



EHLINGER & ASSOCAITES

ARCHITECTURE

SECOND QUARTER 1994



NORMAN FARMHOUSE NORMANDY, FRANCE

This issue's limited edition signed print by Ladd P. Ehlinger is of a typical Norman Farmhouse near LeHavre, Normandy, France. These types of houses are indigenous to northern Europe, but particularly in the Normandy section of France and in Germany. However, most Americans associate this type of construction and "look" with the English Tudor style, yet ironically this "style" was probably brought to England by William the Conqueror's troupe in 1066 AD.

In the architectural profession, this type of building is known as vernacular construction. It is native to the region, having forms developed over many centuries in response to problems posed by the environment by application of the latest, most advanced materials and technology of the times (even though today architects consider the technology quite crude). During the time of the development of this type of construction, there was very slow technological development of building materials, and the forms ring true architecturally as applications of the technology. Many people consider these buildings "quaint" and "charming".

The "look" (actually the form and schema) of the building derives from the response to the environment. There is a base of masonry, stone and brick, that functions as a water table. That is, the

masonry base places the wooden portions of the building above the damp ground, above the level of the *rising damp* within the masonry itself, and above the region of splattering rainfall, so that the wooden portions will not be alternately wetted and dried and thus not be subjected to fungus rot.

Rising damp is a phenomenon caused by capillary action within the pores of the masonry where the water in the ground will rise within the masonry and cause the wood to be wetted sufficiently to rot. The vernacular builders noticed that the water would only rise so high for a given type of masonry, and built the top of the masonry base higher. The vernacular builders also noticed that the wetter the wooden portions were, the more likely they were to rot. Today, we know that the fungus rot (so called dry rot) can only flourish when the moisture content of the wood is above 19% and below 86%. If the wood is dry, the fungus can't live. If the wood is wet, the fungus can't live.

Above the masonry base is a wooden frame (called *colombage* in Colonial French) that is exposed with an infill of either plastered brick or stone masonry (called *briquelette entre poteaux* in Colonial French, as in Lafitte's Blacksmith Shop in New Orleans), or wattle and daub, or cob.

The wooden frame is strong and easily erected, and allows for horizontal wooden spanning members - beams or trusses. Wood was plentiful in northern Europe at the time these structures were developed. The wood was treated with linseed oil or an heavy oil base brown paint to protect against the moisture exposure.

Wattle and daub is a woven system of twigs, sort of a basketweave, that is plastered over with mud. The twigs reinforce the mud and serve as a framework for it. A cob wall (called *bousillage* in Colonial French, called *bauge* or *torchis*

in modern French) is similar to wattle and daub, as it is straw and twig reinforced mud (with moss added in Louisiana). It is difficult to tell simply from looking at the finished wall as the exterior appearance of all three types is the same.

The roof surface is of thatch, a semi-woven membrane of straw that is tied together with cord and tied to the supporting wooden frame with cord. It is quite thick and tightly bound causing the water to run to the exterior perimeter before it can drip through to the interior of the building. It is so thick and contains so much dead air space that it also functions as thermal insulation, very necessary in the northern climate. The overhang of the roof is generous enough to keep the rainfall off the masonry or wattle & daub infill (which can dissolve when wetted) and the wooden frame. Sometimes, very small roofs called *auvent* are constructed over beam overhangs to keep the water off.

There are three different types of thatch employed in Normandy: rye straw, wheat straw, and reeds from the west bank of the River Seine. The reeds are considered to be the best, lasting as long as thirty years when properly done. To further assist the waterproofing of the thatch, a mixture of clay and peat is frequently spread over the thatch to *la faite de la chaumiere* (the top of the roof). In this are planted irises, which make a spectacular bright blue flower when they bloom in the spring. The roots of the plants reach down into the thatch and suck up the residual moisture from the rains - and delay the onset of rot.

For the times when these buildings were developed, they were a superior response considering the technology of the time, and the form of the buildings was directly attributable to that response. Today, we have better technology, different technology that leads to different forms when properly designed.

There is a downside to these traditional buildings also. People today will not endure the consequences of this downside: the rising damp is exposed on the inside of the masonry that is exposed as the bottom half of the wall in the room, often giving a damp, musty odor to the room and causing high maintenance with painting and/or replastering of the interior surface. There is a joint in the total wall at the juncture of the masonry to the wood, limiting the total height of the wall when high winds are to be resisted. The mud plaster infill dissolves when wetted. Since the rain does from time to time get blown horizontally, the replacement or maintenance of the mud plaster is frequent. The wooden frame also requires frequent maintenance or replacement for the same reasons, as the linseed oil does not add that much life to the wood. Today, when the wood is replaced, it is replaced with treated timber, and then painted brown.

The straw in the wattle & daub or cob, and in the thatch, rots when wetted. Vermin will breed in the thatch. It is such a problem that today some houses have thatch made from plastic straw or reeds.

