

ABOUT NERVI'S APPROACH TO DESIGN

By Herbert M. Noyes, Jr.

Structures. By Pier Luigi Nervi; translated by Giuseppina and Mario Salvadori. F. W. Dodge Corp. (New York) 1956. 118 pp., illus. \$6.95

Top: Stress analysis of hangar (1940). Center: Turin Exhibition Building—Main Hall (1948). Bottom: New Tobacco Factory, Bologna (1949).

Few indeed are the ranks of the true "master builders" in our times, and of these few, none speaks so clearly to each of us (who fulfill only part of his far ranging function) as does Pier Luigi Nervi.

Nervi has combined a basic mathematical and engineering education, forty years of designing and building reinforced concrete structures, and an instinctive esthetic sensitivity to produce a succession of truly significant architectural achievements.

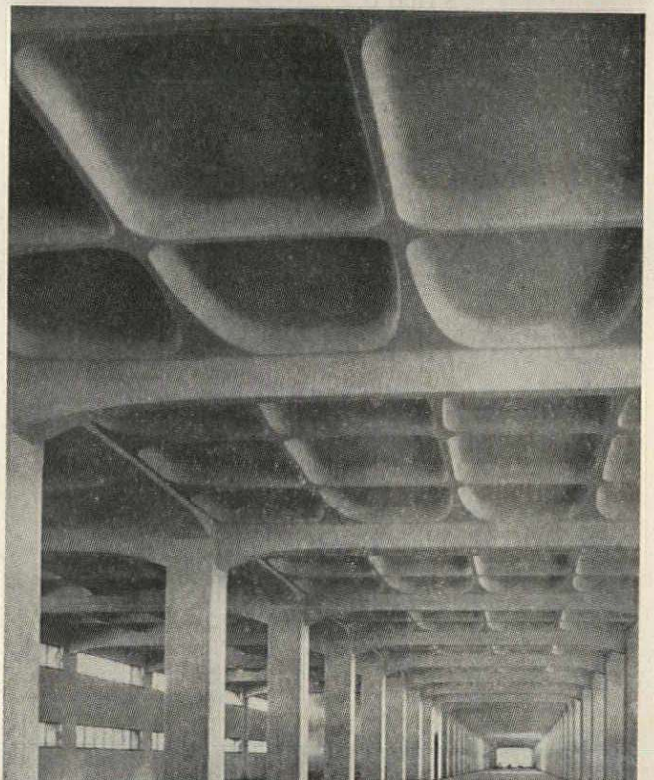
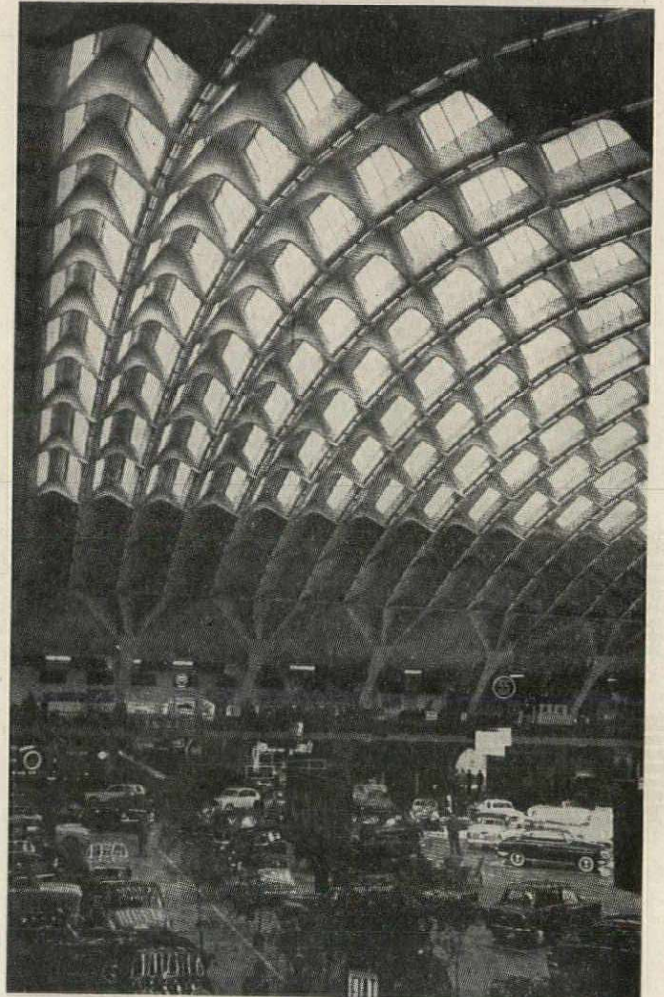
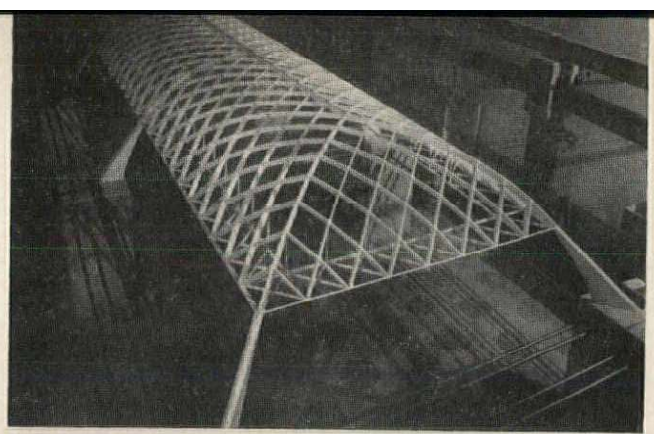
As founder of the famous Italian company, "Ingg, Nervi and Bartoli," Nervi has produced his masterpieces under an economic pressure dictated by Italy's unusual (to us in the United States) system of building. Design solutions to fulfill the client's needs are submitted competitively with construction cost bids. This system produced all of Italy's significant works in the last fifty years, according to the author, but would appear to be less sure of success in this country where the prosaic rather than the imaginative is generally the economically sound approach.

