exceeded 1,000 and grew to 3,000 by the end of the century (Haapala 1986, 22–33; Rasila 1984).

Nottbeck and Rauch themselves had no big fortunes, but they were financed by the state of Russia and by some British investors. In practice, all the start-up money came from European banking houses such as Rothschild. Machines for the new cotton mill were imported from Belgium and Germany, technicians and foremen came from Britain and Sweden, and the bookkeeper was a German protestant. The raw material, cotton, was imported from the USA and brought from the coast of Finland to Tampere by horse, and later on railways. Most importantly, the products found a market in St. Petersburg, the rapidly growing Russian capital. The demand was strong, the prices were good, and, in particular, the Finnish-produced goods were protected from Western competition (Lindfors 1938; Heikkinen 1994, 127 ff.).



The resource basis of the new start of the Finlayson company was more than typical. The only local resource was the labour force, made up mostly of children of rural workers from the nearby countryside. All technology and know-how had to be imported. In those days that meant people coming to Finland, and soon Tampere had a small and a highly respected community of foreigners who did not associate much with local people. The Nottbeck family moved to Tampere but lived in luxurious privacy, spending much of their time out of the country and educating all their children abroad (Rasila 1984).

The success of Finlayson & Co encouraged other entrepreneurs to begin their business in Tampere. Without repeating the history of other companies, we can safely conclude that, without the conditions that benefited Finlayson & Co, most importantly the institutional position of Finland as a Grand Duchy of Russia, Tampere would not have industrialised as early, as quickly or in the way it did. In 1900 the number of factory workers in Tampere exceeded 10.000, most of them employed in textiles, metal works and paper mills (Haapala 1986; Rasila 1984).

In present-day terms, Tampere was made a 'special economic zone'. The privileges enjoyed by Finlayson and the city practically negated all existing legislation. The only way to encourage industrialisation in the regulated economy was to grant special privileges. Thus the successful industrialisation of Tampere was not a victory for free competition or an open economy, but instead depended on direct and indirect support from the state. On the other hand, the tool for generating growth was the free movement of people, capital and information, especially when almost all resources had to be imported. In its own limited way the 19th-century Tampere was an open economy and society.

So Tampere was an exception, but not as great an exception as is usually believed. All Finnish producers benefited from

reduced tariffs when exporting to Russia while in many cases Russia imposed on Western products tariffs of 70% or even higher. Russian entrepreneurs and politicians often criticised Finland's special position, but without result. Finland remained a separate and privileged customs area until its independence at the end of 1917 (Heikkinen 1994). A major question mark is, of course, why the Emperor favoured industrialisation in Finland – and often at the expense of Russian entrepreneurs. The motive was simple: Finland was regarded as an essential and eternal part of the Empire. It was close to the capital and, compared to other parts of Russia, rather well developed. Thus the success of the Finnish economy would strengthen the Empire and help it compete with other nations. The political goal of granting Finland special status was to pacify Finland, separate Finland from Sweden and reward Finns for their loyalty. As Nicholas I put it: 'Finland is the only province in my great realm which has caused me no anxiety or dissatisfaction.' It is contradictory only in a later political and ideological perspective that the interests of Russia were such a key factor in the industrialisation of Finland.

The growth of industry in 19th-century Tampere shared many features with colonial economies: the dominance of outsiders, the importance of foreign resources and the exploitation of cheap local labour. But, in fact, development went in quite a different direction. Russia occupied Finland but did not colonise it: industrialisation was not based on local material resources, and there was no capital flow out of the country. And above all, industrialisation in Tampere was an economic and social success story, not just for the owners but also for the local people who experienced it primarily as progress and as increasing well-being. When Tampere was called the 'Manchester of Finland', people felt positive pride in the nickname (Haapala 1986; Heikkinen 1997).

