Expert Meeting for Conservation and Adaptive Reuse of Modern Industrial Heritage, in TOKYO 2019
近代の産業遺産の保存と活用に関する課題解決のための専門家会議
in TOKYO 2019

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Dublin Principles (Joint ICOMOS – TICCIH Principles for the Conservation of Industrial Heritage Sites, Structure, Areas and Landscapes)
<table>
<thead>
<tr>
<th>No.</th>
<th>Registered</th>
<th>Utilized after being aware of its value as heritage</th>
<th>Original form (mills related to textiles)</th>
<th>New name/Year</th>
<th>Present condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>[NOT Registered]</td>
<td>Utilized before being aware of its value as heritage</td>
<td>The building was used as a carpentry studio, a mill related to textiles and a cosmetic shop after Kobayashi Twisted Yarn Company. It met several demands for utilization, ass was facing the street and having a wide opening and a deep room.</td>
<td>Petisruru Uchiyama</td>
<td>A patisserie was established by using the 2 connected structures facing the main street in 1964. The roof was hidden by a parapet, but the whole figure was revealed at the time of repair in 2010. A novel pent roof was also introduced in the front side.</td>
</tr>
<tr>
<td>02</td>
<td>[NOT Registered]</td>
<td>Utilized after being aware of its value as heritage</td>
<td>In 1987 after Kobayashi Twisted Yarn Company, the building was moved into Wakanaya, which was running business at a different place. It was used as a noodle manufacturing factory and a buckwheat noodle shop. The roof of the mill was surrounded by a parapet.</td>
<td>Wakanaya traditional Japanese-style restaurant</td>
<td>Wakanaya moved into the mill in 1996. The internal space was decorated and finished to compare the roof truss to that of a vernacular house. It is arranged in a folk style and completely change the atmosphere of the mill.</td>
</tr>
<tr>
<td>03</td>
<td>[Registered]</td>
<td>2006</td>
<td>The building was established by Toy Processing Company. It directed the stone material of byroon Weaving Company and was founded on the site where the mill of Honyo Textile Company existed. toy's Temple gained the mill afterward, and named it space Kenom.</td>
<td>Ash, Hair Make</td>
<td>In 1995 a franchise shop of Ash, Hair Make opened in Kyra. The inside and outside of the building were converted into a beauty parlor in order to meet its function, but the original scale was respected.</td>
</tr>
<tr>
<td>04</td>
<td>[NOT Registered]</td>
<td>Utilized after being aware of its value as heritage</td>
<td>The building was constructed by the second generation of Yoshihito MOKITA. 10 employees were working. Wide textiles for expert use were produced. Retired in 1970. The whole residence was left until recent years.</td>
<td>Maruyoshi mill</td>
<td>Several artists converted the building into a core center for community works. Although the interior and exterior finishing are covered with new materials, the area with the earth floor retains the original atmosphere of the mill.</td>
</tr>
<tr>
<td>05</td>
<td>[NOT Registered]</td>
<td>Utilized after being aware of its value as heritage</td>
<td>Mill of Toy Spanning and Weaving Company for the spinning and weaving. The building was expanded in the 1960s. The roof was hidden by a parapet, but the whole figure was revealed at the time of repair in 1989.</td>
<td>Aoyagi, Japanese-style confectionery store</td>
<td>Aoyagi gained the building in 2003. It is composed of a shop and a storeroom. The south side with stone construction is the shop. The roof truss is painted and the interior finishing is renewed. The store is placed in.</td>
</tr>
<tr>
<td>06</td>
<td>[Registered]</td>
<td>Registered after registration</td>
<td>The building is composed of a mill, a residence, a weaving shop, an office and a house. The building was renewed. It is open and spacious and shows how the weaving shop developed traditionally.</td>
<td>Renga, bakery &amp; cafe</td>
<td>Renge opened in 2011. The internal structure is reinforced by steel frames. It has a kitchen, a shop and a dining room. The lower layer is taken from the wall to show the brick surface. The exterior is not remodeled but has installed a pent roof and a deck.</td>
</tr>
</tbody>
</table>
ソビエト時代の産業遺産保護の最初の試み

ソビエト時代に、すでに産業遺産の保存性が明らかに課題となり、1975年3月29日に、「ウラル地方の建築と歴史のための博物館（現在は建築デザイン博物館）がスヴェルドロフスク建築研究所（Sverdlovsk Architectural Institute）を、ウラル地方の工場や заводにあった製造設備を発見し、博物館の中心に展示することを積極的に行った。博物館は、野外博物館として生まれた。

1985年に、博物館は「ウラル地方の建築と産業技術歴史博物館（the Museum of the History of Architecture and Industrial Engineering of the Urals）」に改名された。

この博物館地区は巨大で、何世紀にもわたる工場建築が並び重なって構成されている。ここには過去3世紀にわたりの産業の歴史があり、ウラル地域の経済的な、文化的な重要性を理解する事ができる。加えて、ロシア帝国、ソビエト連邦における産業技術の進歩を理解できる。手入れがなされている建築物、機械、構造物、そしてインフラストラクチャによって野外博物館が形成されている。それらは、かつての巨大な産業景観を伝えている。

