Routledge
Taylor & Francis Group

Scandinavian Journal of History

ISSN: 0346-8755 (Print) 1502-7716 (Online) Journal homepage: https://www.tandfonline.com/loi/shis20

PERFECT REPRESENTATIONS OF SOVIET PLANNED SPACE

Mono-industrial towns in the Soviet Baltic Republics in the 1950s–1980s

Andis Cinis , Marija Drėmaitė & Mart Kalm

To cite this article: Andis Cinis , Marija Drėmaitė & Mart Kalm (2008) PERFECT REPRESENTATIONS OF SOVIET PLANNED SPACE, Scandinavian Journal of History, 33:3, 226-246, DOI: 10.1080/03468750802079409

To link to this article: https://doi.org/10.1080/03468750802079409

Andis Cinis
Marija Drėmaitė
Mart Kalm

PERFECT REPRESENTATIONS OF SOVIET PLANNED SPACE

Mono-industrial towns in the Soviet Baltic republics in the 1950s–1980s

The article looks at mono-industrial cities in the Baltic States during the Soviet era. In terms of economy, ethnicity and their urban appearance these heterotopic towns were outposts in the integration of the occupied European-like territories into the Soviet Union. Thanks to the principles of planning and state-favoured development that were applied across the Soviet Union, these towns, built for Russian speaking immigrants, stood out from the surrounding patterns of settlement that had developed naturally over time. The uranium producing town of Sillamäe in Estonia was built in secret and with lightning speed amidst the panic concerning the atom bomb immediately after the war, and provides us with a perfect model of Stalinist urban development. Stučka, built in the 1960s near a hydro-electric power station in Latvia and Sniečkus, built in the 1970s next to a nuclear power station in Lithuania, were less separated from the surrounding landscape, but both provide a perfect example of Soviet modernism, which had been learned from mass-housing in the West.

Keywords mono-industrial towns, sovietization, urban planning

In the industrial age, urban centres were established on existing settlements and untouched land. The latter existed mainly due to the presence of natural resources, an energy source or even a combination of broader economic factors. In a capitalist economic model, where a town is built by a company who provides the main source of employment, this seems straightforward because it is defined by the owner's very rational ideology to acquire and accommodate the workforce close to the work place at as low a cost as possible. But what were mono-industrial towns like in the USSR, which claimed to be a state for the people who worked to enjoy the fruits of their labour?

Scandinavian Journal of History Vol. 33, No. 3. September 2008, pp. 226–246
ISSN 0346-8755 print/ISSN 1502-7716 online
http://www.tandf.co.uk/journals DOI: 10.1080/03468750802079409

Even though all three Baltic States had experienced rapid economic development in the period between the wars, after the Second World War, when they found themselves once again in the bosom of Russia, now masked as the Soviet Union, their levels of industrialization were very different. While Latvia and Estonia already had many large industries in the 19th century – Riga in particular had been one of the most important industrial centres in Tsarist Russia – Lithuania had been a considerably more agrarian country. The Soviet Union imposed industrialization upon Estonia and Latvia immediately after the war whereas it wasn't until the 1960s that this happened to Lithuania. Part of the reason for this may have been the significantly greater war damage in Estonia and Latvia compared with Lithuania, but also opportunities for achieving more rapid success on the basis of existing industries.

The industrialization of the Baltic States was designed to provide for a more efficient utilization of local material and labour resources, primarily to meet the economic needs of the USSR and at the same time to achieve a closer integration of Baltic industry into the All-Union economic structure.[1] Soviet industrialization of the Baltics was not modernization in the traditional sense.[2] Olaf Mertelsmann does not consider it to be industrialization at all since, Estonia's industry did not benefit from Sovietization, but was brought onto a more backward path of development and adopted Soviet patterns of production, industrial relations, and work discipline. The industrial workforce increased, but was more poorly qualified and motivated than before the war. Manufactured goods were purchased less often than before the war, many products were even not available. Real investment was low, especially with regard to equipment and machinery, allowing a recovery from the devastating effects of war only in the second half of the 1950s. Typical problems of Soviet industry occurred from faked plan fulfilment to irregular production, low quality of goods, and lack of all kinds of materials. Considering the state of the affairs, productivity per worker was much lower than before Sovietization.[3]

The object of this research is to discuss the planning of mono-industrial towns in the context of the radical industrialization strategies that were implemented on a mass scale in the Baltic Countries during the Soviet era. The argument presented here is that construction of large-scale industrial structures and special industrial towns served as an important tool for integrating the Baltic States into the united network of Soviet space. According to researcher Augustine Idzelis, 'in terms of Marxist-Leninist thinking, the basis of society transformation is found in the economic sphere, and was predicated on the collectivization of agriculture and accelerated development of industry. It was believed that these two measures would not only integrate the economies of the Baltic States with that of the Soviet Union, but would also promote socialist internationalism'.[4]

We argue in particular that the industrial towns served primarily to achieve strategic targets and only afterwards served as part of the economic and social infrastructure, and that their purpose was to influence not only industry, but also the everyday life of people, their working and living conditions, the urban environment and mobility. Deviating from the historic pattern of settlement, they emerged as and, to a certain extent remained, somehow heterotopic to the rest of the countries in which they were situated.[5]

We call the purpose-built industrial settlements for single industrial enterprises 'mono-industrial towns'. Retaining this expression, which was widely used in the

Soviet Union helps us to more clearly differentiate the Soviet experience from the company towns which have been studied in depth in the West.[6] Complete company towns, like George Pullman's town of Pullman, near Chicago, built in the 1880s, or Tomáš Bata's Zlin in Czechoslovakia of the 1920s and 1930s, are in their infrastructure similar to the socialist cities of the Soviet Union, but their owner's paternalist interest was usually behind their establishment. The first design for a city, which was not privately owned, was presented in 1904 (published in 1918) by Tony Garnier in France. He envisaged an environment for working and living that had no repressive bodies, had a non-hierarchical structure and was healthy. The lack of private ownership made Soviet industrial cities different to those in the West, but this does not mean they were able to make the most of the benefits of the lack of private ownership or were able to organize things better.

At the end of the 1920s, when the goals for the first five-year plan were established, a polemic was unleashed in the Soviet Union, which spelled out what a future socialist city should look like. Anti-urbanizers suggested a network of strip-settlement, which would be neither city or country, but they were criticized by urbanists for their unrealistic approach.[7] Even though the dream of the socialist city remained vague, it was clear that state ownership of land meant that cities could be spacious. There was to be sufficient light, air and greenery for everyone, and the development of infrastructure was also important. These were not special features of urban planning in the USSR, but were issues the architectural avant-garde throughout Europe had been dealing with in the 1920s. The exhibition-city of Soviet industrialization was to be Magnitogorsk, on the Ural River next to a metalurgy factory, which was to be built in the early 1930s. Unfortunately, building began before planning was complete and when international team lead by Ernst May, who had designed a vast number of housing developments in Frankfurt in the 1920s, was called in to help, they were unable to select from the various possible solutions, and the final result was that the residential areas were positioned incorrectly in regard to the prevailing wind. The factory and its production was considered more important than the city and there was insufficient building materials and equipment, not to mention a skilled workforce and this meant that the socialist city, which was established amid lots of noise, ended up being fairly modest.[8]

