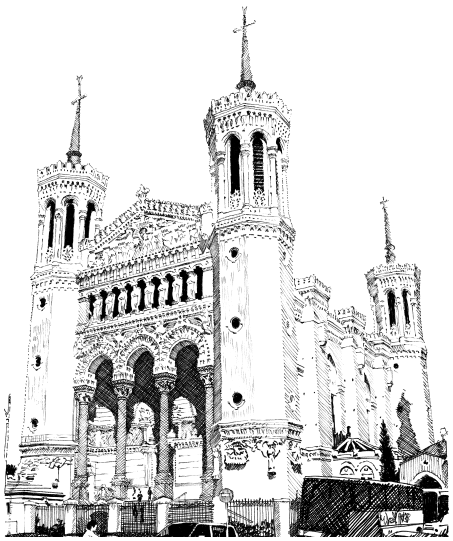
# ARCHITECTURE

**EHLINGER & ASSOCIATES** **SECOND QUARTER 2001**

## N. D. de Fourvière Basilica

Notre Dame de Fourvière, this issue's limited edition print by Ladd P. Ehlinger, is the Basilica of the city of Lyon in central France. Fourvière is said to derive from the Latin "Forum vetus" which relates to the forum that was the heart of the Roman colony named Lugdunum established here in 43 BC after Julius Caeser conquered all of Gaul. Forums were where all of the important civic, legal and religious buildings were located along with the major commercial buildings by the Romans when they built a city. This Forum was where the esplanade is in front of the Basilica on the tallest hill of the city. It lasted until AD 840 when it is said to have collapsed, probably from an earthquake. The Roman theater, Odeon and aqueducts survived and have been recently restored to the degree that they are stabilized against further decay.

This Basilica is a famous place of pilgrimage, designed by one architect named Bossan and another named Perrin. The design was commissioned by the Monsignor de Genouihac, the Archbishop of Lyon, in fulfilment of his vow to build a church here if the enemy did not sack the city in the Franco Prussian war in 1870. The church is the dominant element in a complex that also includes a large Chapel to the Virgin situated to the right of the Basilica on axis with the central towers seen on the right side of the nave. There is a complete duplicate church in the basement of the Basilica, which is artfully handled because one is not aware it exists from the exterior. Yet it has extraordinary light and entrances that match the main Basilica.

The Basilica is an almost bizarre blend of medieval military architecture with Byzantine forms and motifs. The four octagonal towers, with their crenelations on their tops and machicolations that corbel them outward from the shafts, provide sharp visual terminuses to the corners of the building, while the Byzantine arches, both large and small, along with the surface textures and decorative motifs, almost "dance" between these limits. At the rear or east facade, there is an apsidal end which envelops the altars on both levels and is mostly glazed so that it is a lighted beacon on the top of the hill for the entire present day city below.

The interior is fully Byzantine with three gilded domes decorated with mosaics, and framed over decorative columns and arches. Statues commemorating the Virgin and other saints abound throughout and there is a stone slab embedded in the floor recalling the visit of Pope John Paul in 1986.

Lyon is an extraordinary city situated at the confluence of the Rhône and Saône Rivers. It is a strategic location geographically as well, functioning as a cross-roads for all points of the compass. Because of its age and continued occupation by man for 2,000 years, there are many interesting things to see. Historically, it was a center for fabric manufacturing. Today, it is an important manufacturing center in metalworking and mechanical engineering with foundries, vehicle assembly plants, electrical goods and petro-chemicals. It is well worth the trip.

## COMPUTERS IN ARCHITECTURE

E&A has seen the Architectural profession progress from a totally "hand-done" profession to one in which nearly all functions are performed on computer. We began our architectural practice in February of 1967 with two drafting boards equipped with parallel bars, various plastic triangles and scales, several mechanical pencils and sharpeners, a slide rule, various water color and casein tubes and brushes, a 'Leroy' (mechanical) lettering set, a set of 'Rapidograph' India ink pens, and a used IBM Selectric typewriter. Reference books consisted of Architectural Graphic Standards, several other texts, Sweets Catalogs and a few other manufacturer catalogs. The total investment in equipment was probably less than $500 (the equivalent of ~ $4,000 today). Every building and every component within it had to be "calculated and drawn by hand from scratch".

In 1978, we purchased a Wang minicomputer and computerized the functions of structural analysis and design, word processing, job cost and accounting, and real estate investment analysis. We also began to write steel framing connection design software, which was finished in 1985. We then keyed in the CSI specification system that we had previously acquired, so that all specs could now be job-specific edited and thus printed in the original for each project.

In 1982, we purchased a DEC mini computer, with four Tektronix graphics terminals, a Hewlett Packard pen plotter, and 'Palette' CADD software. No library symbols existed -- no data base of any sort existed. We had to create it. When we created the data base of symbols and com-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pleted details, we did so within the organizational structure created by CSI in the early 1960's wherein every product has a unique number within a framework numbering system, just as we had done with the specifications.

We began to look at these data bases as "pre-done work". As such, our thinking changed about the work itself, as well as how we produced the work. We began to "atomize" the data. Each bit of data was handled in as small of a discrete element as possible, categorized in a way where it was retrievable and reusable in another project. If we had to develop library symbols of hollow metal door frames for instance, then we developed all possible types of hollow metal door frames in a structured library. Then as the details of how those door frames were connected with the wall structure, all possible combinations necessary for that project were developed, but in a framework for and in the data base, such that it could be reused and added to in the future. Details now began to be developed for the data base first, then assembled into the drawing sheet for the specific project. Senior personnel reviewed these details before they were approved for the data base and thus the project.

The tools of the computers and software changed not only the process of producing the service and product, but they changed the product itself.

More details could now afford to be developed and placed within the project drawings. This prevents claims by contractors as there was less guesswork. The data base became as important as the software and hardware to us. When we migrated from the Palette system to AutoCad, we wrote software to translate our database first and ran both systems side by side for a year. Today, manufacturers of products send us disks or have available for downloading via the Internet with all of the pertinent details of their products that we need to incorporate them into a building.

Another change in the product itself is in the presentation type drawings. Today we do color and B&W photo realistic renderings on computer - in the past we watercolored or B&W inked hand done drawings. Compare the Edgar P. Harney School in New Orleans above, done on computer with the hand done rendering of the PHI heliport in Morgan City, LA. There aren't any time savings, but there is a large increase in the quality of the presentation drawing. We also can now do multiple color drawings such that an animated video of the building can be produced and given to the client. While this can be afforded only on the largest projects, the capability exists.