

WATTS TOWERS CONSERVATION PROGRAM
SPECIAL REPORT
EARTHQUAKE DAMAGE - OCTOBER 1-6, 1987
VANDALISM DAMAGE - SEPTEMBER 14, 1987

BACKGROUND

Earthquakes caused damage to the Watts Towers on October 1 at 7:43 a.m (6.1) and also after other earthquakes (5.5 and smaller magnitudes) which followed. Special visual inspections of the sculptures were performed September 15 & 18 and October 1, 2, 6, & 9. Photographs of obviously damaged areas were taken. Portions of the sculptures which became dislodged were photographed and the pieces were placed in labeled containers for possible replacement at a later time. Vandalism damaged the East-to-West overhead connector from the east point of the wall to the ship on September 14.

SUMMARY OF DAMAGE

Earthquake damage has been identified in

- > Ship of Marco Polo spire and overhead connectors from the Ship to the wall (the East-West connector was damaged by vandals), where almost two dozen small pieces of mortar and decorations became dislodged and the spire top tilted 10 degrees after the 5.5 earthquake;
- > Patio Floor where a crack appeared through the patio;
- > Rodia House facade where new cracks appeared at the base of the east column;
- > East Tower where cracks appear to have widened and lengthened in several vertical legs near the base.
- > West Tower, Center Tower, Gazebo, and Walls where small pieces of mortar and decorations were found on the patio floor after the first, 6.1, and second, 5.5 earthquakes.

SUMMARY OF PHOTOGRAPHS

VANDALISM DAMAGE TO SHIP OVERHEAD CONNECTOR - PHOTOGRAPHS 01 & 03

EARTHQUAKE DAMAGE

TO SHIP - PHOTOGRAPH 02
TO PATIO FLOOR - PHOTOGRAPH 04
TO RODIA HOUSE FACADE - PHOTOGRAPH 05
TO NORTH WALL - PHOTOGRAPH 06
TO EAST TOWER - PHOTOGRAPHS 07, 08, & 09
TO GAZEBO - PHOTOGRAPH 10
TO CENTER TOWER - PHOTOGRAPH 11
TO WEST TOWER - PHOTOGRAPHS 12 & 13

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VANDALISM DAMAGE
September 14, 1987

Overhead Connectors from Ship to Wall

The morning of September 15, the East-to-West overhead connector from the Ship of Marco Polo to the junction of the north and south walls was found to have been damaged, probably by a vandal climbing over the Rodia wall and applying loads to the overhead connector in gaining entry. Photograph #01 shows the overhead which has lost the mortar and decorations, exposing the steel reinforcement still in place. Photograph #03 shows some of the mortar cover and decorations found under the overhead on the patio at the east of the Ship between the north and south walls. Photograph #14 shows the connector (center of photo) and a North-to-South connector after the vandalism.

EARTHQUAKE DAMAGE
October 1 and 4, 1987

Ship of Marco Polo

Inspections on October 1, 2, 6, and 9 revealed damage to the superstructure of the spire and additional damage to the overhead connectors from the Ship to the walls. There is a possibility that the earlier vandalism had loosened the mortar, contributing to the subsequent losses during the earthquakes.

The top two feet of the spire were found to have been tilted at a 15 degree angle to the north after the 5.5 earthquake which followed the 6.1 earthquake. Photograph #02 shows the spire top tilted (top of photo).

Patio Floor

A ten foot long crack was propagated in the patio floor in a ENE to WSW direction between the Center and West Towers by the earthquakes. Photograph #04 shows the crack running from the lower left corner of the photo to the center near the black patio cover.

Rodia House Front Facade

The vertical column at the east end of the facade was severely cracked near the base by the earthquakes. Photograph #05 shows the horizontal and vertical cracks at the bottom center of the photo.

Junction of North Wall and Rodia House Wall

An existing crack at the juncture was widened by the earthquake. Photograph #06 shows the vertical crack, left center of the photograph, left of the rear entry through the north wall.

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Rodia House Chimney

The south and north external surfaces of the chimney show hairline vertical cracks as a result of the earthquakes. Photograph #15 shows the north face of the chimney, right side of photo, with a vertical crack near the intersection with the east face (with large hole).

East Tower

Existing small cracks in three vertical columns of the East Tower were widened and lengthened by the earthquakes. Photographs #07, #08, and #09 show these vertical cracks.

