ARCHITECTURE

EHLINGER & ASSOCIATES SECOND QUARTER 1990

TEMPLE OF AMMON, MUT AND KHONS AT LUXOR, THEBES, EGYPT

The ancient Egyptian temples were of two main classes; the mortuary temples, for ministrations to deified Pharaohs; and the cult temples, for the popular worship of the ancient and mysterious gods. Mortuary temples were always associated with the royal mastabas and pyramids as offering chapels. Cult temples began in the worship of multifarious deities. The essential elements of a cult temple were a rectangular palisaded court, entered from a narrow end flanked by large pylons and having within them a representation of the deity. Inside at the other end of the court was a pavilion, which contained a vestibule and sanctuary. The vestibule was often a 'hypostyle hall', a colonnaded structure with controlled, mysterious appearing and dramatic sources of light which illuminated hieroglyphic inscriptions on decorative columns. The sanctuaries frequently had multiple chapels about which there was free circulation, as processions wee a feature of the periodic festivals celebrated during the year, some of them for days at a time. The whole temple stood within a walled enclosure, and about it were houses of he priests, official buildings, stores, granaries, and a sacred pool or lake.

The Temple at Luxor (1408-1300 B.C.), though founded on an older sanctuary, and like most temples altered and repaired subsequently, is substantially the work of Amenophis III, except for a great for a great forecourt with pylons, added by Rameses II. The temple was dedicated to the Thebian triad, Ammon, Mut and Khons. This issue's limited edition signed print by Ladd Ehlinger illustrates the forecourt with the papyrus-bud shaped capitals on the columns and a seated colossus of Rameses, looking toward the sanctuary. The statues between the columns in the background are the deities. The bud shaped columns are 24' high and comprise twin colonnades connecting the sanctuary with the hypostyle hall leading to the forecourt, which was never finished by Amenophis.

IF YOU'RE GOING THAT WAY

Sometimes a most curious and architecturally interesting place is just off the beaten path and if "you're going that way", you may want to take a short side trip well worth the extra time.

This new feature of the E&A Newsletter list some out-of-the -way but especially interesting place which have some sort of architectural value...esthetic, historical, educational, odd, etc.

COUTANCE, FRANCE (Normandy)

The Cathedral: Perhaps the only Gothic cathedral completely built in one generation, resulting in pure harmony of design. Countance is not far from the spectacular Mont St. Michel.

FLORENCE, ALABAMA (North Alabama)

The Stanley Rosenbaum Home, designed by Frank Lloyd Wright: Located next to the offices of the School Board. Mrs. Rosenbaum is usually quite happy to show you around her home while telling you the most interesting stories of how it was to be Mr. Wright's client. The home is in excellent condition and has been al-

E&A FEATURE ENGINEER

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Mr. Habisreitinger has over 30 years experience in civil and structural engineering. He has strong leadership skills which enable him to carry out the responsibilities of Chief Engineer on large projects.

He has been the Chief Engineer for the following projects: two Ft. Polk (LA) Barracks complexes, where he was responsible for both site work and structural engineering; design of the structural system and the foundation for a seven story waffle slab building for LSU Medical School; and design and construction manager of a water and sewerage utility system serving portions of rural St. Tammany Parish in Louisiana.

Other design and supervision include: Post Theater for Redstone Arsenal, AL, HITL/MITL Test Facility for Boeing, and a Science Building for the University of Alabama in Huntsville.

SLIPPIN' & SLIDIN' (AND TRIPPING) ...FALLING & INJURY

The most common claim against a building owner and his architect is that of a slip (or trip) and fall by the general public. In today's litigious world, the lawyers 'shotgun' sue everyone involved in the construction of a building when their clients slip or trip and fall and are injured in the use of the building. It is unusual for an owner to fail toe properly maintain the walking surfaces of his building, or for the architect to improperly design them, or for the contractor to improperly construct them. The unusual does happen. Curiously though, the lawyer usually always overlooks the other half of the phenomenon of a fall - the shoes his client/user was wearing, and the designer/manufacture of those shoes.

When the owner fails to maintain the walking surfaces, it involves failing to keep them dry or clean with the proper type of finish recommended by the manufacturer of the surface. Water acts as a lubricant and encourages slipping. Excessive or the wrong type of wax produces the same result. A failure to maintain worn or damaged surfaces will result in tripping, such as torn carpet or worn expansion joints. Differential settlement of subsidences can differentially raise adjoining surfaces, producing a tripping hazard.