With the imposition of Stalinism in the 1930s, the cities that grew up near large industries (Zhaporozhye, Novokuznetsk, Sumgait, Angarsk, Komsomolsk-on-Amur etc.[9]) became increasingly similar to one another – wide boulevards with a focal point derivative of academic architecture, lined with festively decorated perimetrically placed buildings backed by spacious courtyards. After the war such cities only gained in triumphant pathos. During Khrushchev's thaw in the mid 1950s, industrial building techniques accompanied by increased productivity and modernist aesthetics in urban planning replaced the traditional street-courtyard hierarchy in the placement of buildings with freely scattered buildings (Akademgorodok, Togliatti, Navoi).[10] Le Corbusier's arcadian dream of towers in greenery was fulfilled more extensively here than anywhere else, but more specifically they set their steps (not offcially acknowledging this of course), to follow Western Europe where a welfare society was being built, creating a mix of ideas from British satellite towns, French *grande ensembles* and Northern European forest cities. At the same time the undeveloped services (mostly only kindergartens and schools were built together with the housing), badly

built buildings and unkept public spaces became an entrenched characteristic of the Soviet urban space. Space was plentiful in both Stalinist and modernist Soviet cities. In earlier apartment blocs the flats were even more spacious than in the factory-built ones, if only each family could have had their own flat, but because the entire space was publically owned or didn't belong to anyone, public space was largely unorganized and unkempt.[11]

To what extent was the application of the Soviet urban planning model through the building of new mono-industrial cities in the occupied Baltic States a painless event? Did these frontiers of the Soviet way of life take something from the local cultures, did they amalgamate or did it remain a foreign enclave? In our endeavour to ponder these questions we have selected three different cities from the Baltic States for analysis (Sillamäe in Estonia, Stučka in Latvia and Sniečkus in Lithuania). These cities reflect three stages in the development of Soviet society (the post WWII Stalinist decade, Khrushchev's thaw of the late 1950s and early 1960s, and Brezhnev's stagnation period which began in the late 1960s).

The 1950s – atom bomb panic, Stalinism and Sillamäe

After the war, with the enthusiasm of a colonizer, the USSR began to exploit the natural resources of the newly conquered areas. Moscow was especially interested in developing the industrial region of north-east Estonia. The shale oil industry at Kohtla-Järve and Ahtme was rapidly expanded and a gas pipeline was built to supply Leningrad (now St. Petersburg). Narva, the region's oldest city and historically its industrial centre rose from the ashes,[12] and Sillamäe was also established. During the postwar decade north-east Estonia changed thanks to the new industries and to the invasion of migrant Russian speaking workers, so it became a quite a different region to the rest of Soviet Estonia,[13] something which has also been called an urban anomaly.[14] Sillamäe became the crown jewel of russification in north-east Estonia.

The town of Sillamäe (population approx. 20,000) that was founded in 1946 on the north-east coast of Estonia is an exceptionally complete, fully built up and, thanks to being shut off from the rest of the world, perfectly preserved example of academic Stalinist architecture and urbanism. This 'closed' top-secret mono-industrial town was not opened to the rest of Estonia until 1990, when the Soviet Union was on the verge of collapse.

Sillamäe was born, amidst the hysteria surrounding the atom bomb,[15] out of the hope that the local shale oil might yield uranium. In the early 20th century, Sillamäe was a small holiday resort, beloved of St. Petersburg intellectuals, especially the Nobel Prize winner and physiologist, Ivan Pavlov. The first Swedish-Estonian oil shale distillation plant was established there in 1928. During the 1920s and 30s the shale oil industry was a rapidly developing area of the Estonian economy. During the war, it was an especially important source of fuel for the occupying Germans. In 1944, the small town was completely destroyed as a result of the fierce battles which took place close by and claimed many victims. A poignant expression of this enthusiasm of a colonizer can be seen in the very real hope of establishing, at the end of the war, a nuclear industry, which would be supplied by Estonia's uranium oxide-enriched shale oil (dyctyonema shale). In 1946, the USSR People's Commissariat for Internal Affairs

created Plant No. 7, which became the name of the secret factory. From 1947–1952, over 7,000 soldiers in work battalions comprising Baltic[16] POWs who had been collected from Russian prisoner-of-war camps built a mine and a new large metallurgy factory on the site of the distillation plant, which had been destroyed during the war. More than 200 farms were expropriated and their inhabitants resettled. Underground mines were built using coal-mining methods. Even though open-cut mining is commonly used for extraction to a depth of 14 metres, the Soviet Union had what was essentially a workforce of slaves, and so they could use less mechanized and more labour-intensive techniques.[17] Mining actively took place at Sillamäe from 1949–1952. Once it became clear that the Estonian raw material was not suitable, the ore for enrichment was brought in from Czechoslovakia and elsewhere.[18]

The town of Sillamäe was built at the same time as the plant. At the end of 1946 more than 18,000 construction workers were involved in the building of Sillamäe making it the largest building site in Estonia at that time.[19] Whereas the plant was located on the western bank of the Sõtke River, the town was on the eastern bank. There is virtually no information about the original architecture of the plant, with the exception of the administrative building. Since photography was prohibited at Sillamäe, there are very few photographs of the town from the Soviet period.

The mono-industrial town was designed in 1946–1947 at Lengiproshaht (*Ленгипрошахт*),[20] which was the Leningrad division of the State Design Institute of the USSR Ministry for Coal Mining. In the Sillamäe Museum, there are albums containing photographs of the designs. On the general plan for the town, which has been adhered to only in part, there are no place names or dates, only the stamp 'secret'. The name of the office of the State Design Institute in Leningrad, which had drawn up the plans, has been covered up. Of the names of the people responsible for the plans only F. H. Dyuzhenko and A. F. Nikayev are legible.[21]

The location of Sillamäe's Stalinist old town (population approx. 7,500), which was built in the early 1950s, is especially picturesque. Half of the town is situated down by the sea and the other half is higher up on a low limestone cliff. The town's main square, located on the edge of the cliff, was built on either side of the main street (Kesk Street) – the former Tallinn–Narva road, which had to be rerouted as a by-pass around the then closed town. The northern part of the main square along the cliff consisted of a park in front of the Cultural Centre. On the corner of the diagonally situated Rumjantsev Street, the executive committee building, with its tall tower, was a landmark that punctuated the square's wall of official buildings. In the corner of the park, next to the Cultural Centre, is the only surviving workers' honour roll in Estonia, which today displays the town map. Originally, it displayed photographs of exemplary workers, which were regularly changed as the socialist struggle progressed. Imposing steps at the corner of the square near the Cultural Centre and honour roll lead down the cliff and continue as the grand Mere Avenue, with its many rows of tended trees and shrubs, to the sea. Originally, the steps were decorated with plaster statues and palm trees, which were kept in greenhouses during the winter months. This surprising use of public greenery in Estonia's northern climate was intended to demonstrate the coming paradise on earth that would accompany communism (Figure 1). The top of the steps is the town's focal point. From here a breathtaking view of the sea opens out over the lower part of the town, and Mere Avenue leads this view of the sea into the distance. And so, with urban

FIGURE 1 Sillamäe in 1950s, view from the steps leading down the cliff towards the Gulf of Finland. Note the use of palm trees outdoors in the Estonian climate. Photo courtesy of Sillamäe Museum.

architectural devices, a striking metaphor for the joy of communism was achieved: a radiant feeling, necessary for the building of a new world, was projected into the future. Finland, which had been 'the enemy' during the Second World War and with which there was now a kind of forced friendship, lay just beyond that sea.