Nervi's earlier works, represented by the Florence Stadium and the great precast lamella hangars, are only relatively more conventional in design than his later work. They indicate his continuing search for "truth" in design as he sees it: namely that intuitive interpretation and expression of structural phenomena give economy of means as well as unexcelled architectural beauty.

Nervi's wide-angled approach to the whole world of construction is probably only hinted at in this relatively small book. One wishes genuinely to hear more of his philosophy of the education of architects, a subject which seldom lacks for protagonists of many persuasions. Developments of intuitive feelings for structure are more important to him under certain circumstances than lofty academic theories.

He speaks of the responsibility of the client (particularly governmental agencies), for the overall quality of the architecture of any nation; and explains why competitions have failed in the past and how to make them successful in the future. In regard to reinforced concrete, he decries the lack of research toward advancing design analysis methods

continued on page 62



Required Reading

Continued from page 58

to keep up with the need of many imaginative designers, and stresses the need for continual and widespread experimental work in skin resistant structures. He has fostered the model stress analysis technique where applicable for problems without theoretical solutions.

For the past ten years his efforts have been largely directed toward freeing reinforced concrete design from the limitations of wooden formwork. Nervi's carefully worked out solution to the problem was the invention of "Ferro-cemento". An ingenious method of using maximum percentage of steel in the form of wire-mesh and minimum percentage of high-strength cement mortars in very thin sections enabled him to eliminate forms entirely for radically different smaller structures; to use "Ferro-cemento" forms for large repetitive structures and to precast light-weight parts for spanning a huge space with relatively inexpensive techniques.

Nervi has certainly achieved more daring results with reinforced concrete than even his great predecessors, Perret and Maillart, but still he envisions reinforced concrete flowering into form in architecture which will characterize our culture for scholars of the future. "Its structural limitations are hard to foresee, . . . [and] the amazing results achieved so far will be easily surpassed."