### **National and international context**

Tampere was the first and foremost industrial city of Finland in the 19th century and continued to be that in the 20th century. It was also the most typical industrial city but not the only one. Legislation concerning economic activity and mobility was gradually liberalised, and this liberalisation supported economic growth starting in the 1870s. Urban populations increased rapidly, and home markets grew: by the 1880s Finland already sold more in domestic markets than in Russia. Machinery production found new markets in Finland though exports to Russia remained remarkable until the end of the Russian rule. Industrialisation in Finland expanded radically in the 1880s when paper and pulp production gave birth to dozens of small and half-agrarian industrial sites. The legendary Finnish paper industry was fully dependent on privileged Russian markets and especially on the growth of St. Petersburg. Over 90% of exported Finnish paper went to Russia (Pihkala 2001).

The nature of the Finnish economy and its position in the world economy at the turn of the 20th century may be described by the division of markets: Finnish consumer goods were mostly sold in home markets, investment goods (machines) were sold in home markets or exported to Russia, primary goods (butter and other foods) had important markets both in Britain and in Russia, and exports of raw wood to Western Europe were as extensive as paper exports to Russia. Finland imported most of the consumed grain from Russia, machinery from Western Europe and luxury goods from Europe and Russia. A simplified picture of the Finnish national economy was that Finland sold raw materials and other low-tech products to the Western markets and finished goods to Russia and imported technology from the West and raw materials from Russia. An explanation for this composition is that Finnish products were not (yet) competitive in the Western

markets but survived in home markets and in Russia due to exceptional customs rules (Haapala 1995).

All that was true for the Finnish economy in general, was true in Tampere in an intense and specific way. Still, the success of large-scale industry in Tampere did not result simply from huge (and hidden) subsidies. The other dimension of Privilegium Tammerfors was the idea of freedom. In fact, Tampere was an open economy, and its history cannot be understood without including that factor. Entrepreneurs were international by background, or they were educated abroad. They had good contacts and the capacity to quickly transfer technology. Tampere and Finlayson were among the first to have electric light in Europe in 1882, because Carl Nottbeck, the son of the factory owner, worked as an engineer in Edison's laboratories in New York. Then again, one could simply travel to Germany, buy machinery or make copies, though there is no reason to underestimate local technological skill. Tampere companies took active part in industrial exhibitions in Europe and Moscow and had considerable success (Björklund 1993).

#### **Economy and community**

Several, and often contradictory, factors strengthened the stability of the society through rapid industrialisation in the 19th century. Bureaucratic administration and restrictions, conservative patterns of thinking and behaviour (norms, values and mentalities) of the ancient regime set clear limits to harsh capitalism. Security and continuity were regarded as the basic rules in the community. Even though development didn't always go smoothly and environmental problems and social tensions arose, it was crucial that the community reacted to these threats as vigorously as possible. On the other hand, the growth and mobility created by industrialisation offered many more

opportunities and prospects than disappointments to people in a new environment (Haapala 1987). Most of the good new things seemed to come together with the factories. Industrialists were the initiators bringing telegraph, railroad, banks, telephone and a college of technology to Tampere. Most of the civic activities (schools, newspapers, libraries, cultural societies etc.) started as their philanthropic enterprises. Some industrialists were active in local politics, some were not. Though Tampere experienced an intensive political mobilisation and severe political conflicts between 1905 and 1918, the big companies characteristically searched for consensus between workers and employers. In spite of their great economic power, the companies could not escape or significantly challenge the values of a paternalistic society. On the workers' side, exceptional job security made for loyalty and pride of the company (Haapala 1986; Jutikkala 1979; Rasila 1984).