The growth of these cracks before and after the earthquakes has been of considerable concern in the long-term conservation of the sculptures. These three columns were originally repaired in 1979 and re-repaired in 1981 and 1985 by the Office of the State Architect (OSA). The surfaces were waterproofed on February 19, 1985 after the most recent OSA repairs were made on this tower.

Center Tower

Existing small cracks in vertical columns of the Center Tower were widened and lengthened by the earthquakes. Photograph #11 shows one such vertical crack.

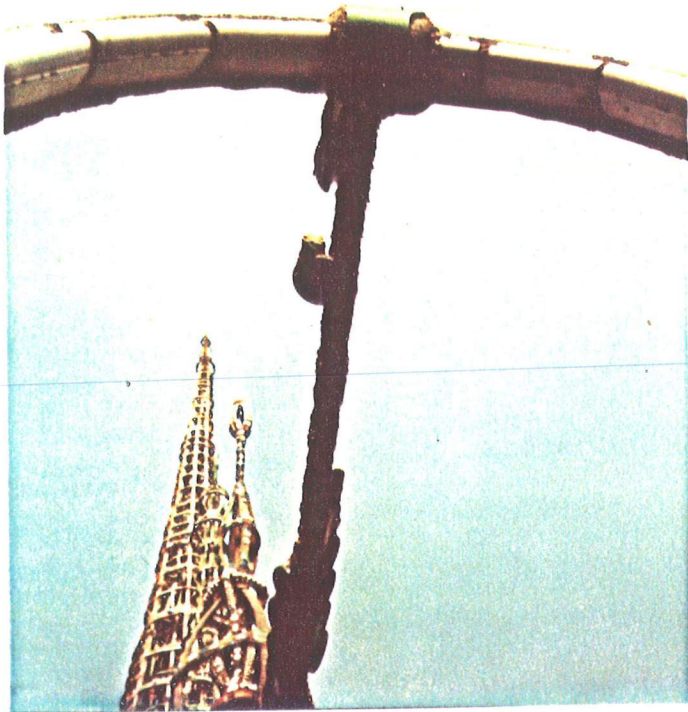
Gazebo

Existing cracks in a long, arched column in the Gazebo was widened by the earthquakes. Photograph #10 shows the 6-foot long crack running from the lower center (rear) to the upper left-center of the photo.

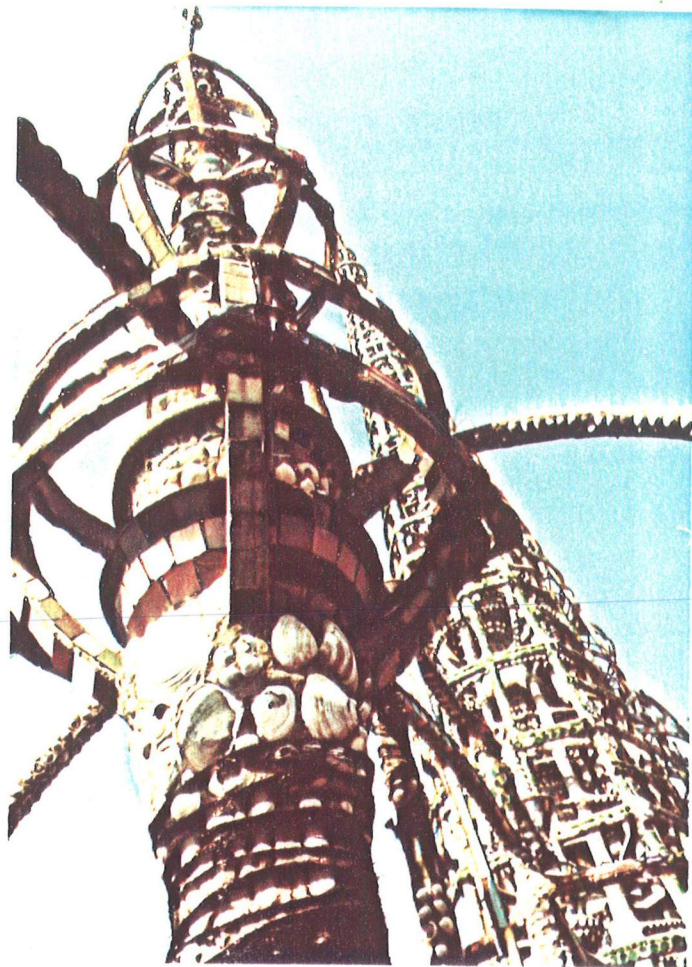
The growth of this crack before and after the earthquakes has also been of considerable concern in the long-term conservation of the sculptures. The Gazebo was originally repaired in 1978 by the City of Los Angeles contractor and re-repaired in May 1985 by the Office of the State Architect (OSA). The surfaces were waterproofed in May 1985 after the most recent OSA repairs were made on this tower. Other cracks had developed before the earthquake and are also of concern.