観客にとっては、この工場は極めて印象的である。常設、施設スパイラルから、目を引くのが先だ。近年、この博物館は4つの工場をもつ、環境に優しい野外工場公園、オールド・デミドフ工場（Old Demidov Plant）に従来変更された。高炉、平熱生産施設、エネルギー供給施設、道路、道路施設という、壮大な産業技術公園の設計は1995年に承認されたが、構想ながら未だ完全には実現されている。

この博物館の重要性は、ヨーロッパ産業遺産の連（ERIH）によって承認されている。1つの工場複合施設は1930年代から1950年代にかけて建設された。しかし、その後に新しい産業をもたらす1920年代と1950年代の間に再建されたものである。この工場施設には、吹き出し機と、炉の前座を含むものがあり、施設全体がヨーロッパ遺産に指定されている。保存されている炉も一つの重要な施設であるが、ニジ・タグルの平熱生産施設やキツナ・ボルタの熱源地圧縮施設、製造所が含まれている。さらに、貴重として1892年製の本体を含む、18世紀以来の新しい炉を動かし、使用する燃料を提供する施設の一部である。この工場施設の歴史を水、蒸気力、電気の3つの要素で理解できる（ERIH 2019）。

ドイツのイェンス近郊にあるロール市博物館フォルフレヒント（World Cultural Heritage）の指定は、ニジ・タグルの博物館の発展の一つのよい事例である。特にOMA Office for Metropolitan Architectureがフォルフレヒント（World Cultural Heritage）の指定を取得した。この事例は、博物館の活動は夏に工場用地のガイド付きツアーに限られているが、野外博物館として役割を担っている。
1902年のソビエト連邦の成立はロシアの産業の
改革をもたらした。産業の衰退は信じられないほ
どの規模で起こった。軍事産業は、特にソビエト連邦
の労働により劇的に苦境に陥った。今日のロシア
の産業遺産の主な資源は、産業遺産が都市的な規模
である点にあたる。社会主義時代、国家は土地を保有
し、土地の所有は都市の中心部と周辺地域で同じだった。
こうしたことから、ロシアの多くの都市には工場や
工業地域が都市の中心部に残った。何れも再開された
工場があるが、こうした地域は汚染された地域
であり、多くの都市中心部の都市構造の再クオリティ化は
引き起こした。工場用地は圧縮され、公共空間から
間隔され、都市を分断する壁に形成されていた。ソ
ビエト以降の資本主義経済の下では、都市中心部の
地域は上昇し、経済力により土地開発から污染要
因が取り除かれ、高層建築の開発が進められ、無効
で古い建物を維持する方向に動いていた。

図8のサントト・ペタルプルクの産業

ロシアの古都市サントト・ペタルプルクは、パロック
様式、新古典主義、アールヌボール様式の建物とそ
の他の集合体によって形成された既存の都市
構造を持つ美しい街のイメージがある。しかし、こ
の都市は数世紀にわたり工業が振興した都市であ
る。19世紀初と20世紀中盤の15年間の
間に、サントト・ペタルプルクはソビエト時代を生き
抜けた工業的な景色を獲得した。実際に、工場は都
市の初期から重要な役割を果たした。

ビオトール在住者はサントト・ペタルプルクに住民
や工場を設立した。工場は、発展の中心地に
海軍基地を設置して、海軍施設の複合体はサント
ト・ペタルプルクの都市構造の中心となった。全長の
草劇とフォトマチックに、都市で最も有名なラ
ンドマークの一つである。

サントト・ペタルプルク市街には3つの主要な通
りがある。ネスキー大通り、ゴールヤバイ通り、ヴ
ェスキヤック通りである。工業地域とウオータ
ーフロントの開発はサントト・ペタルプルクに固有な
イメージを与え、都市を特徴付けている。

20世紀初頭に、多くの有名なロシア建築家が海
外の建築家が工業地域で工場設置の建物に携わっ
た。建築家を革新的な技術を導入し、鉄筋コンク
リートという新しい構造技術を適用した。建築家達
の傑作とも言える作品群の一つが、絶え間ない建
築工事によって挙げられた。

長い間、図の保存専門家はこれらの建物の調査を
することができず、1900年以降になって初めて、
十分な建築教材の作成と調査が可能となった。サ
ントト・ペタルプルクにある2つの再開発事業が、海外
でよく知られている。

それらは、エリーア・メンデルゾーン (Erich
Mendelssohn) が設計したレッド・バーナーテキスタイル
工場（Red Banner Textile Factory）とニューホ
ーランド工場 (New Holland Island) である。ニューホ
ーランド工場は、18世紀に建造された三角形の人
工島である。この島は18世紀に築いているoge👨‍🏫である。

Figure 8: エリーア・メンデルゾーンによるレーニングラード (サントト・ペタルプルク) の「レッド・バーナーテキスタイル工場」の発電所のポリスク（1929年）

メンデルゾーンは1925年～1926年までのプロ
ジェクトの最初の段階に参加した。したがい
て、1927年以降、彼は自身の著作物を否定した。
この工場は、20世紀の建築学に関するあらゆる本に収
載されているように、地域的な重要な記念建築物
としての位置づけのものである（1988年12月5日決定
：KIOIP 2019年）。国際的な注目を受けて、設計
と再開発を目的にいくつかの設計案にかかわら
ず、近代建築運動において、この傑作の未来は未だ
非常に不確定である。

