STEEL/STILL MEMORIES. Vision and proposals for industrial brownfields of Shougang in Beijing
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This volume marks an important return on considerations developed at different moments on the architectural and urban design with a continuous research.

The redevelopment of the former steel industrial area of Shougang, located in the suburbs of Beijing and abandoned before the 2008 Olympics Games, was produced in an exchange program. Nine Italian students of the Polytechnic of Turin and nine Chinese students from Tsinghua University in Beijing, followed by their teachers, have worked together to redefine the destiny of the Shougang through inspections, analysis and moments of design inside the university.
Once we arrived in Beijing we started, together with Chinese students, to discover our future project area through lectures of professors from Tsinghua University and some employees of urban development. Then we went to the project area to better understand where we should intervene. Once back in Italy we have continued to work together exchanging ideas and material via internet and exposing, to the teachers of the two countries, the works done by video-conference. Everything ended with the arrival of the Chinese students in Turin for the final exhibition, presented at the Castle of Valentino in June 21st, 2012. The aim was to show the results of this experience.

This book deals several issues, starting from the analysis of the state of industrial conservation in Europe and China to reach the definition of those common or divergent characteristics that characterize these two realities. Also aims to illustrate the Shougang area just to highlight the main features and the values that have made this place a pole at the center of political and social debate through the analysis of production processes, the industrial relevance and social repercussions in China.

Workplaces in the past, if they are not converted and rehabilitated become ruins that speaks about an important past without a future. The abandoned area of Shougang can become a place that provides opportunities and to experience new scenarios for reuse. The Chinese masterplan of the government does not take advantage of this opportunity and instead of choosing rehabilitation programs in the area, pursuing the logic of tabula rasa maintaining only some buildings that are important in the production of steel. Often these programs are aimed to promoting demolition speculation and buildings that are preserved are likely to become discarded objects, gigantic ruins and simple places of memory. From the Italian point of view, however, the revitalization of these buildings is the driving force for the rebirth of this area.
Blast furnaces, machinery for the conversion of raw materials into steel, become schools, cultural centers and areas of interchange between rail and pedestrians, silos, emptied of their internal mechanism of coal deposit become research centers and universities, and cooling towers are cleared of their iconic image of pollution, becoming the main ventilation stacks for a new academy of sciences. With a project of conversion of many abandoned buildings and new construction, the area can be considered as the site of a new urban center. An analysis of the Chinese masterplan including the problems and potential defining a new structure and some developing scenario.
STEEL/STILL MEMORIES. Matter, Form, Energy: the unbearable heaviness of Cooling Towers
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One of the most impressive and fascinating architecture of the industrial area of Shougang for form and dimension that we have developed in our thesis are the Cooling Towers, that have become erroneously in the collective immagination the symbol of pollution and dangerous energy production such as nuclear power.

These enormeous curved cones are an explicit antithesis of sustainability. From here the decision to do an operation that is able to find the right balance between heaviness of existence and lightness of the new and the natural environment to the satisfaction of the need to preserve the memory but also to provide an architecture that educate and help us to live better. The need to be informed about scienze and nature as led to the development of the project of the academy of sciences. A scientific and cultural container for a public that wants to know the fragility of the earth and at the same time takes attentions to preserve it. A platform, that incorporates inside the towers and continues the public spaces outside and that performs the double function of the connection and the container, receiving activity of research and education, a library, a natural history museum, exhibition spaces, green spaces and public spaces. This platform is modeled with to link up with the ground and disappear in to the landscape.
The 4 Towers that were incorporated into the project play the double function of chimney and public spaces. All the people who access in the academy must be able to admire and contemplate the beauty of these structural plastic and architectural elements that create a space solemn, almost as if they were the cathedrals, where you can find a sense of peace. The light that filters from the top and from the pillars placed at the base of the towers, however, gives it a sense of spirituality. These architectures, a time necessary to cool the water in the industrial processes, now contain pleasant public spaces. Each towers plays a different role. The towers of the mirrors is the only one completely public and the mirrors, of various sizes, ranging down from above reflect the light and fragments of reality. The other towers, instead, lead other activity. The first one incorporates inside sound installations, the second includes a multimedia and interactive spaces, the last one incorporates inside a sphere of steel and glass to create and ideal natural habitat.
For this thesis project are also studied the energy and environmental themes, with a research that has focused mainly on aspects of the microclimate, production and energy optimization, along with environmental and social issues. Water, green and energy have become our main project themes. The green roof provides rainwater that treated is used for the toilet and irrigation of green areas inside and outside the building. Part of it is integrated with the water supplied from the aqueduct and used in potable uses and in the heating system. The production of electricity occurse through photovoltaic system, integrated in the architecture, which make it self sufficient in termes of energy. The towers serve as ventilation chimneys and allow natural ventilation which serve to control the temperatures of the interior.
3A_Architectural models, 3B_Environmental strategy of the building, 3C_Internal view of the cones near the Cooling Towers

Using better the renewable resources and the project characteristics it facilitates the culture of energy conservation and environmental protection. This project must be and educational model, demonstrating how people can live and work in a way that respects the environment.

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