West Tower

Existing small cracks in two vertical columns of the West Tower were widened and lengthened by the earthquakes. Photographs #12, and #13 show these horizontal cracks.

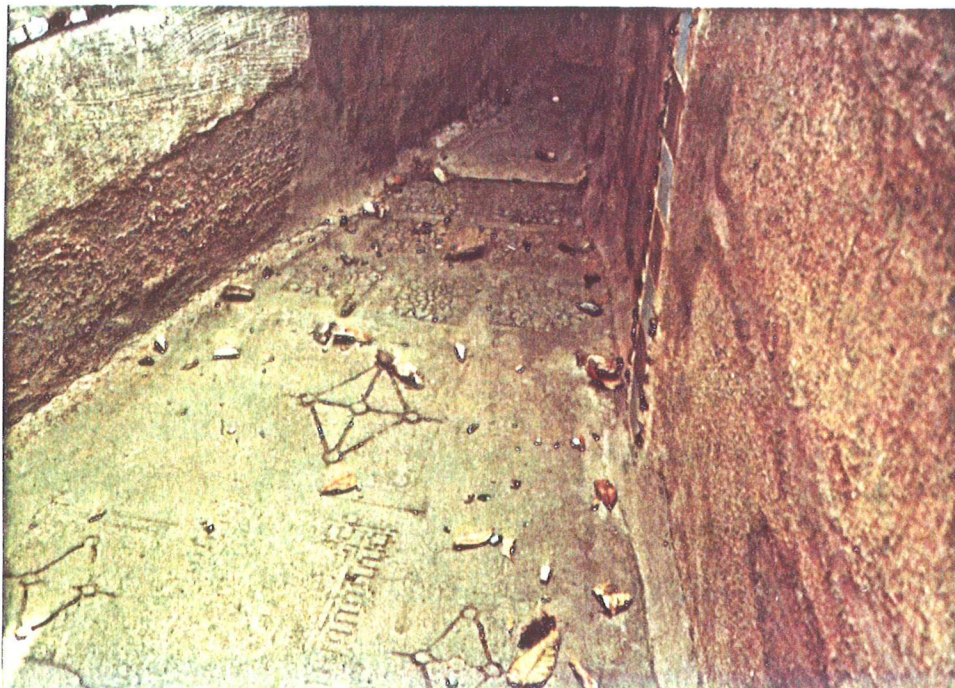


PHOTOGRAPH #01 VANDALISM DAMAGE
9/14/87 TO OVERHEAD CONNECTOR
PHOTOS #01-03 BY M.L. BOYD



PHOTOGRAPH #02 EARTHQUAKE DAMAGE
10/04/87 TO SHIP SPIRE, NOTE TILT
TO NORTH COMPARED WITH PHOTO #01

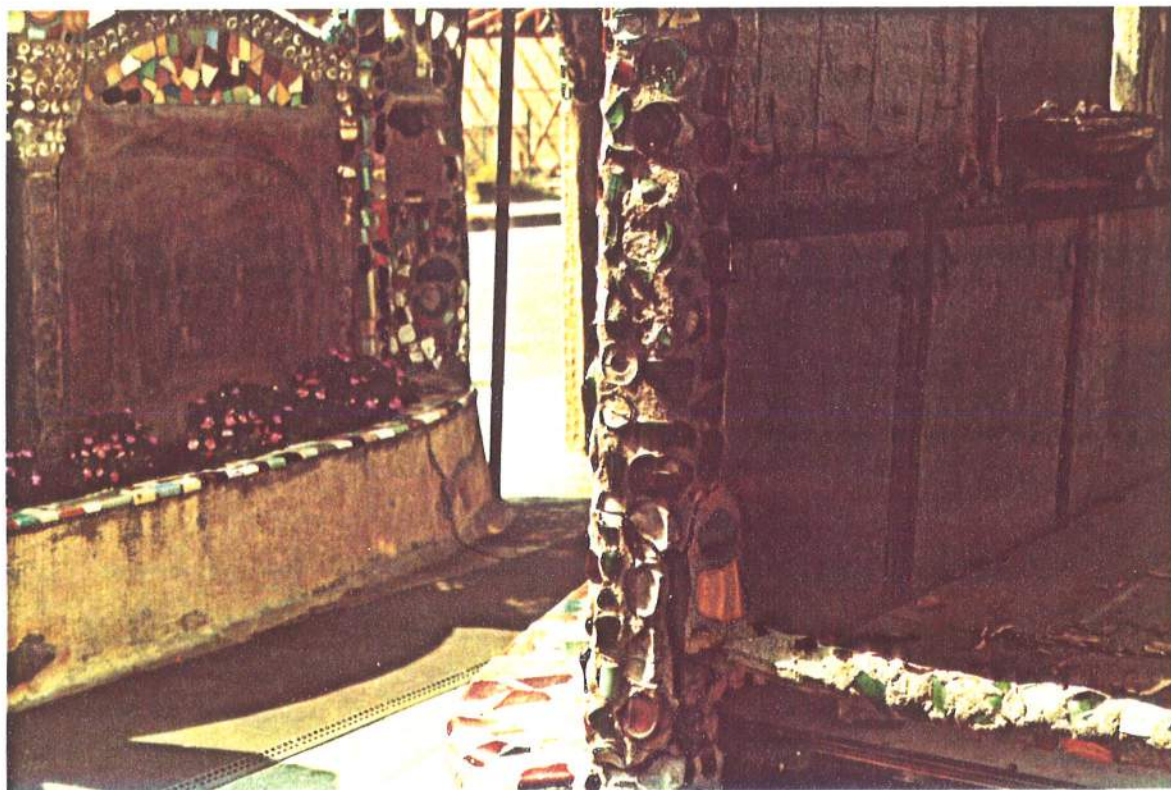
PHOTOGRAPH #03 VANDALISM DAMAGE