Figure 7: エリーア・メンデルゾーンによるレーニングラード (サントト・ペタルプルク) の「レッド・バーナーテキスタイル工場」のオーナーの新堂 (1926年)

こうした結果、工場は設計者が設計を進めるた
めに必要とされたものであり、デザインのために
のものという点から、設計が可能なとされている。

Figure 9: 「レッド・バーナー・テキスタイル工場」の発電所の竣工写真：ハレヴォカヤ通り _現イオニスカヤ通りから (1929年以降)

Figure 10: 「レッド・バーナー・テキスタイル工場」の発電所：パイオニスカヤ通りから撮影 (2011年)

しかしながら、スケームは設計者の発想を
示すだけで、工場の実際に使用されるものを
意味するものではない。この数世代に対する希望の
一部は、Dasha Zhukova (1981年生まれ、Roman
Abramovich) の新しいプロジェクトに参加した
ときに実現した。2011年に再開され、新た
の工場が開設された。
実験的な部分として、夏のニュースレート（2011-2013）が実施された。この事業は、将来の人に可能性をもたらし、より正確に設定するための必要不可欠な社会的な市場調査であった。その結果、効果的利用に支障がないように、構想を模索し、次に、構想を模索し、最終的には3段階に分かれた。この進捗は模索で行うことが、その結果、成績を模索し、最終的には第4段階に進むことが可能である。

サンクトペテルブルクのストリートアート美術館は、その裏側を示している。このプロジェクトは、地元社会がアートに関心を持つ地域で行われている。このプロジェクトの目的は1122年で、プラットフォームとしての成功を収めた。この成功を収めたのは、都市の文化空間を守るための考え方が進歩した。美術館の運営は、発表とその他のアートのためのコンセプトを実現する。コンセプトを実現するため、一つの条件が、美術館の運営を保持することである。

フィンランドのKIMI建築およびコンサートホールがコンセプトで貢献した。コンサートホールは向社会的な共感をもたらし、観客を一般の人々を利用できるようになることを目的としている。美術館の運営は、発表とその他のアートのためのコンセプトを実現する。

2014年4月20日、コンサートホールがオープンされた。一つは、既存のプラットフォームのためのコンセプトである。展示場やモード間の特別な役割を果たす。展示場やモード間の特別な役割を果たす。展示場やモード間の特別な役割を果たす。

私たちのロストプール

ミックスとは、「ヴィンツヴァード（Winzavod）」と、「赤い十月（Red October）」が現代ロシア文化の分野で最も新しいことを象徴するものだった。2007年にオープンしたヴィンツヴァードのためのコンセプトを説明する。オラジオとオラジオのためのコンセプトを説明する。オラジオとオラジオのためのコンセプトを説明する。
にも地、歴史的建造物として保存されていたが、1棟はすでに解体され歴史的な建築集団の中心を失っていた。そこで、Herzog & de Meuronは、消滅した主要な建造物をレプリカとして再建することを提案し、歴史的な文書を参考に家屋構造を再構築し、工場群の中心を設けた。敷地の一部を、75メートルの高さを越えて、新規開発のための余地があった。

建築家たちは、このような都市的なアプローチで都市化を推進すること、非常に魅力的だと感じたことを表明した。ソビエト時代とその後のプロシア共和国の時代に比較して、モスクワ市ではデスプラスの概念が伝統的に存在している。例えば、都市近くの200mの高さのホテル-クライナ（巻内の高層ビルの7階建ての一つ）の例でもこの指向が観察できる。新たにノボシキ（Kutuzovsky）の新古典主義の街並みや、最近の350mの高さの都市からもモスクワ市の指向を伺える（Herzog & de Meuron, 2018）。

ペルワールク&ド・ムーロンは、住宅用に約1万m²の新しい高層ビルを設計した。この建物は注を引いているわけではないが、この住宅は、むしろ街を構成するよう、細い木材から構成される台座の上にあり、地面と公園につながっている。

- ナロ・フォンミンスのシルク工場におけるオランダのデザイン

2018年にはロッテルダムのMai建築計画事務所のロバート・ウィンクル（Robert Winkler）が、ナロ・フォンミンス（Narek Fominits）のあるシルク工場跡地約60,000m²の多度の付加のある地域に変更するための設計案を作成した。ナロ・フォンミンスはモスクワ市内にある都市である。1900年代から放棄された工業用地には新たに都市化が求められていたが、その場所は、魅力的な小小さな町へと転換されることがになる。ナロ・フォンミンスの新しい中央の工場群の中心部には、ロフトスタイルのアパートメントの他、ショッピング、診療、文化、スポーツを楽しむ施設が整備されている。工場群地は全域で自由に活用できる。工場群地の建築は十分に再利活用可能で、提案された建築的な可能性は都市内に多くの光をもたらし、都市景観を結びつけ、そして、周囲の自然環境と結び付く空間となる。

同じくロンドン市に拠点をもつロンドンシクープ・ファーザーテックの会社であるフィロスコップ（Fellox）は、ナロ・フォンミンスの建築家や計画者と共同でこの事業のために公共空間のデザインに参加した（Wolch, Adrian, 2018）。

- ウラル地方やベルギーにおける事例

1790年代にはすでにオランダ人のホルヘ・W・レノン（George W. de Horion）はウラル地方に工場と産業集落を設けた。このようにして、この工場はウラル地方の産業地帯、パルナウcredに誕生した。かつての工場群の敷地には、18世紀から19世紀にかけて建設された産業施設がある。1995年には、パルナウ地域計画局が国の重要記念物となった。