The first public building to be built in Sillamäe was the Cultural Centre (architect A. Popov), in 1950. With its lavish decoration, this palace for workers surpasses all other Stalinist cultural centres designed for Estonia in Russia (Kohtla-Järve, the Tallinn Naval Officers House, Narva, etc.).[22] K. Kodres has called this group of Stalinist public buildings 'colonial style'.[23] The ceiling paintings with their light blue skies, between lavish stucco ornamentations and crystal chandeliers, reminiscent of the 18th century, are especially luxurious. The story of the evolution of Russian culture (Pushkin etc.) and science (Lomonossov etc.), according to Stalinist genealogy, is narrated via portraits on the walls of the Cultural Centre without any hint of the Estonia in which the building is located. The slogan underpinning Stalinist culture was 'Socialist in content, nationalist in form', which in architecture resulted in embellishment of neo-classical buildings with vernacular motifs. Why this doctrine was not applied in Sillamäe is unclear. Instead of the common rhetoric about the strengthening of friendship between Soviet nations this russocentric narrative had to encourage and to provide with a feeling of superiority the Russian-speaking inhabitants of Sillamäe, who were living in recently conquered Estonian-speaking hostile territory, while outside the town guerrilla activity (*metsavennad*) continued. Was this a typical colonial statement that 'we' came here to bring culture and to

civilize this country, or was a secret town such an isolated enclave that there was no need to relate it to the surrounding Estonia? Another possible reason might lie in the indifference of a technocratic bureaucracy who had to provide designs for a technical task very quickly.

The tower of the executive committee building, inspired by 16th-century Italy and also designed by Popov, was originally meant to be lower and squatter than it finally turned out to be. While it is common in the history of architecture for a completed structure to be simpler than the original design intended by the architect, in this case the opposite is true. The town's obelisks (now removed) on the other hand, were not made of stone, but of wood covered with sheet metal. The cinema on Kesk Street is also of interest – built in 1952 it is a copy of a design created for Ashabad (in Turkmenistan). Similarly lavishly decorated, the cinema comprised spacious foyers and two halls set at right angles to each other. Stucco portraits continue the iconography of the Cultural Centre. Two large cinema halls in so small a town without connections with its hinterland show the planning of the pre-TV period. Opposite the cinema is a large freestanding sauna building. Typically of Soviet towns there are only a few shops, located either in small freestanding single-storey buildings or on street corners on the ground floor of apartment buildings.

At the end of the 1940s, the buildings on the upper plateau at Sillamäe had two or three storeys. In the early 1950s, apartment buildings with four and five storeys were also built in the area by the sea. The initial designs for Sillamäe envisaged the preservation of the old network of streets and single-family dwellings, but it seems that the sudden intensive development of the town demanded a more robust and practical solution and so apartment blocks were built.

Compared with other postwar Soviet industrial cities Sillamäe represents urban planning and architectural ideals typical of the period, which in a professional sense were only designed to a mediocre standard. In this sense it does not represent an architectural masterpiece, but what is unique about Sillamäe is the completeness of the ensemble because most Stalinist cities did not achieve the same kind of compactness before the architectural principles completely changed in the mid 1950s. Another reason that Sillamäe is unusual is the richness of its architecture in such a small city. Thanks to the priviledged position this area enjoyed within the economy – creating advantage during the period of the Cold War – Sillamäe provides a luxury version of Stalinism, an exception where the ideals of the new age materialized more than anywhere else.

The first inhabitants of Sillamäe were youths aged 14 to 18 years old brought from the streets of Leningrad, whom the authorities tried to train as workers.[24] These were followed by young workers from regions of Russia devastated by the war.[25] Even though the importance of the town decreased in the early 1950s, construction work continued and as a 'special' town it was better supplied. The plant even had enough money to invite the best Soviet artists to perform in its Cultural Centre. From 1957–1978 new buildings for Sillamäe were designed in Tallinn, but after this period they were once again designed in Leningrad. The huge sports centre with its very exceptional swimming pool (architect I. Puumets) was completed in 1972. From 1970, the processing of rare metals began at Sillamäe. Garden cooperatives for the people living in apartments were also established south of the Tallinn–Narva road.

After Estonian independence was restored in 1991, the Russian-speaking world of the people of Sillamäe collapsed. The feeling of security created by the privileges permitted by Moscow disappeared. Sillamäe's Plant No. 7 was privatized and 'Silmet' has successfully continued as a producer of rare metals (niobium, tantalum, etc). Even though the number of jobs has drastically decreased, a social disaster has been avoided. The Sillamäe free trade zone, created in 1991, has attracted new businesses, and thanks to assistance from Nordic countries, the radioactive waste storage from Plant No. 7 has been sealed. The first new building in the town was the Orthodox Church, of traditional form. In 2006 a regular ferry connection between Sillamäe and Kotka in Finland started to bring tourists to the industrial heritage sites of North-East Estonia. The historic centre of this unique town is in the process of being turned into a national heritage site. The Cultural Centre and cinema are already listed monuments, and the interweaving of Sillamäe, as a monster of the Soviet atomic industry, into the fabric of the rest of Estonia is slowly but steadily taking place.

The 1960s – Hydro Power, Socialist Modernism and Plavinas/ Stučka

In the early 1960s the concept of settlement planning and architecture underwent substantial changes. After the academic totalitarian Stalinist period, the new leadership (Nikita Khrushchev) introduced the rush for industrialization as the expression of the rational and progressive modern socialist society. New concepts of settlement planning were introduced at the Congress of the International Union of Architects in Moscow in 1958, following the theme of 'reconstructing cities'.[26] Axial regularity and the pattern of locating buildings along the street perimeter were replaced by the new approach of an open plan, i.e. scattering the groups of buildings in freely chosen regular patterns using the natural topography of the site. The modern 'satellite towns', Harlow near London (begun 1947, chief architect Sir Frederick Gibberd), Vällingby in West Stockholm (begun 1953, chief architect Sven Markelius), and Tapiola near Helsinki (begun 1953, architect Aarne Ervi), served as models. The general popular Soviet Union composition of tower blocks combined with five-storey or nine-storey horizontal slabs was derived from the pre-war Paris suburb Cité de la Muette, in Drancy (Eugène Beaudoin, Marcel Lods, 1932–1939). Despite the permanent rhetoric of the advantages of the Soviet Union and Socialist system during the Khrushchev thaw, the copying of Western models in the field of technology was more public than earlier or later. Open-plan and assembled prefabricated concrete multi-storey blocks grouped into *micro-rayons*, Soviet versions of neighbourhood, became the programme and the face of urban socialist modernism.

By 1960 the Soviet Union had achieved the strategic target of incorporating the Baltic republics within the network of the Soviet power supply system. Lithuania, Latvia and Estonia became a part of the north-west high-voltage electricity network of the Soviet Union including Belarus and Western Russia. Contemporary evidence of electrification and industrial 'megalomania' was most vivid in the cascade of three hydroelectric power plants built on the Daugava River in Latvia by the late 1950s as a part of the vast network (including the existing pre-Soviet plant at Kegums, built in

1936). Second only to the cascade was the Plavinas hydroelectric power plant, built between 1961–1966,[27] which was the most powerful hydro power plant in the Baltic States and the largest producer of electricity in Latvia.