9/14/87 PIECES FROM E-W OVERHEAD
FALLEN TO PATIO





PHOTOGRAPH #04 EARTHQUAKE DAMAGE 10/04 TO PATIO FLOOR BETWEEN CENTER AND WEST TOWERS PHOTOS BY N.J. GOLDSTONE

PHOTOGRAPH #05 EARTHQUAKE DAMAGE 10/04 TO RODIA HOUSE FACADE EAST COLUMN, LOWER CENTER OF PHOTOGRAPH.





PHOTOGRAPH #06 EARTHQUAKE DAMAGE 10/04 TO VERTICAL JOINT BETWEEN NORTH WALL AND RODIA HOUSE FACADE

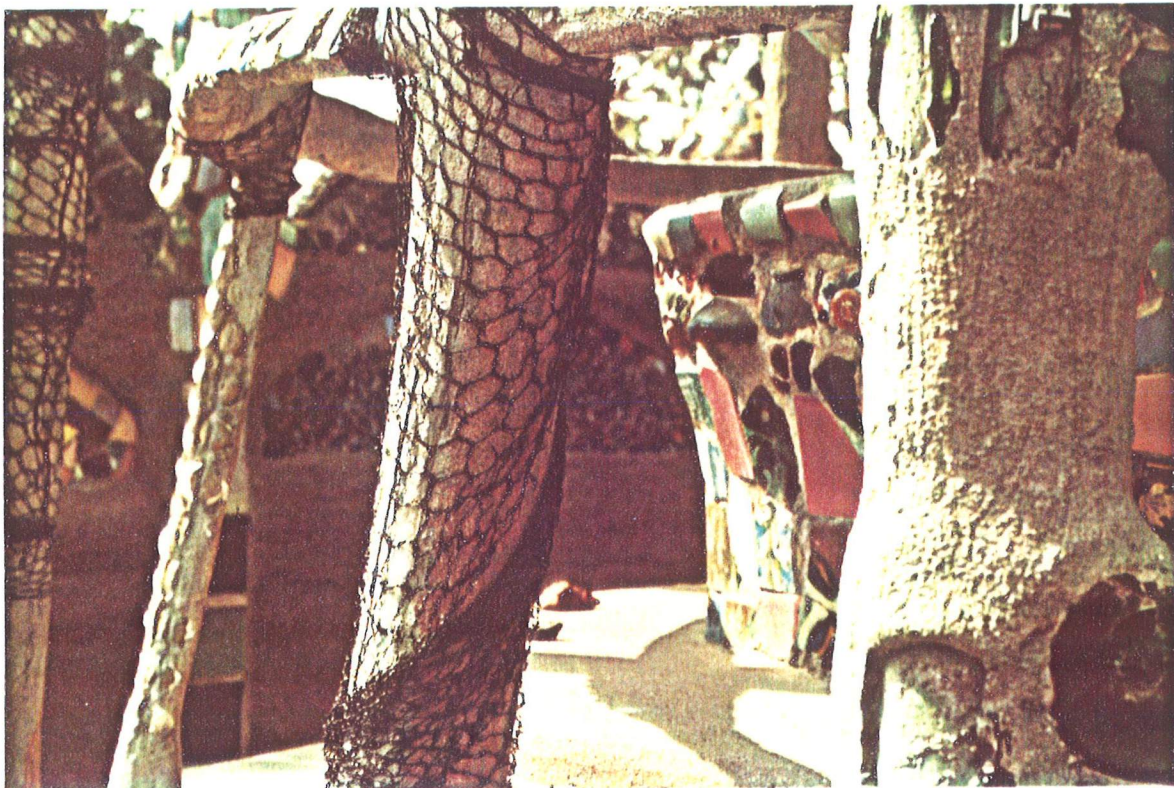
PHOTOGRAPH #07 EXISTING CRACK WIDENED BY EARTHQUAKE DAMAGE 10/04 TO EAST TOWER COLUMN #6





