

Reuse of a container crane

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Container ships are evolving and in the last ten years have doubled their size, meaning that cranes also have to double their size. These modifications represent additional costs and important changes in the activity of the port. Engineers contend that in most cases it is economically more viable and reliable to buy new cranes than adapt old ones. The situation in seaports is changing and some of these structures are for sale, some are abandoned but most of them are being disassembled. Ports are introducing great changes to most waterfront cities. Some search public recreational use, maintaining public viewing areas and parks, some shift their activity to real estate. This frontier between land and water welcomes restaurants and commerce. Leisure, takes a dominant position and questions the future of the ports.

At the end of a mechanical era we assist in the decline of the machine. Most of the work produced by machines has become computerized and digitized. The first industrial machines were related to the human experience and we perceived their movements as extensions of our own. Machines represent the most emblematic element of the modern period, humankind's victory over nature. Today many machines, updated by contemporary technology have lost the quality that relates to human values and we have lost the mechanical understanding of the machines we use.

Machines are constantly evolving replacing previous versions. The machinery when outdated is dismantled, and we face an important question about what can we do with them. This project explores the possibility of recycling outdated machines. This research focuses on a specific machine, a container crane.

Engineers involved with both design and construction of the cranes suggest the intervention to keep the same flexible qualities. The crane is a flexible structure and any addition to this construction has to respect it. Any rigidity in the additional parts would make them very vulnerable. "The most recent revolutions in building materials no longer result from the discovery of new materials but from mixing them." The guideline for the project is the integration of additional bodies made of steel structure and containers surface, providing the flexibility suggested by the constructors.

The more technology a group has the more dominant is the architecture. Their relation with the environment expresses this victory. The control of nature, creating artificial environments and revealing the capacity to turn a wasted structure into an inhabitable building for public use. The new spaces will have a public exhibition of different mechanisms. Old and new machines will be placed along a new sequence of spaces. The promenade along different paths and rooms of the project will inform about particular events for artists working with machines Learning and experiencing machines is a process in time The visitor will understand both the spirit of the surrounding area and the mechanical aspects of the structure. The crane will maintain its mechanical functions.

The use of already made or existing materials is an old one because it is convenient. These materials are cheap and it is a way to

recycle containers integrating them to the crane's great structure. This work has the aim to recycle, investigate and make use of existing materials.

The new spaces in the crane will be available for public use. Temporary and permanent exhibitions, old and new machines will be placed along a new sequence of spaces. The promenade along different paths and rooms of the project will inform about particular machines.

McCarter argues that *"architecture, as the grounding of experience in place, has to do with static, balance, and the distribution of structural forces in order to allow this essential rooted condition. Machines, on the other hand, are essentially concerned with motion, as the conversion of energy into work, and may move through space from point to point: machines may thus be understood as belonging to no place."* Mobile and conceived for everywhere they also create roots in time with each place. Cranes have added a new meaning to the most significant elevation of the city, the waterfront. An accessible space to the upper levels of the machine, will give to the public the possibility to experience the place revealing the industrial environment of the port and the "materiality" of machines.

Learning and experiencing machines is a process in time. My aim is to transform one machine into a building. The visitor will understand both the spirit of the surrounding area and the mechanical aspects of the structure and walk through the interior of a great machine

The experience to access the port and go up on the crane is an exciting one. *"The tower can live on itself: one can dream there, observe there, understand there, marvel there; as on an ocean liner one can feel oneself cut off from the world and yet the owner of the world."* This possibility is now exclusive to few employees that work for the terminal, but waterfronts being returned to urban life will give a new perspective of the city itself.

Inspired by the environment the project proposes the experience to access the port and go up on the crane. *"The tower can live on itself: one can dream there, observe there, understand there, marvel there; as on an ocean liner (...) one can feel oneself cut off from the world and yet the owner of the world". This possibility is now exclusive to few employees that work for the terminal. The observatory is located over the city and gives a new perspective of the city itself. "When one goes up there, he leaves behind the mass that carries off and mixes up in itself any identity of authors and spectators. An Icarus flying above this waters, he can ignore the devices of Daedalus in mobile and endless labyrinths far below."*

Waterfront developments throughout port cities are based on major financial investment. Housing, services and commerce are connected with great infrastructures and an increasing interest in public space. Accessibility and public space is of major importance at the waterfront area.

The confrontation with three Architect's work Manuel Vicente Expo'98 Lisbon proposal with floating fragments of boats that are inhabit along the waterfront and Lebbeus Woods vision for War territory in Sarajevo at the waterfront and Manuel Graça Dias renovation of Gas tower for the South entrance at the Lisbon Expo'98. These study cases are visions of alternative Waterfront renovation. Mapping the industrial structures. Machines are used as metaphor for reusing or converting into architecture. Perhaps closer to the visions compiled in

the book - The future seen by our Grand Parents. Which offer alternatives to the increasing similar waterfront renovation produced worldwide.