



Fig 16.16 Arabian "Takhtabush"

A common architectural feature of homes in Arabia for thousands of years. Also known as a "Tablinum" in the Roman era, as found in villas at Pompeii

relative areas of the differential heating zones, as well as their character. For example, a large, hot, exposed courtyard contrasting with a medium size, lush, shady courtyard.....Hang onto your hat's in the takhtabush ! The same design principles have been discovered in the ruins of Roman villas at Pompeii, they called this feature a "tablinum". These passive, or static cooling systems work best in medium to large buildings, where a considerable volume of air is to be manipulated, and, they work particularly well in dry, desert type climates, especially when designed around a courtyard type house, for courtyards with high walls allows cool night air to sit in pools for most of the morning, reservoirs of coolness, seeping into the rest of the building, a natural temperature regulator..

SOLAR RADIATION CONTROL

Your eyes are receptive to only a very limited portion of the electro-magnetic spectrum, visible light, as described by a rainbow. There is much more ! Audio frequencies, through Infra red (heat) past ultra violet and beyond. to gamma rays and X rays. What this actually means is we are living in a Virtual Reality, for what we see is not what we get. Every thing around us is pulsing, glowing, throbbing with electro magnetic energies. The virtual reality of our lives (the Temporal reality) is a

complete and utter deception as to what is there and what is actually transpiring. There is a veil over the eyes, so that simple beings may live their simple lives without distress, so they are not disturbed by the astounding sight of the three dimensional electronic force field, that completely enmeshes them !

So, having scared the living daylights out of you, how do we control the impact of these awesome energies upon a building ? External shading devices for walls and windows, and light, reflective pastel colours for exterior surfaces and roofing. White is best of all, and historically widespread throughout the traditional architecture of Arabia, Mexico and other sundrenched lands.

How many times do you see unprotected windows in so called "Tuscany" styled buildings ? How many times do you see dark coloured roofing ? Appropriate for Antarctica, but not for most of Australia ! No wonder buildings overheat. You need light coloured walls and roofing, correct eave overhang on the North, but no Northern verandah, as this will prevent Winter Sun access. Put verandah's on the South, East and West, but not the North unless the climate is such that Winter heat gain is not required. Remember, the eave overhang at the top of the North wall, must project out far enough to cast the entire wall into shadow in Summer, and reveal it in Winter. The mid season equinox being the transition point.

Tinted glass windows are of some benefit, but in temperature extremes, the glass will still overheat and re-radiate and "themalise" the room. The answer for large expanses of unprotected windows such as office buildings is tinting and double glazing. For smaller window apertures, where the correct eave overhang cannot be achieved, or for existing buildings, where they have "blown it" completely, adjustable, mediterranean style awnings allow rejection in Summer, and admission in Winter.

A verandah fitted with angled blades, set at the equinox transition works well, but wooden blades are maintenance prone. galvanised steel, or aluminium blades are preferable. The blades are also available as adjustable systems, worked by a crank handle, or motorised, and controlled by heat sensors to maintain room temperature automatically.