PHOTOGRAPH #08 EXISTING CRACK WIDENED BY EARTHQUAKE DAMAGE
10/04 TO EAST TOWER COLUMN #8

PHOTOGRAPH #09 EXISTING CRACK WIDENED BY EARTHQUAKE DAMAGE
10/04 TO EAST TOWER COLUMN #2





PHOTOGRAPH #10 EXISTING CRACK WIDENED BY EARTHQUAKE DAMAGE 10/04 TO GAZEBO ARCHED COLUMN #2, CENTER REAR OF PHOTO

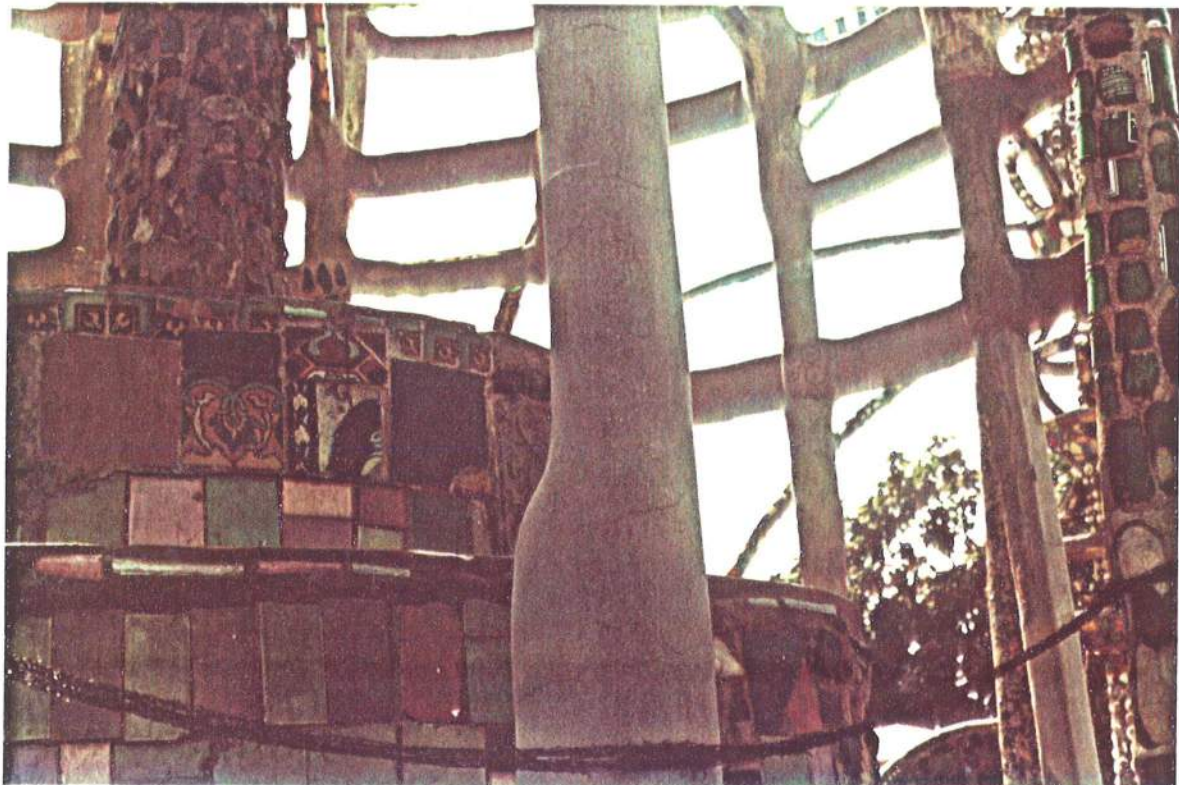
PHOTOGRAPH #11 EXISTING CRACK WIDENED BY EARTHQUAKE DAMAGE 10/04 TO CENTER TOWER COLUMN #8