Simultaneously with the Plavinas plant, Stučka was decided on by the Ministry for Electrification of the USSR on 29 December 1960[28] as a village for power plant construction workers. It was named after the Latvian Bolshevik party leader Pēteris Stučka and established on an empty site with a single purpose: to provide housing for those employed in the power plant. Being a unique settlement in Latvia, in that there is no building dating from earlier than 1960, it now contains 10,050 people. Stučka represents the essence of Soviet urban design and architecture, particularly of the Khrushchev and Brezhnev period (1960–1980). The village was planned by Latvian architect Erika Drande,[29] well acquainted with Scandinavian humanized functionalist design during her architectural studies at the University of Latvia in the 1930s, and the originally Ukrainian architect Pavel Selecky,[30] whose work experience had been gained during Stalin's rule, and who was appointed chief architect of the project. Both of them were employed in the State Institute for Urban Design (*Горпроект*).[31]

In the middle of the 1960s the Soviet administration aimed to distribute production places evenly outside Riga. Stučka was a convenient place for such a purpose since there was a surplus of potential labour: the wives of men employed in the power plant. Consequently, a branch of the electro-technical factory VEF was established there. The new production served as a magnet for more inhabitants, mainly immigrants from bordering regions of Russia and Belarus.

FIGURE 2 Stages of development of Stučka, Latvia: A – Plan of the village for builders of the hydroelectric plant, 1961; B – Plan of the village for the industrial workers, 1962; C – Master plan of the town – regional centre, 1971. 1 – Service facilities forming the centre of the town; 2 – The other service facilities of the town and regional centre; 3 – Area for development of the general town centre; 4 – Schools; 5 – Dwelling; 6 – Second stage of development; 7 – Reserved area; 8 – Single family housing; 9 – Reserve for single family housing; 10 – Paved streets and roads; 11 – Unpaved roads; 12 – Perspective streets and roads. Source: Пучин Э., Пиешин Я., Лусе М. Жилои комплекс малого города. Рига: Знание, 1977.

City status was granted to Stučka by the government of the Latvian SSR after the number of inhabitants had reached 5000 in 1967. In 1970 there were eight shops, two canteens, the regional hospital, three kindergartens, a secondary school for 960 pupils, evening classes, a school for music and sports, a community centre, a cinema and three libraries.

In 1971 a new general plan was drawn up for Stučka, in which the town was a district centre (Figure 2). It included several *micro-rayons* of a typical size of 20 to 30 hectares containing 3–4 groups of dwelling houses for approximately 1500–2000 people, a public centre and also a kindergarten each.[32] Altogether it could house some 6,000 to 8,000 inhabitants, which was the actual planned size of Stučka. The existence of the town was closely related to the branch of the VEF electronics factory, so a new production zone in the Stučka general plan was added in the western part of the city behind the railway branch already laid at the initial stage of the Plavinas hydroelectric plant construction.

The standard five-storey housing blocks, mainly called *khrushchovkas*, represent the first stage of the construction of Stučka, from the early 1960s. They were located perpendicular to the only and slightly curving street at regular intervals, respecting the requirements for insulation. Most of the buildings had balconies. Between the buildings there were green yards open to the street and to the river. Some of them were planned as hostels for single persons, with rooms of 12 sq.m. in area placed along a corridor in the middle of the building. Toilets and showers were common and located in the corridor. The size of the rooms for single inhabitants was more than appropriate for the period, although they were occupied by two people. According to a forecast from 1961, the living area per person was to be 9 sq.m. in 1965, 11–12 sq.m. in 1970, 13–14 sq.m. in 1975, and 15 sq.m. per person in 1980.[33] Some of the housing blocks were designed particularly for this site and could accommodate public services on the ground floor. Altogether 20,000 sq.m. of living space was built in the first stage of development.

Even at the first development stage it was compulsory to provide public buildings for the Soviet town, the Committee of the Communist Party and the local Soviet headquarters. The other public structures were the management office of the power plant construction company named '*DaugavHesStroj*', and infrastructural objects in the form of a kindergarten, a school and a community centre. Because of tight schedule all these were installed in temporary structures. The contemporary press often described them as 'Finnish cottages'.[34] There is no indication of whether these really were brought to the building sites from Finland as ready-made blocks or whether it was just a way of describing a type of construction similar to the real Finnish cottages. More likely it is the latter. In just a few years temporary structures were replaced by a new public centre to the north of the very first development. More facilities, including a hospital, a new school and various public services were considered in the general plan.

In general all the structures of the first stage of development characteristically have white silicate brick walls and reinforced pre-stressed concrete floor panels and simple volumes; this applies both to dwellings and to permanent public buildings. Later, in the 1970s, more elaborate types of dwelling houses were used, involving apartment plans as well as the use of prefabricated building parts, and a different approach to the siting pattern of the housing units. Some buildings are located along a local street; some units form a larger semicircular yards that unfortunately lack any

plants and small architectural forms. For instance, tower blocks are located along the bank of the Daugava River and offer a panoramic view of the town from several vantage points. A number of nine-storey blocks of flats on the north edge also provide striking street views. Later blocks were constructed solely of prefabricated panels or in mixed form, with façade and floor panels fixed between red or yellow load-bearing walls of brick. This type of building turned to be extremely popular because its appearance was considered more contemporary and it was probably built in much larger quantities than the *khrushchovkas*. There was also a period fashion for public buildings. In the late 1970s prefabricated reinforced concrete suspended façade panels were especially popular. The department store is an excellent example of this period. Decoration of public buildings was also popular, but most of the Soviet period details have now been lost. Some details have been preserved, however, such as the decoration on the façade of the crafts school.

During the construction period many immigrants from the surrounding regions of the Soviet Union, as well as builders from previous building sites, such as Krasnoyarsk in Russia and Kaunas in Lithuania, arrived in Stučka. Nowadays some 24% of inhabitants there are Russians, just 3% are Belorussians and 2% are Ukrainians. 65% of the population is Latvian.

After Latvia regained independence, the town was renamed Aizkraukle, which is the name of the wider district. For a short period after independence the VEF telephone factory was on the edge of bankruptcy; however it is now up and running again. New production of standard doors and windows was established in Aizkraukle recently and helps the town maintain its standards. In 2004 it was recognized as the best-kept town in Latvia.

The 1970s – peaceful atom and Ignalina/Sniečkus: a town without a spirit?

By the 1970s a 'peaceful atom' became the most important feature of the energy programmes of the USSR. When the energy supply of the north-west region became inadequate for the area's needs (for example, Lithuanian economy alone led to a doubling of energy requirements every four years through the 1960s and 1970s),[35] the political decision was taken in Leningrad to build a nuclear power plant for the whole region. 'The expansion of the Baltic electricity systems in the Soviet period was thus designed to meet the needs of the whole north-western territory of the union', concludes the researcher Per Högselius.[36]

Design and construction of the Ignalina nuclear power plant (built 1972–1983; it was the largest nuclear installation in the world at the time[37]) is an interesting case story that includes political tension, technological innovations (?), and military matters all bound by the predominant cold war ideology. However, the theme of this paper is an accompanying structure to all major Soviet industrial objects – the design and ideology of the 'atomic town' Sniečkus, which was purpose built to inhabit almost 30,000 people involved in the operation of the atomic giant.

First of all it is important to mention, that Ignalina nuclear power plant was of the All-Union importance, so the planning and construction of both the plant and the town was directed from the centre (namely Leningrad). The large-scale network that

controlled the management of the Soviet 'atomic sites' was known as the powerful secret Committee on Atomic Energy of the USSR, covered under the Ministry of Medium-Scale Machines (*Sredmash*, Russian abbr.).

Two sites in Belarus and one in Lithuania were competing for the commission. Lithuanian authorities were divided between the supporters and protesters against the atomic giant, however, with little regard to their interests, the Leningrad institute 'Teploelektroproject' chose a site in North-East Lithuania on Lake Druksiai, bordering Latvia and Belarus (because of the better soil, natural waters and infrastructure as it was said).[38] The power plant was named Ignalina, although the actual town of Ignalina was situated 39 km away.