この産業地域は1939年以前に形成されてきた。

ここには18世紀に遡る500メートルの長さで26mの高さのロシアで最大規模のダムがあり、工場施設は、18世紀から19世紀の半世の建築がある。計画設計、製造工場、機械工場、第一製紙工場、第二製紙工場、そして19世紀末の建設された本社社屋がある。1991年と2008年に考古学的調査が行われ、地下に保存されたオリジナルの構造物の痕跡が発見された。

発見された遺跡は、18世紀から19世紀にかけて使用された木材施設の木組と、木材工場の木造の防火壁の基礎が含まれていた。
2016年から2017年にかけて、パルナウラの建築家であるアレクサンダー・D・デリング（Alexander F. Dering）は、パルナウラの中心部の都市構造を、工業構築を統合することで強化するために、かつてのパルナウラ醸造所の改修のためのコンセプトを提案した。この計画は、都市景観として、美しさと機能性を兼ね備えている。

アレクサンダー・D・デリングの計画では、地面を1.2〜1.5メートル幅の都市計画に変えることを提案した。それは、元の都市開発後に再興されたかつての構築物を取り除き、いくつかの失われた重要な構築物を再構築することを必要とした。改築計画には、既存の建物と明確に定義できるデザインのホテル、美術館、劇場、工場やセラミック工場のための空間を確保することが含まれている。建築的解決は新しい建物とオリジナルの建物の対話を基にしている。

2018年には、地元の愛好家たちがグループを結成して、ウラル地方のシュレアサーキー（Syzertskiy）工場を修復する計画に取り組んだ。

この工場は1923年に設立され、生産活動は1997年に終了した。シュレアサーキー（Syzertskiy）は「Big Sywert」のレクレーティョン観光の中心であり、2019年7月にはシュレアサーキー（Syzert）大学が設立され、生産工場の再利用設計の1週間のワークショップ「シュレアサーキー（Re-School）」に参加する。著名な建築家である、モスクワの建築事務所 'Roshdentsvenka' Narine Tchitcheva は学生達の指導を担う。

フランスとベルギーの合資会社のコピクス（Kopiks）はクズネツキーの金属鉱山で、20世紀初頭にシベリアの大規模化を推進した。
1915年にコピクス合資会社は銅鉱を設立した。この銅鉱は、プリュレッセのオリヴィエに設計が準じた。この銅鉱は、シベリアで初めてのクロム鉱の産地である。この銅鉱は100以上の鉱物が存在し、同時に、労働者のための住居を含む企業都市として建設された。銅鉱の労働者のための住居は保存しているが、その存在は、未だ記念建築物として誇示されておらず、いつ破壊されてもおかしくない。
結論

ロシア文化が、記念建築物の保存に関して、18世紀の産業遺産を通じての認識と理解が鍛えられ、20世紀を超越する産業遺産の重要性が認識される中で、モスクワ市庁舎の開発計画が議論されている。モスクワ市庁舎は、工芸美術の発展を支え、高度な芸術作品を生み出している重要文化財である。

多くのロシアの都市々に、産業遺産の一例として、かつて鉄道工場の建物が見られる。モスクワ市庁舎は、そのような産業遺産に対する価値を示しており、モスクワ市庁舎は、工芸美術の発展を支え、高度な芸術作品を生み出している重要文化財である。

ロシアの地方都市では、鉄道工場の歴史的な建物が見られる。鉄道工場は、産業遺産に対する価値を示しており、モスクワ市庁舎は、工芸美術の発展を支え、高度な芸術作品を生み出している重要文化財である。

プロジェクトの成功が、ロシアの地域産業遺産の保存と利用に貢献するものと考えられる。

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At the beginning of the twenty-first century, the importance of industrial buildings, ensembles and sites changed from productive forces to cultural forces. This was a significant change, and it has been valued as such. For a long time, industrial heritage has not been considered as a valuable object for preservation, and many factories were destroyed and have disappeared. Others have been negligently rebuilt. The last two decades were crucial in the change of attitudes of the Russian society towards its industrial heritage. Especially in Moscow and St. Petersburg, re-use of the industrial heritage created several extremely popular and vibrant urban spaces. To understand the transformation we should look back to the twentieth century.

Periodization of Russian Industrial Heritage

From the eighteenth century on, the Russian Empire, the Soviet Union and the modern Russian Federation have experienced various waves of industrialisation. Therefore Russia inherited a diverse range of industrial reminiscences of these industrialisation processes. For our analysis, we can define several periods: 1. From the eighteenth century to the middle of the nineteenth century. 2. From the end of the nineteenth century till the October Revolution of 1917-2. The Soviet period 1917-1991: 4. Post-Soviet Russia from 1992 till nowadays.
examples of such experiments are the cylindrical shaped bread factories developed on basis of a technological scheme invented by the engineer Georgy P. Marsakov.