Consequently, these buildings make no sense today other than as a living record of our history.

THE HUNTSVILLE SCENE

Before beginning her third year at Auburn University, architecture student Melissa C. Teng chose to give her field - and her skills - a trial run by interning for the summer with Ehlinger & Associates in Huntsville. As the daughter of a pediatrician (Mom) and a computer specialist (Dad), Melissa balances her artistic sensibilities with natural scientific and computer abilities which will give her an advantage as technology increasingly changes the architectural field. She came to architecture after trying premed for two years.

Melissa's experience at Auburn includes participation in the construction of the Natchez Sundial Park in Seaside, Florida which features a sundial, a ziggurat, and two obelisks. Next year she will spend a quarter with other Auburn architectural students in Greensboro, AL tackling the problem of designing and constructing a home for a low income

family by combining both nontraditional methods and materials with traditional materials used in unconventional ways.

Ehlinger & Associates welcomes Melissa for the summer and wishes her success in her future endeavors.

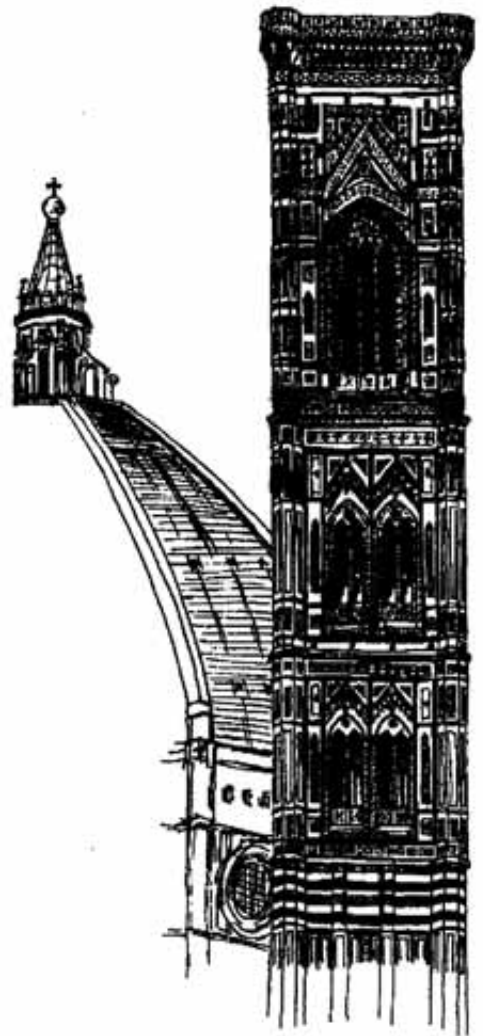
WORLD OF WORK MENTOR

E&A is proud to be a participant in the Orleans Parish School Board World of Work Academy Program this summer. This is a new, innovative program initiated by the School Board to reverse the problem of high school dropouts long before it actually occurs. The concept of the program is to involve the business community as mentors in motivating and inspiring young students who are 11 and 12 years old - before they are so vulnerable to peer pressure in their teen years.

Ideally, the student spends time with the "mentor" business to observe the importance and utilization in the practical world of work of the academic subjects he is studying in school. It is believed and hoped that the student will be more interested, inspired and motivated to learn in the future vulnerable years of junior high and high school if he perceives the reality of the necessity for what he is learning.

The first student that E&A has mentored (for two weeks, three days a week) is Charles Harper, a student at the Lawless School in the Ninth Ward. Charles is 12 years old and will be 13 on August 25th. He has a 25 year old married sister named Carle, and a one year old brother named Nicodemus. He likes to play basketball, to read, and to play video games. His favorite video games are Joe Montana Football and NBA Jam. Charles' favorite subjects in school are life sciences and math. He took to the E&A CADD computer as if he was born to it!

There are 1,300 students in the World of Work Academy program in this first year of operation. The School Board buses the pre-teen students to the participating business in the entire metro area. It evaluates the them and the businesses upon completion of each term. It invites evaluation by the participating businesses. E&A commends the Orleans Parish School Board for this worthy program that we are enjoying participating in.



*Campanile, Duomo di Santa Maria Del Fiore
Florence, Italy
May 1st, 1994
R. Perrin Ehlinger*

AUBURN STUDY ABROAD

The sketch above was one of many done by R. Perrin Ehlinger for the just completed school quarter spent touring various European countries. The class visited London, Scotland (Glasgow & Edinburgh), Paris, Ronchamp, Milan, Florence, Rome, Venice, Vicenza, Verona, Vienna, Prague, and Amsterdam.

If you think this was all play, think again as he has 15 semester hours riding on the reports and projects that he has to finish over the summer. All of the projects will be displayed at Auburn University in the Fall.

Hopefully, Perrin will be willing to share more of his sketches with us in future issues, after he has secured the grades in the courses, of course.