

Form and Structural Invention in the Work of Riccardo Morandi

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Summary

The work of Riccardo Morandi (1902-1989) combines an intrinsic belief in progress with a singular sensibility to history and landscape. His projects are often related to site and culture, but also to something Morandi thought ‘must’ be said and that expresses progress as a natural “course of history”, as a part of the human being. Structural conception, nature of materials, mathematical models and project design, becomes parts of a whole – the design process – and must be investigated together to create a shape that springs from the aspirations of our society and reflects our needs. His wide knowledge of mathematical models and static theories allows him to imagine audacious forms and conceive new ways to approach their construction.

The work of Morandi traces a strong relationship between design and static conception, and shows a special awareness of the role of architecture in qualifying the environment.

Keywords: Riccardo Morandi, prestressed concrete, cable-stayed structures, bridges, infrastructures, post-tensioning, environment.

1. Toward a new approach to structural engineering

Morandi was often faced with urbanized areas, realizing infrastructures, restoring or designing new buildings, always dealing with the complexity and contradictoriness of this kind of projects. He believes in progress and holds a personal sensibility to landscape, both natural and anthropic, that leads him to conceive his projects often relating them to site and culture; but also to something he thought ‘must’ be said, something that expresses progress as a natural “course of history”. Morandi thought that «not only the engineer has the right, and the task, to solve the aesthetic problem parallel to technical-structural one, but he also has a fundamental role in the control of economics, productive and environmental transformation processes, on which a constructive - socially oriented - culture must be involved»^[1].

During his formative years he was faced with the buildings damaged by the earthquake of 1908 in Calabria and Sicily. There he learned the expressive possibilities of structure conception in a historical context, within urban areas and particularly sensitive environmental contexts. «Renaissance and baroque architectures, domes, apses, vaults, damaged or falling», in a «hand-to-hand struggle with the noble and diversified forms and techniques of the past»^[2]. For Morandi «the answer to a structural problem coincides with the most ‘historically’ correct solution, and - in this way - the work acquires a value that comes from the univocity of its shapes»^[3]. This apprenticeship helped him to deal with cities in the reconstruction years after the second world war.

When working in urbanized areas Morandi always «made a distinction between historical city and suburbs»^[4]. In historical centres his approach become more careful and articulated, balancing between innovation and interpretation of the relationships within the urban context. Those types of works are often reduced to the essence, to the minimal “number of signs” possible; though moderate and humble, those projects aim to be elegant. This is not a mimetic approach, nor a renouncement to ‘project’, but an active foray into the domain of art.

Totally different is his attitude in the suburbs. There the purity of shapes he adopted in historical contexts give room to a more authoritative approach, and to the autonomy of architecture