



Section C

301/C

Utilizing simulated samples of traditional rock and wall paintings of Sri Lanka to verify the methods of conservation

T D N Perera

Department of Architecture, University of Moratuwa, Katubedda, Moratuwa

Research is necessary in painting conservation to determine the applicable conservation methods. In view of the fact that it is unfeasible to use preserved archaeological monuments to carry out research, it is acceptable to use monuments with ruined paintings for this purpose, for instance, Thuparama at Polonnaruwa citadel and Kandyan Galmaduva. All layers of these paintings exist without the paint layer. Therefore, repainting is the only task necessary. In cases where using these image houses is not possible, researchers of painting conservation need simulated samples that accurately model the structure and function of traditional rock and wall paintings. However, the major limitation of doing this research is the absence of information on production processes of paintings. This study formulates a method of production of simulated samples and determines the relationship of these samples with their respective originals. Information on traditional recipes was obtained from traditional technical texts that list the same material. Samples of paintings were analyzed to determine their structure and composition. Four main variations and nine sub variations of the technique were found. Production processes were reformulated using this information, samples were produced and their behavior and pattern of decay were compared with the respective originals. The rates of absorption, transmission and evaporation of moisture and thermal movement were the main parameters of behavior compared. The samples were subjected to artificial ageing and their patterns of formation of defects were compared. A distinct analogy existed. Further analysis of behavior and patterns of decay led to the finding that two categories of samples can represent all traditional Sri Lankan rock and wall paintings. The samples of category one, produced on rock support were composed of a lime-based ground, lime paint-receiving layer and mineral paint. Samples of category two were produced on baked brick support. They consisted of a clay ground, white clay paint-receiving layer and organic paint. Behavior and pattern of decay of these samples were compared with the respective originals and a distinct relationship was observed. These findings confirmed that the samples were true simulators of their originals. It was therefore established that two categories of samples could accurately simulate all traditional Sri Lankan rock and wall paintings.

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4s7ni@qsl.net

Tel: 2650301 - 7122, 2517044, 0716212365