The independence of Finland brought a radical change in the political and institutional framework of the Finnish economy. The contacts with Russia were cut suddenly after decades of deepening integration. The Carelian Isthmus suffered from this break and declined economically, but by the early 1920s crucial paper exports to Europe had compensated for the loss of Russian markets. High import tariffs protected other industries and agriculture and these sectors survived on growing home markets. The Finnish economy was, in the interwar years, actually less open than before independence (Pihkala 2001). Finland adopted a policy of national industrialisation by improving the infrastructure and supporting exports, and this policy succeeded, due largely to the fact that the country already enjoyed a rather developed industrial base. In this respect Tampere was in a good position to take advantage of 'industrial nationalism'. The times were especially favourable for the development of mechanical engineering thanks to increasing construction of railways, power stations, power lines, bridges, ships and paper-making machinery.

Local research and development work proceeded, but as essential were the growth of engineer education and wide contacts to international knowledge, especially through Germany.

Finland was an exception among the newly independent small states in Europe. Even though Finland went through a bloody Civil War with close to 40,000 deaths, it became a politically stable consensus society in the interwar years. The Reds, who lost the war, did not lose their political rights, and a series of social reforms were carried out after the war. These included bills of land reform, communal democracy, working conditions, public education, tax reform etc. Unfortunately, Finnish historiography has put too much emphasis on the activity of extreme political movements in the 1920s and 1930s and has overlooked the opposite trend toward social cohesion (Haapala 1995; Haapala 2003).

Tampere again offers a striking example. The industrial city dominated by big companies was run by a socialist majority immediately after the Civil War. That leadership and taxation reforms meant growing investments in public education and health care, social security and environment. An American journalist who visited the city in the early thirties wrote that Tampere was 'not the Manchester of Finland but the White Pittsburgh of Scandinavia'. The city officials and its people adopted an identity of 'The Beautiful City of Factories' (Harjula 2003). This may be called a social innovation of the time. The growth of industry was not seen as a socially destructive force (cf. Lewis Mumford and urban sociology of the time) but as civilisation. In a way this idea repeated the 19th century vision of a utopian industrial future. Most important for Tampere's well-being was that the community adopted a shared positive identity and did not give up on environmental problems or tendencies of inequality. One can find many drastically opposite patterns of

urban development in large and more diverse industrial societies like Germany, Britain and the USA (Haapala 2003).

The local consensus in Tampere was based on three groups of actors: a strong and well organised labour movement, institutionally owned (i.e. bank-owned) big industry, and a nationally-minded, educated elite. Strange but true, in Tampere these forces of socialism, capitalism and nationalism succeeded in creating a model of social development which secured both economic growth, democracy and stability.

To generalise, one could conclude that in a small country where the resources were limited, people realised that better performance could be achieved by reducing social barriers. In the end, that realisation produced new economic, social and cultural activity. This logic is self-evident today and was an important argument in favour of the welfare state in the 1960s, but before that it was a choice of a new perspective. Tampere happened to be a good environment for that choice.

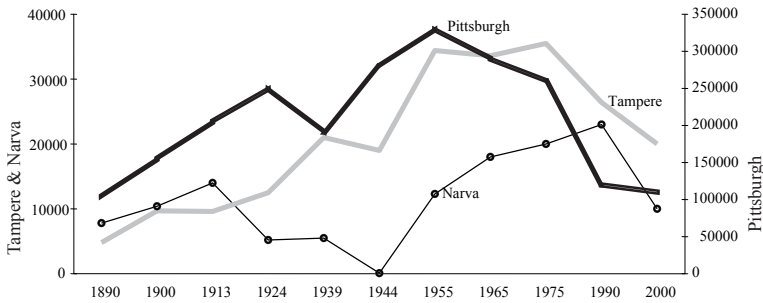
### **Old and new industrial city**

Tampere did not suffer much in WWII. Instead, the city was an important site of the armament industry, and certainly benefited from the special conditions. During the war and after it the old industrial structure of Tampere continued to strengthen, the city produced more textiles, shoes, machines and paper. Much of the increase came from the newly opened exports to the Soviet Union. In the 1950s and 1960s Tampere was one of the key areas affected by the bi-lateral trade agreements between Finland and Soviet Union. The 19th century pattern was repeated as the companies did not have to compete in the Western markets. Though engineering was at fair international level, in the transfer of technology Tampere was on the receiving side. High production levels were achieved in areas where Finns had to