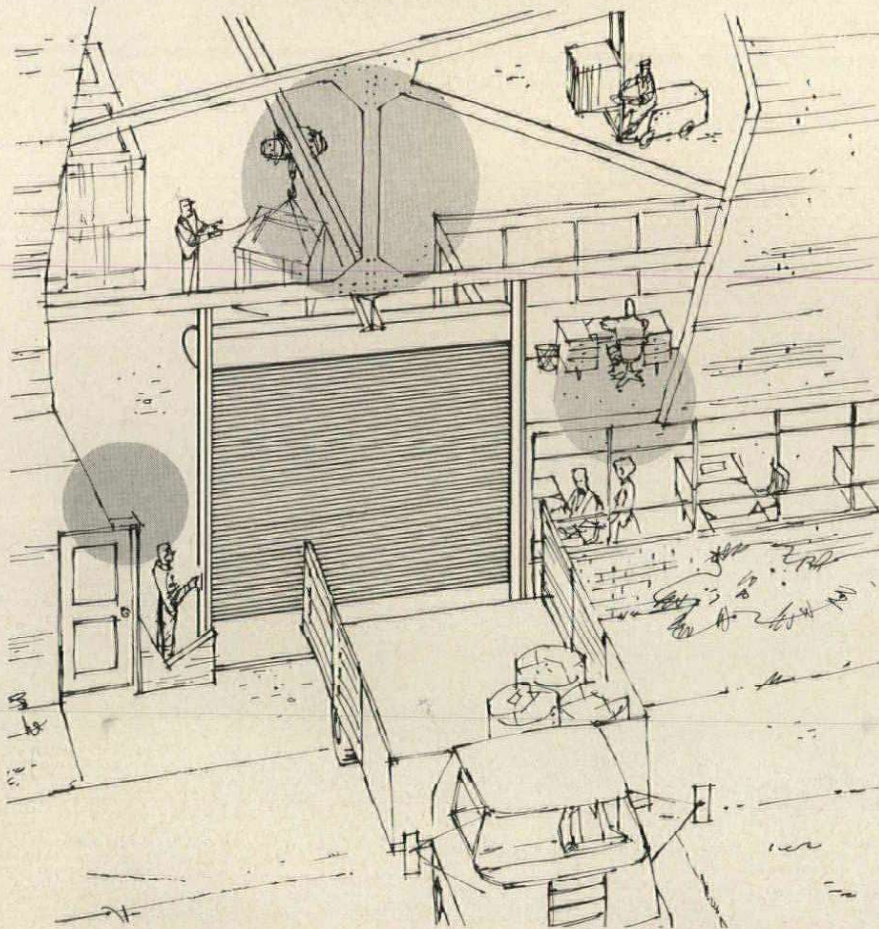
With such a man as this speaking —enthusiastic, humble and dedicated —how can we help but listen and be inspired?

Technical References

Research On Fire

This hardbound volume is a report to the National Fire Protection Association's Committee on Research, describing the facilities, personnel and management of some of the agencies engaged in research on fire. Its primary value to architects would be as a guide to what research is being done, how it is conducted, and sources from which information would be available. Some results are noted. *National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass. 183 pp., illus. \$5.00.*

more reviews on page 286



Balfour rolling steel doors "add" all this usable space

...and insure complete security

Only rolling steel doors combine all these features

- **Space Saving** — Balfour rolling steel doors coil into a single compact unit above the opening . . . valuable adjacent and overhead areas remain unobstructed.
- **Extra Security** — Balfour's all steel construction assures positive protection against theft and vandalism, fire and wind.
- **New Time-Labor Economy** — Speedy up and down action is virtually effortless, whether operated manually or by motor.
- **Durability** — Balfour quality rolling steel doors last for decades under the most extreme conditions. Maintenance costs are minimal. Accidentally damaged slats may be replaced easily and inexpensively. Heavy zinc coating provides extra resistance to corrosion.
- **Ease of Application** — Balfour doors are simple to install and adaptable to all types of construction. They are custom manufactured to any size requirements.

See Balfour's new catalog in Sweet's Files. You'll find it one of the most comprehensive and easy-to-use guides to service, fire and counter door specifications ever presented. For your personal copy write to Balfour today.

Balfour
rolling doors

Walter Balfour & Co. Inc. Brooklyn 22, New York