The whole Ignalina site was built by the Western Construction Company (WCC), which recruited employees from the construction sites of the special secret towns.[39] Seven building units were engaged in construction work employing up to 14,000 youngsters recruited for the Soviet Army. In total 22,000 skilled and military builders were involved in the construction works.[40] The site consisted of three parts: the plant, the suburban industrial area together with the construction base, and the plant's satellite town. The latter was constructed in 1975 just six kilometres from the plant.

The All-Union importance (or, to be more precise, *Sredmash* importance) was also attributed to the workers settlement, thus the planning of the town was commissioned to the loyal and experienced Leningrad branch of design institute *VNIPIET* (All-Union Scientific Research and Design Institute for Energy Technologies).[41] The same people had already planned other Soviet 'atomic' cities – Shevchenko (today Aktau, in Kazakhstan), Navoi (in Uzbekistan) and Sosnovyi Bor (near Leningrad). Chief architects Viktor Akutin[42] and M. A. Belyi arrived on the site in 1973, Belyi proudly showing his awards for the planning the other atomic cities.[43] He remarked that local ministries can plan villages, while *Sredmash* plans the cities.[44] In 1975 the first stone was laid followed by the huge meeting. The fact that the inaugural speech of the Secretary General of the Lithuanian Communist Party was to be first sent to *Sredmash* for approval[45] just proves the omnipotent power of the Soviet ministry. However, local authorities were given the right to choose the name of the town. A variety of proposals included *Atomuva* (meaning atomic town), or *Brolybe* (translation of Russian industrial town *Bratsk*, meaning *Brotherhood*), but following the 'traditional practice' the town got the name Sniečkus after a long-time Lithuanian communist leader Antanas Sniečkus.

From the very start, the planning process became a cause of tension. The *VNIPIET* planners constantly put pressure ('we know better'), while the locals were determined to maintain the 'local colour'. Lithuanian town planners who were well recognized in the USSR hardly accepted the fact that the town planning was entrusted to their Leningrad colleagues. Finally, a compromise was found: planners from Leningrad were commissioned to design the master plan (approved in 1974) and the dwellings while Lithuanian architects 'were given' all public, cultural and service buildings.[46] This 'cooperation' resulted in unexpected visual contrasts: the standard prefabricated slab apartment blocks were mixed with medium-sized specially designed kindergartens, schools, shopping centres and a nine storey medical centre. Grey concrete was dashed with red brick.

Most of the planning ideas were borrowed from the Sosnovy Bor[47], an 'atomic' city of Leningrad nuclear power plant (the site plan by M. A. Belyi). Different from

FIGURE 3 Visaginas, Lithuania, in 2006. Photo: Marija Drėmaitė.

the strict Stalinist grids, and modernistic open planning, the layout of Sniečkus turns back to the idea of neighbourhood and organic planning (taking advantages of the natural landscape was the new fashion of Soviet planners). Against the odds, both groups of planners agreed that it was important to maintain the natural environment: the lake and the relief together with the pine trees were preserved (today greenery makes up 43.6% of the area). Actually, the town was built in the forest – not preserving, but cutting the trees to make building sites. Chief architect of Ignalina Algis Lapenas later criticized the decision: 'Construction of the town in the forest was absolutely irrational. There were other sites around the lake that could be used'.[48]

The basis of the city layout was a standard 'butterfly' pattern (also used in Sosnovy Bor), consisting of the main 'body' and four rounded 'wings'. The dwellings in three *micro-rayons* (the wings) were grouped into circular neighbourhoods with centrally located kindergartens and schools surrounded by housing and the outer streets. In accordance with the existing Soviet building norms, the first standard dwellings in 1977 were assembled from pre-fabricated concrete panels. Later, 40% of the dwellings were built of red brick – meaning an exceptional attitude to the welfare of the atomic workers – red brick represented the 'improved' quality of housing. Five-storey and nine-storey dwelling blocks predominated in the city, together with tower blocks of 12 and 16 storeys.

The planners mainly focused on the pedestrian boulevards that joined the *micro-rayons*, as well as in Sosnovy Bor. Along the *Sedulina* boulevard the administrative-cultural buildings were placed: a cinema, a hotel, cafes and shopping centres. *Visaginas*

boulevard was dedicated to recreation – a street surrounded by a library, book shop and club house led to the lake shore (Figure 3). The '8 minute principle' master plan, as it was called, meant that one could reach the centre from any part of the city in 8–10 minutes. However, the scale and the planning were criticized by the local municipality and the architects. The chief architect of Ignalina, Algis Lapenas, who had to work with the Leningrad group of architects,[49] later described the 'Leningradian' design as different and alien in the Lithuanian context: 'I do not think the architects were bad. Nevertheless, their approach was different. They were used to the giant scale of Leningrad, which was not characteristic of Lithuania. We constantly had to fight with their gargantuan dimensions'.[50] The town still lacks its fourth wing, which was supposed to be built together with the third block of the plant.

Workers, builders and engineers came to Sniečkus from other atomic cities of the USSR – in the decade from 1979–1989 more than 25,000 immigrants arrived in the city.[51] Local inhabitants were rather sceptical about the neighbourhood of the 'peaceful atom' – they made up less than 1% of the city dwellers. Those who wished to be involved in the construction were subject to thorough checking by the KGB.

The natural environment, and higher dwelling standards as well as the reward of salaries several times higher than the Lithuanian average made Sniečkus something of a socialist paradise. However, it existed as a closed community on the north-eastern border.[52] People in Lithuania used to call Sniečkus a town without a spirit, nevertheless, it had its spirit, however, absolutely alien to the country's population.

When Swedish researcher Per Högselius was investigating electricity systems in the Baltic region, he noticed that 'when the Soviet Union incorporated the formerly independent Baltic States Estonia, Latvia and Lithuania in 1944, the creation of Soviet administrations was accompanied by large-scale electrification schemes. New power plants were built, and the new republics were tightly integrated with Russia and other Soviet republics through all-Union high-voltage electricity grid. When the Baltic states regained independency in 1990, this integration in the Soviet power supply system provided opportunities as well as problems'.[53] *Perestroika* in USSR and the accident in Chernobyl (1986) inspired a movement of local 'greens' to raise public awareness of the dangers of the atomic 'neighbour'. The community protested against the construction of the third block and it was stopped (generous European funding later provided safety measures of the highest standard). It is important to note that for the newly born Baltic States in the 1990s most of the Soviet mono-industrial towns caused lot of headaches, not only because of the changing economy but because of the 'nationality' problem as well. For example, independence of Lithuania brought political and social problems to mainly Russian-speaking Sniečkus. Previously, privileged people living in the 'Soviet paradise' neither understood nor supported Lithuanian national movement's intention to separate from the USSR in 1988. The changes resulted in many Russian families leaving the country.

Sniečkus town was renamed Visaginas in 1992. The steady economic growth led the town to become more and more integrated in the national economy. The new problems (mostly social) reached the town after the decision to close the plant in 2009 (taken during negotiations on entering the EU), as many of the inhabitants are highly skilled atomic specialists. Thus, the idea of entrepreneurs to build a new modern type of atomic power plant in Visaginas was highly appreciated by the locals and by the authorities.