compete with foreign companies though the markets were in Finland (like paper-making machines and hydro power stations). Though no specific studies exist, it is evident that the relative level of technological knowledge in the industries of Tampere declined in the fifties and sixties. In the 1970s signs of industrial crises became visible, paralleling the pattern of decline of old industrial cities around the world. But the traditional big industries survived until the 1980s. Again the explanation for survival lies in exports to the Soviet Union and Eastern Europe and in the so-called closed market economy of Finland, i.e. regulatory and protective industrial policy, including subsidies to big industry and the dominance of institutional ownership of big industry (Rasila 1992; *Tekniikan Tampere* 1993).

In the 1960s and 1970s Tampere was a double-faceted industrial city. On one hand it continued to be 'the city of factories' recruiting another new generation of industrial workers. On the other hand the promise of modernisation was in the air. The city was willing to invest in higher education and research. Two universities were founded, and they grew rapidly, giving the city a new academic respect (see the article of Hietala and Kaarninen). These two worlds, industrial and academic, hardly met but lived side-by-side. When looking back now, it was a lucky situation: the new base of know-how was developing gradually, and the city avoided an economic crisis which could have ruined the high hopes for a new industrial future.





*Figure 1. Number of employed in manufacturing in Tampere, Pittsburgh and Narva in 1890–2000*

When traditional industry finally collapsed in the late 1980s and early 1990s, Tampere was sufficiently prepared. First the social network of the welfare state saved most of those who lost their jobs. Workers were offered early retirements and re-education. In the more serious situation of the 1990s the high-tech industry became the saviour. It brought new jobs and remarkable tax revenue for the city. Most interestingly, much of the ‘old’ industry survived through its ability to develop new high-tech products within traditional fields. Several companies were innovative and strong enough to compete globally. The long-time co-existence of the old and new economies and their gradual merger gave Tampere an exceptional basis for its competitive ‘knowledge economy’. In this sense the industrial history of Tampere never ended but still continues today. Neither has the social organisation of the city changed that much. It seems to rely successfully on the old structure: growing industrial production, wide public sector and political consensus. The products are new as well as the intensity of technological development. The other factors are not as new as one would expect.

#### **Summary**

Tampere has in many ways a lucky economic history. It was favoured by the regimes of Sweden and Russia, it benefited from Russian protectionism of the 19th century, and from Finnish protectionism in the 20th century. Tampere has been in a lucky position in the world market for 200 years (Hjerppe 1989). Even two world wars favoured its industrial development.

It is said that good guys have good luck. It is true that people and companies in Tampere have made their success themselves – given favourable market conditions and institutional framework. The social and political structures have supported stability and continuity, which have, in turn, made the local community strong enough to generate both loyalty and faith in the future. These factors have again supported openness and innovativeness. Tampere has enjoyed – and still does enjoy – a good mix of stability, including a rather homogenous social structure, and mobility, including good career possibilities. All this has produced a widely shared, positive and future oriented mentality and identity, which can be called *modern thinking*. What is less common in our world, perhaps, is that in Tampere modernity has meant to so many people both material good, civilisation and equality.

The most important long-term local factors supporting the economic and social success of Tampere – failures have not been studied here – and fostering its development towards the ‘informational city’, have been the capability to develop new products and maintain productivity, and the capacity to master social changes, for example to maintain social mobility and cohesion. If one wants to find a single factor most productive of Tampere’s good harvest and most instrumental in explaining the connection between economic and social performance, one needs look no further than the belief in education. That belief

has persisted in Tampere simply as a belief, often without precise detail or long-term vision. The local spokesmen of both capitalism, nationalism, socialism and modernism all expected the world to become better through wide education. While that logic is certainly self-evident now, one needs an example to believe it.

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### III Historical Perspective

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