When the architect fails to design the walking surfaces properly, it commonly is in the areas of failing to choose the proper material for the type of exposure, such as a slick indoor type of paver on an exterior surface: or failing to properly design the stairs, either in the riser or tread dimensions or the shape of the nosing, especially at a landing: or failing to properly design thermal expansion and contraction and settlement, producing a tripping hazard.

All risers (height of the steps) of a stair should each be the same dimension within a tolerance of 1/8"+/- as should each of the treads (width of the steps). This facilitates the rhythm of walking. An abrupt change of these dimensions from one step to the next will disrupt the rhythms and produce a trip. The Life Safety code, which is adopted by most all buildings codes in the United States, prescribes that the maximum height of a riser in a building with public access should be 7" and that the width of the tread should be no less than 11".

This is a change from previous standards of 71/2" risers and 101/2" treads, partly to accommodate the handicapped.

The Life Safety Code recommends that no nosing (the part of the tread that overhangs the riser below) be used at all, or if used that there be no hook hazard for the handicapped. The thinking is that walking impaired people 'hook' the toe of their shoes on nosings. This is a change also from previous standards, and is the subject of much contention and debate for the following reasons.

Non-impaired (normal) walkers actually walk with a somewhat shuffling motion, with the feet advancing and retreating more than they actually have to, to maintain walking rhythm. The nosing on a stair provides a space for the toe forward projected motion on the way up the stairs, and for the heel projected motion the way down the stairs. Stairs with no nosings will be a trip hazard for normal walkers, stubbing the toe on the way up, and propelling the heel on the way down, both causing a loss of footing and a fall. The compromise is to design a nosing at an angle, such that the impaired and non-impaired walkers are both accommodated, (no hook hazard and a space for the foot movement) per the illustration.

When the architect errs in the nosing design, it usually is at a landing at the top of a stair run. The nosing is frequently omitted due to structural considerations of stair stringer suppport to the landing structure.

When the contractor errs in the construction of the stairs, it usually is at the landing location also in failing to implement the architect's design properly (if esigned properly), and in the riser heghts and treads width at both the top and the bottom. Usually the design will call for a number of equal risers within a total height, and a number of equal treads within a total length. Th econtractor fails ro preform the arithmetic division properly to determine the exact riser and tread dimensions, and places the remainder of unequal dimensions at teh top and or bottom of the stair-the first an d last riser and tread are then sufficiently different from the remainder of the steps to disrupt the rhythm of walking..

Strangely, it wasn't until recently that ANSI (American National Standards Institute) 117.1, the Handicapped Code, Prescribed standaards for walking surfaces, defining slopes, allowable holdes in the surfaces and vertical projections that were allowable, for handicapped persons only along the accessible route to the building. The Standard Building Code, the Uniform Building Code, the National Building Code do not prescribe any standards for slip resistance of trip hazards. All of these codes presume that the designer and builder are doing the right thing, whatever it is. A previous edition of ANSI 117.1 did prescribe slipperiness standards by means of a coefficient of friction standard, byt it has been subsequently removed from the standsard due to an inability to acheive the same results every time with the testing equipment availavle for testiong walking surfaces and shoes.

The phenomenom of slipping is th eloss of friction between the shoe and the

walking surface. It takes both surfaces to produce this friction, and this is waht is so curious about the lawyers overlooking the shoes.

It is true that architecture is a learned profession, that there are universities that teach architecture. Every state requires architects to pass an examination to be licensed. There are building code committees comprised to industry, designers and government officials which set standards for the design of walking surfaces. It is also true that the manufactureers of building materials test these materials extensively for all sorts of properties, including their slipperiness and appropriateness of use.

Conversely, there are no universities with schools of shoe design. There is no licensure of shoe disigners. The design of shoes is a craft preformed by tradition by the manufacturers of shoed, with no published theory and no codified standards. As a consequence, many shoes are designed and manfactured without regard for their safety in their interaction with walking surfaces, only for their fashion and sales appeal. The manufacturers of women's shoes are particularly culpable, and many of these shoes are particularly dangerous, especially tall high heels and clogs.

Any shoe with a leather or plastic sole and or heel is more dangerous than thoes with rubber. Thus, when the lawyer allegedly faults the design of the walking surface, he may have the wrong half! A properly designed and built walking surface can still be slipped on if you have on dangerous shoes. Perhaps teh designer and manufacturer of the shoes, as well as the purchaser, should bear the blame in that case.