Conclusion

The cases of the three towns in Estonia, Latvia and Lithuania illustrate the diversity and variety of the technological styles and architectural concepts represented in the ideology and physical appearance of Soviet mono-industrial towns. Although Sillamäe, Stučka and Sniečkus were all bridgeheads of sovietization, it is evident that there were different kinds of mono-industrial towns in the Soviet Baltics. They used local natural resources, but for different purposes: Sillamäe for the Cold War and Stučka for regional development. In Sillamäe, we see a colonial approach to putting local resources at the service of Soviet imperialistic military ambitions. Stučka and Sniečkus were energy-providers, links in the broader high-voltage electricity network in the north-western part of the Soviet Union. Sillamäe was top secret; Sniečkus was half-secret; while Stučka was rather open, due partly to the technology used. Some towns were more closed and some less, but a common feature of all three is that the decisions to construct them were taken by the central government of the USSR (i.e. outside the national republics). These industries were not born of local interests, and no wonder that there was not enough local labour. Only a Russian-speaking workforce was available and these towns became conspicuous immigration pumps in the russification of the Baltics.

Built on an empty space, they were the purest implementations of standard or dominant town-planning. As there were no existing pre-war layers in these towns, they represent unconditionally planned Soviet space. Even though Sillamäe was designed in Leningrad, Sniečkus in both Leningrad and Lithuania, and Stučka in Latvia, the similarity with other Soviet cities indicate that urban planning in the entire Soviet Union took place on a similar basis. Like company towns in capitalist countries, the company was the main force behind the development of the town. The importance of these large enterprises, whether economic or political, provided them with a privileged position ensuring additional resources, so that the cities could be built to completion, unlike in the rest of the Soviet Union, and people were better provided for than in the surrounding areas. The lavish architectural decoration in so small a town as Sillamäe, more abundant than anywhere else in Estonia, and its surprisingly careful preservation throughout the Soviet period was possible because of the special position held by this secret town and the level of discipline achieved by it being closed off from the rest of Estonia. In the Soviet Union, as in the West mass-produced concrete residential blocks were considered to be the worst.[54] The housing in Sniečkus with its brick load-bearing walls is a clear indication that large enterprises had better opportunities for building better quality apartments. In this sense the mono-industrial cities of the Baltic States were not part of the general spatial environment of the Soviet Union, but with their complete representation of planned space, they were an elite version of it.

The towns described not only display different technological styles and architectural concepts, but also reveal the peculiarities of the changing economic organization of the USSR. The strict regular layout of Stalinist towns reflects the strictly centralized command economic organization, while the conditional liberation of Khrushchev's economic decentralization (*sovnarkhoz* period of 1957–1965) is displayed in the modernist town planning of the 1960s. The later period is associated with the political leadership of Brezhnev and the economic re-centralization that led to stagnation.

Research also raises the question whether the Soviet mono-industrial towns in the Soviet Baltic countries were particularly unique products of Sovietization or bear detectable similarities with other (Western) industrial or company towns. Named after local communist leaders (Stučka, Sniečkus), most of the towns highlighted their socialist origins. Nevertheless, one can find some formal similarities between the company towns and the Soviet-type mono-industrial towns described in this article.

Compared with the other Socialist industrial towns such as Nowa Huta (Poland), Sztálinváros (Dunaújváros from 1961, Hungary), Stalinstadt (Eisenhüttenstadt from 1961, GDR) and others,[55] the Baltic towns demonstrate the same ideological, physical and environmental patterns of industrialization and urbanization, and an intensive migration from the countryside to the cities. However, Russian-speaking labour immigration, as a key factor, made the Baltic industrial towns a tool for proletarianization and even internationalization that led to the closer incorporation of the Baltic space within the Soviet Union. In this sense, the ideology behind their emergence is completely different and more complicated.

Since the Russian language governed communication and the immigrant workers did not feel that any restriction was imposed on the basis of their nationality, they did not even reflect on the question of nationality, and it is clear that national identity was not so important to the inhabitants of the mono-industrial towns. The uniform Soviet urban space in these towns released them from such perplexity to adapt with western space the Russian-speaking immigrants encountered so often in occupying new territories after World War II. The official rhetoric constantly encouraged a working-class identity. Industry became a catalyst, making the USSR a 'giant melting-pot in which the national groups ''freely'' abandoned their identities to blend into a homogenous Soviet nation with the coming of Communism – which, according to one ebullient pronouncement by Khrushchev, was barely 20 years away'.[56] People with experience of large construction projects all over the USSR were glad to move to the Baltic States because of the higher salaries or privileges to be enjoyed there.

The ambivalent character of the effects produced by mono-industrial towns as a part of large-scale Soviet industrial projects makes them significantly different from typical company towns. On the one hand, they fostered industrialization and the growth of local economies, while on the other, they promoted Soviet norms and a unification of the built environment and thus weakened the traditional cultures and denationalized the Baltic republics. Lithuania, Latvia and Estonia failed to avoid giant Soviet industries and the environmental problems that they brought. Along with economic production, the large-scale enterprises, together with the mono-industrial towns, served as the strategic fortresses of the economic colonization of the Baltic nations. It seems that the emergence of these heterotopic towns was an important step towards the achievement of the programmatic aim of the government of the USSR to ultimately integrate the Baltic countries.

Notes

1 Maciuika, ''The Baltic States'', 284.
2 Fellman and Isacson, ''The High-Industrial Period'', 41–65.

3 Mertelsmann, ''Was there a Stalinist Industrialization?'', 168. See also: Mertelsmann, *Die stalinistische Umbau*.
4 Idzelis, ''Industrialization'', 1.
5 Foucault, ''Of Other Spaces'', 420–6.
6 About company towns: Garner, *The Company Town*; Crawford, *Building*; *Building*; Doughty, *Building the Industrial City*.
7 Былинкин, Калмыкова, Рябушин, Сергеева. *История*, 21–5.
8 Kotkin, *Magnetic Mountain*.
9 *Градостроительство СССР, 317–84.*
10 Бархин, *Город 1945–1970*.
11 Ruble, ''From *Khrushcheby* to *Korobki*'', 232–70.
12 Brüggemann, ''Der Wiederaufbau Narvas'', 81–103.
13 Mertelsmann, ''Die Herausbildung des Sonderstatus'', 105–21. The author has developed the topic emphasizing immigration in the article: Mertelsmann, ''Ida-Virumaale'', 51–74.
14 Vseviov, *Kirde-Eesti*.
15 See also: Holloway, *Stalin*.
16 See memoirs: http://www.hot.ee/lvpfoorum/Ajalugu/sillamae.htm [cited 22 June 2006].
17 Reinsalu, ''Sillamäe uraanikaevandus''.
18 Maremäe, ''Sillamäe uraanitehaste'', 476–512.
19 Vseviov, ''Sillamäe'', 22–34.
20 Raam, *Eesti arhitektuur 3*, 212–13. This is the very first description of Sillamäe architecture, which has never been mentioned in Soviet architectural literature.
21 арх.-худ. Дюженко, Федор Николаевич (1899–1969), инж.-стр. Никаев, Александр Федорвич (1898–1958). *Материалы.*
22 Kalm, *Eesti*, 266–75.
23 Kodres, ''The Attaching'', 160–1.
24 See memoirs: http://www.hot.ee/lvpfoorum/Ajalugu/sillamae.htm [cited 22 June 2006].
25 Vseviov, *Nõukogudeaegne*, 18–32.
26 Ojari, ''Floor Space'', 69.
27 http://www.latvenergo.lv/portal/page?_pageid=73,56603&_dad=portal&_schema=PORTAL
28 Vētra. ''Jaunākā''.
29 Ērika Drande (1911, Riga – 1993, Riga). *Māksla I*, 127.
30 Pāvels Seļeckis (1913, Odessa, Ukraine – 1971, Riga). *Māksla II*, 37.
31 The State Archive of Latvia. Fund Nr. 1345, description nr. 9, entry nn. 1567, 1568.
32 *Zinātne un Tehnika* [Science and Technique]. 1961. Nr. 8: 6.
33 *Ibid*.
34 Ziedonis, ''Celtnes ikdienā''.
35 Lane, ''Lithuania,'' 81.
36 Högselius, ''Connecting East and West'', 252.
37 Two units with reactor types RBMK-1500 each comprise six buildings: two separate reactor buildings (A1) and (A2) adjacent to the main control rooms and turbine hall. The first block was completed in 1983, and the next block started to operate in 1987 – just a year after the Chernobyl accident. As a reaction to the accident the capacity of the atomic reactor was reduced for the safety reasons.