In the 1920-1930s the Soviets implemented a state programme to build new bread plants. Only in Moscow eleven bread factories were built at the time; five were designed according the scheme by Marsakov. He invented a spiral movement of the bread production conveyor belt: the flour from a warehouse in the basement rose to the upper, third floor, and from there, going down the ring conveyor chain, was kneaded into dough, which was then baked in ring ovens, and the finished bread was tilted down the sloping descents into the bread store - all without the use of manual labour. In fact Frank Lloyd Wright applied the same spatial principle in 1959 in his design of the Solomon R. Guggenheim Museum in New York City.

The former Bread factory number 5 is a bad example of the treatment of such important industrial heritage. The interiors of the building and its surroundings are dramatically contaminated. In 2018 the former Bread factory number 9 (opened in 1934), which continued to function till 2015, is re-used as a department store. The bread factories by Georgy Marsakov are a perfect case to test different approaches for renovation and re-use. Recently in St-Petersburg the preservation committee could stop the demolition plans of the Levashovsky Bread Factory (1930-1933), one of the two built in Leningrad according the Marsakov scheme.

The first Soviet attempts to preserve industrial heritage

Already during the Soviet period the importance of the conservation and preservation of the industrial heritage became obvious. Thus on March 29, 1975, the Museum for the history and future of the Uralian architecture (now the Museum of Architecture and Design) was opened in the urban heart of Sverdlovsk (Yekaterinburg). The museum is located in an ensemble of monuments of industrial architecture of the nineteenth century, the former workshops of the Yekaterinburg mechanical factory. In the late 1970s the Sverdlovsk architectural Institute put a lot of effort in finding and installing the large-sized equipment of the former Ural factories in the courtyard of the museum, where an open-air exposition was launched. In 1985, the museum was renamed the Museum of the History of Architecture and Industrial Engineering of the Urals.

In Nizhny Tagil a metallurgical plant became an open-air museum, when in October 1987 the industrial use ceased. The famous Russian industrialist Akinfiy N. Demidov (1678-1745) established this plant in Nizhny Tagil as early as in 1725. This plant included the full technological cycle of metal smelting: the preparation of iron ore and coal, smelting of foundry iron and copper.

The plant, together with its maintenance services, the brick and sawmill factories, was the largest in Russia. Steel of the highest quality was produced there and most of it was exported to England and other European countries. In 1930, the plant was remodelled: newly installed blast furnaces made the steel production process much more effective. 'The Museum Factory of History of Technology and Ferrous Metallurgy Development ' was officially opened in January 1989. In 1992 the museum obtained a part of the industrial territory, including the infrastructure and the surrounding historical zone. Thus it formed a museum complex with a total area of 30 hectares. Today it is still functioning as open-air museum, although the museum activities are limited to guided tours through the industrial site on working days in summer. A spectacular and raw museum of early Ural industrialisation. The territory is huge and consists of centuries of overlapping industrial architecture. Nearly three centuries of metallurgic activity witness here the geopolitical and economic importance of the Ural region as well as the evolution of metal production techniques in imperial and Soviet Russia. The buildings, machines, mechanism and elements of infrastructures in open air without maintenance rust and form huge scale ruins of a former industrial landscape. Nevertheless they are very impressive for the
tourists, usually coming for a one day trip from Ekaterinburg.

Recently the museum has been renamed the ‘Old Dushkov Plant’ with thematic open-air display of the four themes: a blast furnace, an open-hearth production, energy supply and rail road facilities. Ambitious plans for the ‘cultural technopark’ were already approved in 1965, but have unfortunately not been fully implemented yet.

The importance of this museum is recognised by the European Route of Industrial Heritage (ERIH) in the early 1990s and another from the 1950s, but the remaining wall behind them was built between 1829 and 1850. The complex includes blowing machines and the systems by which the furnaces were fed with raw materials. While preserved blast furnaces are relatively common, the open-hearth steel plant at Nizhny Tagil is one of very few that remain in Europe. It includes the blowing machine for the open-hearth furnaces and the adjacent rolling mill. There are also substantial remains of the systems that provided water-power for the works, some from the eighteenth century, and including a water turbine of 1892. The history of the plant is interpreted in three periods, those of water-power, steam-power and electricity (ERIH 2019).

The experiences of the Ihhr Museum Zollverein (World Cultural Heritage Site) near Essen could be a good example for the development of the museum in Nizhny Tagil. Especially ideas for the routing, designed by OMA for the Coal Mine Industrial Complex Zollverein could be very useful.

Dealing with Russian industrial heritage in the post-soviet period

The collapse of the Soviet Union in 1992 brought also a decay of the Russian industry. The industrial decline was of an unbelievable scale. Especially the military industry suffered dramatically from the disintegration of the Soviet Union.

Nowadays the main problem of the Russian cultural heritage lies in its large urban scale. During Socialism the State owned the ground, and the prize of the ground was the same in the centre of the city and in its periphery. Therefore in many cities the factories and industrial territories remained in their centres. These polluted territories, with many times rebuilt factories, caused fragmentation of the urban fabric of many city centres. The industrial territories were fenced in, closed to the public, and formed barriers within the cities. Under the new capitalist condition the ground price went up and the economic forces exercised their power in trying to clean up these territories and demolish useless old buildings in favour of high rise development.

Industrial glory of St-Petersburg

Actually the industry played a crucial role from the early beginning of the city. Peter the Great established in St-Petersburg shipyards and factories. He also built the Admiralty complex at the central point of the new city and the ensemble of the Admiralty became the focus point of the urban structure of St-Petersburg. The Admiralty with its gilded spire is one of the city’s most celebrated landmarks and the focal point of old St Petersburg’s three main streets: Nevsky Prospect, Gorkikhovaya Street, and Voznesensky Avenue.

