



Section C

301/C

The feasibility of renovation interventions, cleaning and reintegration on the preservation of traditional rock and wall paintings of Sri Lanka

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The contribution of renovation interventions to stabilize the behaviour of traditional rock and wall paintings was decided according to their relative effectiveness on the preservation. Interventions aimed only at renovation of defects increase the rate of decay that leads to deterioration. Defects provide room to carry out stabilization interventions. It was therefore necessary to determine the amount of stabilization that each intervention could provide prior to carrying out the renovation interventions. Two categories of samples were used in this study to simulate traditional Sri Lankan rock and wall paintings. These were samples with lime based ground and inorganic paint and samples with a clay ground and organic paint. Moisture transmission, moisture evaporation and thermal movement were the parameters of behavior measured. Once the behavior of these samples was measured they were subjected to destructive physical interventions. The behavior of the destructed samples was measured and renovation interventions were performed. The lime-clay mixture was used for samples of the first category and *Limonia acidissima* gum-clay mixture was used for the second category of samples to fill lacunae, fix cracks and fractures, improve adhesion of flakes and renovate cleaved layers. The behavior of renovated samples was measured and compared with the original behavior. Both clay-gum and lime mixtures could effectively control moisture transmission and rate of moisture evaporation. Changing the composition of these mixtures could change their behaviour. The amount of adhesion and fixation provided by these mixtures was adequate. It was established that renovation interventions could be used to control the behaviour of the rock paintings. Effectiveness of cleaning and reintegration on moisture evaporation was tested using another set of samples. It was found that these actions could also be used as a tool to control the behaviour of paintings. It should be emphasized that undue use of these actions cause destabilization of behaviour that leads to accelerated decay. There must be no conflict between renovation of a defect and required behaviour, but these two factors should be in agreement under normal conditions.

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