During construction a total of 165 farmsteads were dismantled and 142 kilometres of roads, 50 km of railway, 334 km of electricity cables, 390 km of connection lines, 133 km of sewage pipes and 164 km of heating lines were laid.

38 *Lietuvos energetika*, 232.

39 Kavaliauskas, *Visaginas*, 394.

40 *Ibid*.

41 *VNIPIET* in Leningrad/St. Petersburg began its history in 1933. In 1945 the Institute was appointed to be the leading planning organization for atomic industry objects. A majority of industrial enterprises and scientific-research centers of the nuclear industrial complex of the USSR were constructed according to *VNIPIET* designs. The most important among them were the first USSR scientific research reactor (1946); the first USSR commercial uranium-and-graphite reactor (1948); the first nuclear power plant (NPP) in the world in Obninsk City (1954); Beloyarsk (1964–1967), Leningrad (1973–1981), Kursk (1970–1978), Ignalina (1983–1987) and other NPP with different reactor types and capacities. *VNIPIET* had its branches in Krasnoyarsk, Tomsk, Novosibirsk, Sosnovy Bor and Urals branch in Ozersk.

42 Architect Viktor Fiodorovich Akutin, b. 1930, was already awarded with Russian National Award for designing industrial towns.

43 Architect M.A. Belyi also was a memeber of planners' group for Akademgorodok of Novosibirsk (1957–1966).

44 See memoirs: Stumbras, *Prisiminimai*, 104.

45 *Ibid*.

46 See memoirs: Муравьева, ''Гладко'', 264–70.

47 Sosnovy Bor (Russ: Сосно́вый Бор) is an 'atomic town' in Leningrad Oblast, Russia, situated on the southern coast of the Gulf of Finland, 81 km west of St. Petersburg, with a population over 60,000. The town's name literally means 'pine forest'. It was founded in 1958 as a settlement serving the Leningrad nuclear power plant, and received town status in 1973. For information about the history and architecture of Sosnovy Bor, see: http://edu.sbor.net/sbor2005/r8/razd8.html

48 Peciuraite, ''Interviu-reportazas'', 2.

49 The leader of the Leningrad group of architects was Vadim Nazarov (*VNIPIET*).

50 Peciuraite, ''Interviu-reportazas'', 2.

51 Kavaliauskas, *Visaginas*, 30.

52 Today 33,000 inhabitants, of 38 nationalities, live in Visaginas, 80% of whom speak Russian. http://www.inppregion.lt/lt/visaginas [cited 20 October 2006]. Up to 5,000 people are employed in the Ignalina plant.

53 Högselius, ''Connecting East and West'', 245.

54 Forty, ''Cold War Concrete'', 28–45.

55 Åman, *Architecture and Ideology*.

56 Misiunas and Taagepera, *Baltic States*, 138.

References

Åman, Anders. *Architecture and Ideology in Eastern Europe during the Stalin Era. An Aspect of Cold War History*. New York: The Architectural History Foundation, 1992.

Brüggemann, Karsten. ''Der Wiederaufbau Narvas nach 1944 und die Utopie der 'sozialistischen Stadt'''. In *Narva und die Ostseeregion. Narva and the Baltic Sea Region*, ed. K. Brüggemann. Narva, 2004.

Crawford, Margaret. *Building the Workingman's Paradise: the Design of American Company Towns*. New York: Verso, 1995.

Doughty, M., ed. *Building the Industrial City*. Leicester: Leicester University Press, 1986.

Fellman, Susanna, and Isacson Maths. ''The High-Industrial Period in the Nordic and Baltic countries''. In *Industry and Modernism. Companies, Architecture, and Identity in the Nordic and Baltic Countries during the High-Industrial Period*, ed. A. Kervanto-Nevanlinna. Helsinki: Finnish Literature Society, 2007.

Forty, Adrian. ''Cold War Concrete''. In *Constructed Happiness. Domestic Environment in the Cold War Era. Estonian Academy of Arts Proceedings 16*, ed. Mart Kalm and Ingrid Ruudi. Tallinn, 2005.

Foucault, Michel. ''Of Other Spaces: Utopias and Heterotopias''. In *Architecture Culture 1943–1968. A Documentary Anthology*, ed. Joan Ockman with Edward Eigen. Columbia Books of Architecture. New York: Rizzoli, 1993 (2000).

Garner, J. S., ed. *The Company Town: Architecture and Society in the Early Industrial Age*. New York: Oxford University Press, 1992.

Holloway, David. *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939–56*. New Haven: Yale University Press, 1994.

Högselius, Per. ''Connecting East and West? Electricity Systems in the Baltic region''. In *Networking Europe. Transnational Infrastructures and the Shaping of Europe, 1850–2000*, ed. Erik van der Vleuten and Arne Kaijser. Science History Publications, 2006.

Idzelis, Augustine. ''Industrialization and Population Change in the Baltic Republics''. *Litaunus* 30, 2 (Summer 1984).

Kalm, Mart. *Eesti 20. sajandi arhitektuur. Estonian 20th Century Architecture*. Tallinn: Sild, 2001.

Kavaliauskas, Algirdas. *Visaginas*. Vilnius, 1999.

———. *Visaginas: Istorijos fragmentai (1972–2002)* (Visaginas: fragments of history). Vilnius, 2003.

Kodres, Krista. ''The Attaching of Ideological Meaning to Space and Form''. In *Eesti XX sajandi ruum. Space in 20th Century Estonia*, ed. L. Lapin. Tallinn, 2000.

Kotkin, Stephan. *Magnetic Mountain. Stalinism as a Civilization*. Berkeley, CA: California University Press, 1997.

Lane, Thomas. ''Lithuania: Stepping Westward''. In *The Baltic States: Estonia, Latvia and Lithuania*, ed. David J. Smith, Artis Pabriks, Aldis Purs, and Thomas Lane. London: Routledge, 2002.

Lietuvos energetika (Lithuanian energy) *(1940–1990)*. T. 2. Vilnius, 1992.

Maciuika, Benedict Vytenis. ''The Baltic States under Soviet Russia: A Case Study in Sovietization''. Ph.D. diss., University of Chicago, Illinois, 1963 [Printed in 1995 by xerographic process].

Māksla un arhitektūra biografijā (Art and architecture in biographies) *I*. Riga: Latvijas enciklopēdija, 1995.

Māksla un arhitektūra biografijās (Art and architecture in biographies) *II*. Riga: Enciklopēdija Latvija un Latvieši. A/s ''Preses nams'', 2000.

