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The logo consists of the letters 'CHS' in a white, serif font, centered within a solid black square.

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SIXXI: Storia dell'ingegneria strutturale in Italia.
SIXXI: The history of structural engineering in Italy

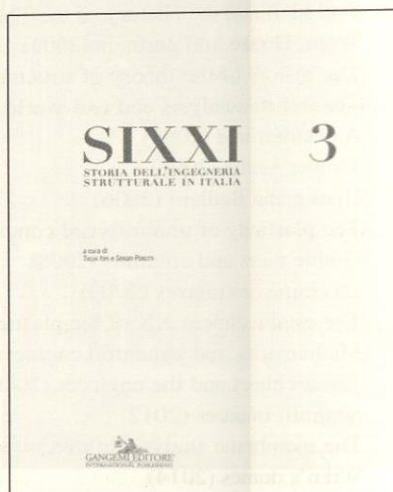
Tullia Iori & Sergio Poretti (Eds)

Rome: Gangemi Editore. Vol.1, 2014, 159 pp. Over 300 black/white and colour photos. ISBN 978-88-492-2830-4. €25. Vol.2, 2015, 159 pp. Over 300 black/white and colour photos. ISBN 978-88-492-3036-9. €25. Vol.3, 2015, 159 pp. Over 300 black/white and colour photos. ISBN 978-88-492-3166-3. €25.

Finally! This is the first overview of Italian contributions to construction in the modern period that I have seen since the expanded edition of Arturo Uccelli's *Storia della tecnica dal medio evo ai nostri giorni* in 1945 that bedded construction in Italy into the general history of technology. This ambitious work undertakes to reveal developments in iron and then in reinforced concrete on the Italian peninsula, contemporary with, and equal in originality to the iconic French, Swiss, Austrian and German structures of the nineteenth and twentieth centuries. It shows engineers, theoreticians and contractors in Italy to be compeers with those we understand to be structural pioneers in other countries.

Before unification of the country between 1861-71 technological development was complicated by the division of what has since become Italy into French and Austrian spheres of technological influence, with a large Vatican State that long tended to neglect the issue of technology. Thus there could not really have been a truly Italian history of structures before the 1870s. The situation becomes more coherent after unification, and an identifiable Italian approach, especially to engineering education and theory, begins to emerge. The Istituto Edoardo Benvenuto, its founder and members have produced monographs and articles on the scientific side of construction in Italy, demonstrating that the Italian contribution to the science and method of structural understanding, especially the Savoyard before and during unification, has been substantial. Yet, the physical side of construction has been hitherto largely neglected.

A group of researchers at the Università degli studi di Roma Tor Vergata under Tullia Iori and Sergio Poretti have begun to remedy this with an initial, three-volume, profusely-illustrated essay on structures and engineers. More are planned. This essay that presents a profusion of material not seen before, takes the unusual form of a collage: a series of excellent photographs to whet the appetite visually, followed by specialized articles that deal with individual issues such as the development of theory, engineers, projects, materials, building methods, computerization and testing, followed by a kind of 'fotoromanzo' (a typically Italian mode of popular presentation in photographs supplemented with text, (analogous to the intellectual versions of the French 'bande dessinée' or the Japanese manga) that presents an intense overview of a field. The intention is not at all to trivialize its value to construction history: on the contrary. The collage of presentation forms the authors have chosen runs the full range from visual and popular, over documentary, to analytical and scholarly, and it presents a panoply of approaches that clearly intends to appeal to a broad range of readers and instil in them the excitement of technology and the joy of discovery. While the content is truly revealing and fascinating, the graphic design is a little chaotic and it takes a moment to navigate it properly. But the effort is well worth it. Excellent abbreviated English translations of the articles provide international scholars with enough information to link the images into a coherent narrative.



A fact that immediately emerges is the Italian builders' border-crossing capabilities in structural engineering and architectural design, the fruitful collaboration and interchange between practitioners, theoreticians and contractors, and their consequent fascination with the relationship between structure, material, and the exploration of form. This obviates a clear distinction between architect, industrial designer and engineer in Italy and is a situation well known from Italian furniture and lighting design in the post WWII period. This relationship has not been hitherto explored in structural design. It has occasionally been touched upon in the work of a few individuals such as Nervi, Musmeci, Morandi, and Mangiarotti in concrete, and more recently that of Piano. Much more is tantalizingly presented here in embryonic form, which leads one to discern a possible cultural if not national attitude to structural design. In order to establish this cultural characteristic further, an examination of Italian structural designers in the diaspora, especially those that left for South America during the Fascist Period, would be in order - Bruno Violi in Colombia comes to mind. The researchers may discover that, although they believe that they discern a decline in an 'Italian school' of structural thinking after 1970 - at least in Italy itself with the paralysis in inventiveness introduced by the increasing complexity of the economic-political situation, that Italian construction culture has simply migrated through the emigration of many gifted designers and theoreticians. What the authors may find lies in the future, but Iori and Poretti, and their researchers have laid an inspiring foundation here.

The ambitious scope of this project is impossible to describe without a long list of (until now) hardly known names and structures. In reinforced concrete they range from the Ponte Risorgimento of 1901 in Rome by Hennebique's agent Porcheddu, to Mattè-Trucco's Fiat Works, the Torre Velasca by BBPR in Milano 1957, the well-known structures of Nervi, (including Ponti and Nervi's Pirelli Building 1958), Morandi and Musmeci, the lesser-known ones of Zorzi or Miozzi, and the gamut of splendid bridges on the Autostrada del Sole. All this supported by Innocenti's scaffolding, the contractors beginning with Porcheddu, the testing and research work at the ISMES Institute in Bergamo under Oberti and Danusso on the foundation of theories developed from Menabrea in the 1860s via Cremona and Castigliano to Santarella in the 1930s. These are only some of the better-known highlights in concrete. There are also surprising developments in iron structures like the bridges of Cotterau, a contemporary of Eiffel who developed a very similar system approach to iron construction, or the chain-stiffened suspension bridge over the Tiber in 1863 - fifteen years earlier than the celebrated Point Bridge in Pittsburgh.

After the breathtaking, initial display of fireworks in the first two volumes, the third volume begins to focus on individual issues in depth: Hennebique and Porcheddu's Risorgimento Bridge or the panoply of structures on the Autostrada del Sole. It is to be hoped that this in-depth study will continue in further publications to establish once and for all the significant Italian contribution to the history of modern construction; their progress can be followed on the SIXXI website (<http://www.tulliaiori.com/SIXXI/>).

Tom Peters