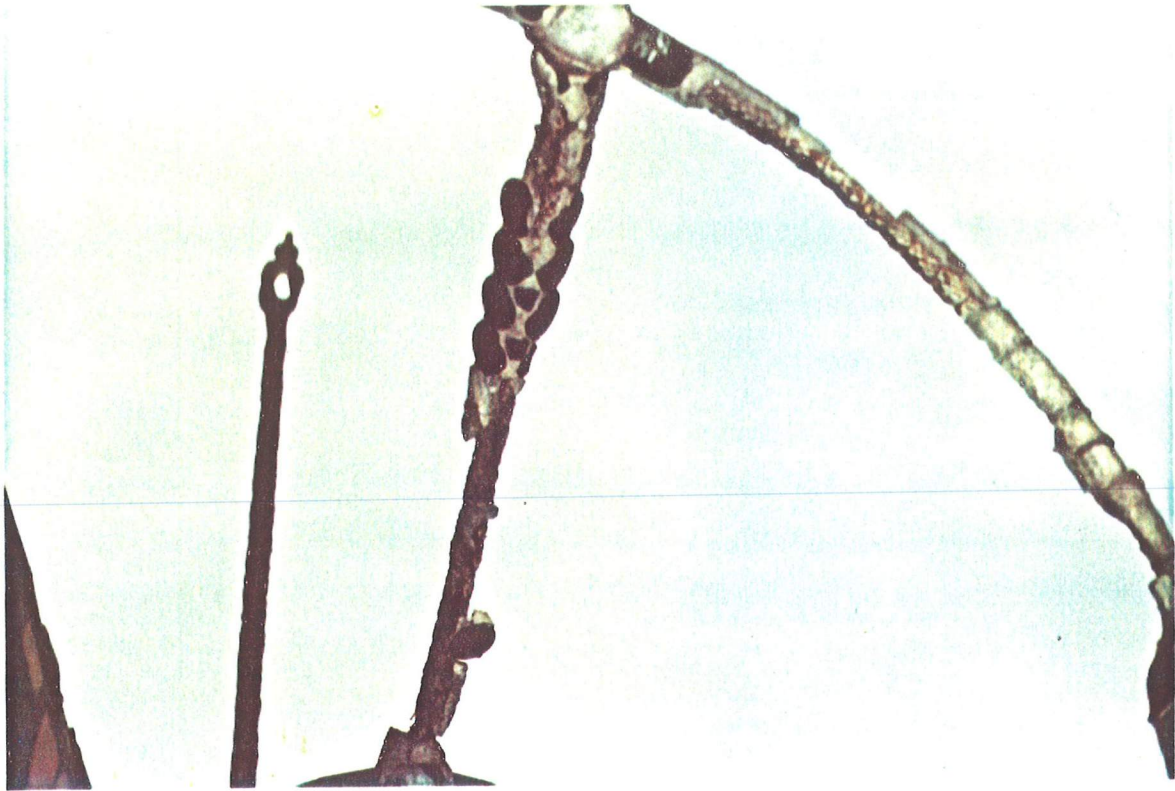




PHOTOGRAPH #12 EXISTING HORIZONTAL CRACKS WIDENED BY EARTHQUAKE DAMAGE 10/04 TO WEST TOWER COLUMN

PHOTOGRAPH #13 EXISTING HORIZONTAL CRACKS WIDENED BY EARTHQUAKE DAMAGE 10/04 TO WEST TOWER COLUMN





PHOTOGRAPH #14 EARTHQUAKE & VANDALISM DAMAGE TO OVERHEAD CONNECTOR

PHOTOGRAPH #15 EARTHQUAKE DAMAGE 10/06 TO RODIA HOUSE CHIMNEY