Maremäe, Ello. ''Sillamäe uraanitehaste asutamine ja töö 1946–52 (1973): Eesti diktüoneemakilda kasutamine (Foundation and work of Sillamäe uranium plant 1946–52 (1973): The exploitation of Estonian dyctyonema shale)''. *Akadeemia*, no. 3 (2000): 476–512.

Mertelsmann, Olaf. ''Was there a Stalinist Industrialization in the Baltic Republics? Estonia – an Example''. In *The Sovietization of the Baltic States, 1950–1956*, ed. O. Mertelsmann. Tartu: Kleio, 2003.

———. ''Die Herausbildung des Sonderstatus der Nordostregion innerhalb der Estnischen SSR''. In *Narva und die Ostseeregion. Narva and the Baltic Sea Region*, ed. K. Brüggemann. Narva, 2004.

———. *Die stalinistische Umbau in Estland: von der Markt- zur Kommandowirtschaft*. Hamburger Beiträge zur Geschichte des östlichen Europa Bd. 14. Hamburg: Dr. Kovač, 2006.

———. ''Ida-Virumaale sisserändamise põhjused pärast Teist maailmasõda''. *Ajalooline Ajakiri. The Estonian Historical Journal* 1, no. 119 (2007): 51–74 [Abstract: The reasons for immigration in the Ida-Virumaa region after the Second World War, pp. 73–74].

Misiunas, Romualdas, and Rein Taagepera. *Baltic States: Years of Dependence 1940–1990*. London: Hurst, 1993.

Ojari, Triin. ''Floor Space. The Modernist Residential Housing Ideology and Mustamäe''. *Kunstiteaduslikke Uurimusi/Studies on Art and Architecture*. Tallinn: Estonian Society of Art Historians, 2004, No. 2 [13].

Peciuraite, Ausrine. ''Interviu-reportazas: miestas be dvasios (Interview-report: a town without a Spirit)''. *Zalioji Lietuva*. 25 March 1989, no. 3.

Raam, Villem, ed. *Eesti arhitektuur* (Estonian Architecture) *3*. Tallinn: Valgus, 1997 (author of Sillamäe article, Oleg Kotšenovski).

Reinsalu, Enno. ''Sillamäe uraanikaevandus (Sillamäe uranium mine)''. *Keskkonnatehnika* (Environmental technique), 2001, no. 2. Available from http://www.keskkonnatehnika.ee/arhiiv/2001/2_2001/magi.htm.

Ruble, Blair A. ''From *Khrushcheby* to *Korobki*''. In *Russian Housing in the Modern Age. Design and Social History*, ed. William Craft Brumfield and Blair A. Ruble. Woodrow Wilson Center Press & Cambridge University Press, 1993.

Stumbras, Algirdas. *Prisiminimai* (Memoirs). Vilnius: Margi rastai, 2007.

Vētra, V. ''Jaunākā pilsēta Daugavas krastā (The Younger City on the Bank of Daugava River)''. *Padomju Jaunatne*, 5 November 1969.

Vseviov, David. ''Sillamäe – a Secret Uranium Town in Estonia. From 1944 to mid-eighties''. In *Ida-Virumaa: Man, economy, nature*. Tallinn, 1995.

———. *Nõukogudeaegne Narva. Elanikkonna kujunemine 1944–1970* (Narva of the Soviet period. Formation of population in 1944–1970). Tartu: Okupatsioonide Repressiivpoliitika Uurimise Riiklik Komisjon (Estonian State Commission on the Examination of Policies of Repression), 2001.

———. *Kirde-Eesti urbaanse anomaalia kujunemine ning struktuur pärast Teist maailmasõda* (The formation and structure of urban anomaly in north-east Estonia after WWII). Tallinn: Pedagoogikaülikooli kirjastus, 2002.

Ziedonis, I. ''Celtnes ikdienā (Workday of the Construction Site)''. *Liesma*, 1961, no. 8.

Бархин, М. Г. *Город 1945–1970. Практика, проекты, теория*. Москва: Стройиздат, 1974.

Былинкин, Н. П., В. Н. Калмыкова, А. В. Рябушин, and Г. В. Сергеева. *История советской архитектуры (1917–1954 гг.)*. Москва: Стройиздат, 1985.

Градостроительство СССР. Москва: Стройиздат, 1967.

Материалы к биографическому словарю архитекторов народов СССР. Выпуск четвертый и шестой (Entry-list for the Dictionary of Architects of the Nations of USSR). Москва, 1983, 1985.

Муравьева, Надежда. ''Гладко было на бумаге'' In *Память сердца: воспоминания первостроителей*. Visaginas, 2004.

Andis Cinis is Head of Riga City Building Board, Latvia. He graduated in 1984 as a conservation architect from Riga Politechnical Institute and in 1994 was awarded an MA in Conservation of Buildings at the University of York, UK. Since 2006 he has been a PhD student in the Academy of Arts of Latvia. From 2001–2007 he was the the Head of the Inspection for Heritage protection of Riga City Council. He has published mainly on the built heritage of Latvia. His last publication was ''The Signs of Modernims in the Architecture of Soviet Latvia Between 1960 and 1980'', in *Industry and Modernism: Companies, Architecture and Identity in the Nordic and Baltic Countries During the High-Industrial Period*, edited by Anja Kervanto-Nevanlinna. Helsinki, 2007. *Address:* Riga City Building Board, City Development Department, Riga City Council, Amatu St. 4, Riga, LV 1050, Latvia. [email: andis.cinis@riga.lv]

Marija Drėmaitė is a Lecturer at Vilnius University and project coordinator at the Lithuanian Energy Museum. She holds a PhD from Vilnius Academy of Fine Arts (2006) as an architectural historian. Her dissertation was about industrial architecture of the inter-war Lithuania. Her research is focused on the issues of the post-war industrialization and architecture in the Baltic States. Her field of interest covers history of modern architecture, urban planning, industrialization and industrial heritage. Her latest international publications are ''Political Planning and Architecture: The Sovnarkhoz System and the Industrialization of Lithuania in the 1960s'', in *Industry and Modernism. Companies, Architecture, and Identity in the Nordic and Baltic Countries during the High-Industrial Period*, edited by Anja Kervanto-Nevanlinna. Helsinki, 2007 and ''New Borders – new Order: Soviet Industrialisation of Lithuania in 1956–1985 and its Impact on Identity'', in *Patrimoine de l'industrie/Industrial Patrimony*, 2007, No. 17. *Address:* Department of the Theory of History and Cultural history, Vilnius University, History Faculty, Universiteto str. 7, Vilnius, LT-01513, Lithuania. [email: marija.dremaite@gmail.com]

Mart Kalm is Professor in architecture history, Estonian Academy of Art, Tallinn. He is an architecture historian and critic focused on modern architecture in Estonia. He attained a PhD in 1991 from the Moscow Institute of History of Architecture for his dissertation on architect Alar Kotli, and a second PhD in 1998 from the Estonian Academy of Art for his dissertation on inter-war architecture culture in Estonia. M. Kalm has authored books such as ''Estonian 20th Century Architecture'' (2001), ''Buildings of Eesti Pank'' (co-authored with Karin Hallas-Murula and Märt Karmo, 2004), and ''Toompea loss'' (co-authored with Rein Zobel and Juhan Maiste, chapters on the Houses of Parliament, 2008). Lately he has been interested in Soviet period architecture in the countryside. *Address:* Kunstikultuuri teaduskond/Faculty of Art and Culture, Eesti Kunstiakadeemia/Estonian Academy of Art, Suur-Kloostri 11a, 10133 Tallinn, Estonia. [email: mart.kalm@artun.ee]