The relation of the industrial ensembles and waterfront characterise the special image of St-Petersburg. At the beginning of the twentieth century many famous Russian and Foreign architects designed and built industrial buildings there. They introduced several innovations and applied new constructions as reinforced concrete. The high urban and
architectural qualities of these masterpieces have been damaged by respectlesss additions. For a long time the state preservation specialists didn’t have access to these buildings and the first sound inventories and surveys became possible only from the 1990s.

Two reuse projects in St-Petersburg became well-known abroad: the Red Banner Textile Factory designed by Erich Mendelsohn and New Holland Island, a historic triangular artificial island for timber storage, dating from the eighteenth century. Mendelsohn participated only in the first stage of the project in 1925-1926 and after 1927 denied his authorship. Remarkable that this project, which is present in every book on architectural history of the twentieth century, has only the status of monument of regional importance (a decision on the 5th of December 1988, KGIOP, 2019). Despite international attention and several designs for renovation and revitalization, the future of this masterpiece of Modern Movement still very uncertain.

Figure 11: The destruction of original structures of the Red Banner Factory’s Power station, Saturday, September 16, 2017. Photo by a Public Initiative for the protection of the architectural complex ‘Red Banner’. From “Heritage Alert” of ICOMOS Russia, September 2017.

The fate of New Holland Island was also dramatic, but its future without doubt is more promising. In 2006 Foster and Partners won the New Holland Island Redevelopment competition. Foster saw the regeneration of the eighteenth-century New Holland Island as ‘a unique opportunity to transform the city of St.-Petersburg into the foremost venue for performance and visual arts in the world’ (Foster and Partners, 2006). Finally Foster was forced to resign, but part of his ambitions for the site were realized when Dasha Zhukova (born in 1981, the wife of tycoon Roman Abramovich) got involved in the project. In 2011 the island was reopened to the public. The experimental temporary programming, Summer on New Holland (2011-2013), provided ample opportunity to conduct further social and marketing research in order to more accurately define the possible functions of the future project (Summer on New Holland, 2011). Finally it was decided to subdivide the restoration process into several phases, so that the restoration and construction could continue without interfering with the park’s operation. The project is in progress. The final fourth stage should be finished in 2025.

The Street Art Museum in St-Petersburg represents different approach. It is located on the territory of the functioning Plant of laminated plastics. Almost eleven hectares of the industrial zone is too much for the Plastic plant. Therefore, an idea emerged to preserve the production, as well as to revitalize the rest of the territory, transforming it into an urban cultural space. The final idea of creating a museum came in the summer of 2011 to the founders after a graffiti party, held in one of the workshops abandoned in the 1990s. Later, the Street Art Museum became ambitious. It intended to change the urban environment, to become part of the artistic community, to make the exhibition accessible for the general public. The organizers of the museum announced a competition for Russian and foreign architects. One of the conditions is to preserve the industrial atmosphere. The Finnish architectural bureau JKMM Architects won the competition, but Russian architects of the firm Les took over the project. Renovation of the territory took place gradually; every year the site changed slightly. While maintaining the characteristic features of industrial aesthetics, new elements of improvement as paths, areas, recreation, cafes, etc. were added. Thus, since 2014, the territory of the plant is divided into two zones: a permanent exhibition about the existing production of the Plant of laminated plastics, where a collection of monumental murals by modern street artists is annually enlarged, and a public platform where temporary exhibitions and events take place (The Street Art Museum in St-Petersburg (2019).

A loft concept for art-galleries and creative hubs

New York, Berlin and Amsterdam inspired St-Petersburg with a concept of loft architecture. The first loft in St-Petersburg opened in 2007. Today the Loft Project Elaizh (Floors) is the most famous loft in the city. The architectural firm of the brothers Eiger and Savely Archipenko made the interior design. They arranged on five floors of an empty building of the Smolninsky bread factory on Ligorovskaya spaces for galleries, a bookstore, a hotel, a cafe, exhibitions, workshops and lectures. The big spaces and good lighting conditions perfectly fit the new functions.

A new concept of art-galleries and creative hubs was introduced in July 2016, at the Street Art Museum in St-Petersburg.

Figure 12: Sergey Karev Exhibition “S” edenyy Bog” (The Eaten God) of 2016, at the Street Art Museum in St-Petersburg, 2016.

The loft is 5,000 square meters in size, divided into five floors. It is located in the old brewery ‘Stepan Razin’, built in 1876 by architect Emmanuel Jurgen. The exhibition halls occupy four thousand square meters. The president of RAF plans for the future are a lecture hall, a cinema hall, artistic workshops, a bookstore, a cafe, a multimedia library (multimedia library) and a library.

Another loft, ‘Creative space Tchachi (Weavers)’, is located in the former spinning and weaving factory in honor of Peter Anisimov, built in 1846, following British examples. Nowadays art exhibitions and lectures take place here. The investor, the company Orental, formulated the concept to create a place for the projects focused on art, culture and education. The new tenants treated the space of the factory as delicately as possible, retaining and carefully restoring practically every brick of the masonry from 1846. They respected the aura and history of the building, trying only to supplement it with fresh projects and ideas. In their future plans Tchachi intends to gather here under one roof workshops for artists, designers and photographers, architectural offices, theatre and dance studios, exhibition agencies, concept stores and shops of design accessories and clothing.

