Spectrophotometer plays an active role in architectural color research

Its maneuverability provides quick data collection.

Background

The colors in buildings have a great psychological effect on the people who use those buildings. At one university, a laboratory of the engineering department is researching the colors used in traditional architecture, and studying their relation to the colors used in modern buildings constructed after the Meijj period (after 1911). Recently, there was a chance to participate in the investigation of buildings which have been designated Important Cultural Assets. Evaluation of the colors used to be performed by comparing subjects and color cards by eye, this conformed to the JIS method for comparison of surface colors. However, this evaluation method requires a lot of labor and is inefficient, and it also needs controlled lighting to ensure even brightness. In addition, it is difficult to compare measurement data under the present method.

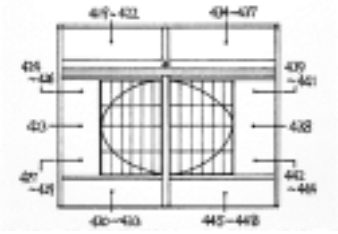
Outline of the measurement process

Measurements are performed by recording the points measured with the Spectrophotometer on the projections of the building, and also recording the specimen number for the Spectrophotometer measurement. Three to five areas of each part of the walls of each room are measured to reduce the unevenness caused by the change of the measured area. When almost 500 sets of data have been collected, the data are loaded into Color Data Software and the data are saved to a floppy disk. The data are then brought back to the laboratory, and data for each room are processed. Sometimes, the Spectrophotometer is brought outside to take measurements of the color of the outer walls of traditional buildings.

Evaluating by eye and measuring with Spectrophotometer

Results

- Since colors can be quickly converted to numerical data, it is possible to obtain lots of data for study.
- By recording the accurate numerical values of the building's color, the data can be used when repairing the building; it is also useful for preserving Important Cultural Assets.



A part of a projection of the building