The Loft Prostranstvo Zvezdokha (Space Asteroids) is located in one of the buildings of the Soviet Star spinning factory. The factory is still in use and therefore also ensures safety and cleaning for three photo studios, exhibitions of photographs and graphic works of St. Petersburg artists. This loft comprises a photo studio, and space for exhibitions and fashion shows. It hires the space, which was once a dining room, and then a concert hall.

There are several successful examples of art spaces in Russian provincial cities: ‘Textile’ in Yaroslavl, ‘Makaronka’ in Macarons, ‘In Rossovbor-One, Smera’ in Kazan and ‘Zarya’ in Vladivosok.
The Rust Belt of Moscow

In Moscow ‘Winzavod’ and ‘Red October’ became the main magnets for the contemporary Russian culture. The centre for contemporary arts in Moscow ‘Winzavod’ (literally in Russian ‘winery’) opened in 2007, it is located in a complex of seven industrial buildings from the 1870-1880s including the former brewery (and later winery) called ‘Moscow Banana’. The architect Alexander S. Brodsky worked as the coordinator of this successful project. Chocolate production moved out of the iconic red-brick Krasny Sokolov ‘Red October’ chocolate factory in 2007. An art-cluster of hip bars, trendy restaurants, contemporary galleries, happenings clubs, designers’ studios, clothing shops and the Strelka Institute replaced the chocolate production. Nowadays it transformed into a bohemian island of art, fun and culture, comparable to a hipster paradise.

The big success of these two pioneering Russian art squats opened the eyes of the city fathers. On the large urban scale the government of Moscow tries to create a polycentric urban structure of the city through the redevelopment of the former industrial zones. The experts convinced the government of the economic efficiency to redevelop the industrial monuments. Also the shortage of scrapyards to dump building rubbish in Moscow forced the authorities to keep the existing industrial structures. During the last fifteen years in Moscow more than forty industrial ensembles were completely demolished. This is one third of all industrial heritage, that survived from the twentieth century (Moskva, RE-Promyslenennia, 1983). Sometimes, because of economic crises, former industrial plots stayed empty after the demolition. The industrial zones had originally been tabooed and therefore acted as urban barriers. The intention in Moscow is to improve the urban structure by opening these territories and even create more connections to increase the urban porosity of the urban fabric.

Also informal groups and young people became interested in the industrial heritage. There are several start-ups and pop-ups in Moscow. The Sabalska skatepark in the Aviator Art Centre (former Aviation factory) and the so-called Odintsovo Youth Plant are interesting examples of this trend. The Odintsovo Youth Plant is 1,800 square meters for active leisure activities of young people. There is an indoor skate park, a streetball zone, a zone of e-sports, an anti-café and a boot camp (training bases for cyber-sportsmen). Young people like to go there and enjoy their leisure time.

Figure 13: Herzog & de Meuron, design for redevelopment of the Badacovsky Brewery in Moscow, an overview, 2018.

Figure 14: Herzog & de Meuron, design for redevelopment of the Badacovsky Brewery in Moscow, a scheme of old and new constructions, 2018.

In 2017-2019 the Swiss architects Herzog & de Meuron produced a controversial and extravagant design for Badacovsky Brewery in the heart of Moscow. A requirement of the preservation committee to preserve the representative riverfront of the factory ensemble brought a spectacular solution to elevate a new structure, a ‘Horizontal Skyscraper’, 35 meters above the old brewery. Since the closure of the brewery in the 2000s, the buildings fell into ruin. Today, from the three original main factory buildings, built on site between 1879 and 1912, only two survive and are protected as monuments. The abandoned centrepiece of the historic ensemble, was recently lost. Herzog & de Meuron decided to make a replica of this third already demolished monument, to be again the heart of the complex. It had to be built anew in solid brick according to its original design, following historical documents.

Figure 15: Herzog & de Meuron, Badacovsky Brewery Redevelopment in Moscow, Panorama from Krasnopresnenskaya Embankment, 2018.

Figure 16: Herzog & de Meuron, Badacovsky Brewery Redevelopment in Moscow, Southern and Northern façades, 2018.

The remaining part of the site is open for new development, within a height restriction of 75 metres. The architects states, that they found it extraordinary and especially appealing to use the opportunity to push such a radically different urbanistic approach in a city which has traditionally preferred tabula rasa concepts, in the Soviet as well as the post-Soviet periods, as so perfectly demonstrated by the nearby examples of the 206-metre high Ukraina Hotel (one of the iconic Moscow Seven Sisters high-rises), the Kutuzovsky neoclassical blocks, and the more recent 356-metre high Moscow City’ (Herzog & de Meuron, 2018).

Herzog & de Meuron designed new elevated buildings of approximately 100,000 m² for residential use. This building does not fly; it rather sits on many slender stilts like an elevated lodge in the forest. The stilts connect the building with the ground and the park like trunks of trees.

Figure 17: Herzog & de Meuron, Badacovsky Brewery Redevelopment in Moscow, River close-up, 2018.

Dutch design for the Silk Factory in Naro-Fominsk

In 2018 an architect Robert Winkel of Mei architects and planners in Rotterdam developed a design for the transformation of the former Silk Factory in Naro-Fominsk to a mixed-use vibrant area of approximately 50,000 m². Naro-Fominsk is a town in the Moscow Region. The industrial site, abandoned from the 1990s, with its dilapidated buildings will be transferred to an attractive small town, a new heart of Naro-Fominsk, with loft-style apartments in old factory buildings and a mixture of shopping, culinary, cultural and sport facilities. The whole area will be mainly car free. The reconstruction of the old factory buildings is sufficient to be reused, while several proposed architectural breakthroughs will bring additional light into the buildings and connect them with each other and their natural surroundings. A renowned landscape architect firm, Felix, also based in Rotterdam, designed the public spaces for this project in collaboration with Mei architects and...
Some Ural-Siberian examples

Already in the 1720s the Dutchman George W. de Hennin had established factories and industrial settlements in the Urals. The already mentioned industrialist Akinfiy Demidov built several factories in Siberia. Thus his copper and silver factory gave birth to the Siberian city Barnaul in the Altay Region. The territory of the former Demidov factory has a collection of industrial buildings from the eighteenth and nineteenth centuries. Since 1995 these buildings have the status of a monument of Federal importance (National monuments) as the Barnaul silver smelting plant. This industrial ensemble formed from 1739 on. It includes the largest factory dam (from the eighteenth century, 500 meters long, 26 meters high) in Russia, factory buildings of the end of the eighteenth century and the first half of the nineteenth century: a weigh house, a forge, a burning workshop, the first and the second smelting factories, and a head office building from the end of the nineteenth century. In 1991 and 2008 the archaeological excavations found many reminiscences of the original structures preserved underground, including wooden pipes from the eighteenth and nineteenth centuries of the hydraulic system and the basements of wooden defence walls of the Demidov factory.

In 2016-2017 an architect from Barnaul, Alexander F. Dering, made a concept design for the renovation of the former Barnaul silver smelting plant to integrate it in the urban fabric of the city centre of Barnaul and to strengthen its extraordinary architectural qualities as an ensemble. He proposed to lower the ground some 1.2 to 1.5 meters to the original level, to remove less valuable later additions, several lost monuments should be reconstructed. The existing buildings and clearly visible proposed additions should give space for hotels, museums, shops, workshops and recreation. The architectural solution is based on a dialog of Old and New. Also the already present variety of the nearly 50 sorts of vegetation should be preserved. Local volunteers supported the work of Alexander Dering. Usually the volunteers work on cleaning and improving the territory on Saturdays. In 2018 the some local enthusiasts formed a team, working on a plan to rehabilitate the Sysertskiy Factory in the Ural Region, established in 1723, whose industrial use ceased in 1997. The Sysertskiy Factory should become a starting point for a recreational touristic centre 'Big Sysert'. In July 2019 in Sysert (post)graduate students will participate in an one-week workshop 'Re-Shkola' (Re-School ) for the design of the redevelopment of the
A well-known restoration architect, the director of the Moscow architectural firm ‘Rozhdestvenskaya’ Narine Tutecheva, will supervise the participating students.

Figure 27: Plan and facade for the Silver smelting workshop of the State Barnaulsky Factory, a drawing by Vasilii Zemkov, 1878.

Figure 28: Architect Alexander Dering, a design for reuse of the First Smelting factory of the former Barnaulsky Silver Plant, 2016-2017.

Figure 29: Architect Alexander Dering, a design proposal for a shelter to protect the Old Dam from 1783 of the former Silver Plant in Barnaul, 2016-2017.

A French-Belgian joint-stock company of Kuznetsk metallurgy mines (Kopikuz) started the large-scale industrialisation of Siberia in the beginning of the twentieth century. In 1915 this joint-stock company Kopikuz built a blast furnace (designed by Olivier Piette from Brussels) for the first coke-chemical plant in Siberia. This blast furnace has an impressive reinforced concrete construction. Kopikuz also planned for a large ore-processing factory at Kuznetsk with a Garden City for the workers (company town). This blast furnace in Kemerovo still exists, but has not been recognised as a monument yet and can be demolished in any moment.

Figure 30: Reinforced-concrete construction of the Blast furnace of the Coke-chemical plant in Tschegdowo (Kemerovo), designed by Olivier Piette, 1916.

Conclusions

In terms of preservation of monuments it is very peculiar that the Russian Ministry of Culture gave a lot of attention to the industrial heritage of the eighteenth century and recognized, even in remote provinces, several industrial ensembles as Federal monuments, while the values of the industrial heritage from the twentieth century is still to be recognized. Erich Mendelsohn’s Red Banner Factory in Leningrad is a true example of such understimation.

Many Russian cities have positive examples of temporary use of the industrial heritage. The government of the city of Moscow tried to develop a systematic approach to the industrial heritage on urban scale. Moscow invited some foreign star architects such as Herzog & de Meuron to revitalize industrial objects. While in the Russian provinces it is very difficult to find a good example of realized projects, there are many inspiring designs made and there is obvious growth of the public awareness for the industrial heritage and attempts to initiate bottom-up projects. Precisely in these provinces, especially in the Urals and Siberia some cities started as factory towns, therefore their factories got a central place and together with rivers and factories’ ponds formed the identity of the historic landscape.

Red Banner Factory


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20-21