Current Steps in the Application of Image Processing Technology in Art History Research

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The Department of Archives of the Tokyo National Research Institute of Cultural Properties introduced an image processing machine in 1987, and has investigated the possibility of its application in image processing technology for art history research. The development of image processing package software for use in art history research was also studied. As the result, the following basic problems were encountered:

1) The operation of the image processing machine was difficult for the art history researchers who are not professional image processing theorists, and who do not have strong mathematical aptitude. A special assistant or programmer was required to solve this problem.

2) The object artwork for the image processing was too complicated. Art history research is based on a comparison of artwork formed from an organic relationship of shape and color. There was a very large obstacle in the current techniques of image processing, originating at the time of input from the large differences in image awareness between human eye and machine.

3) There were theoretical problems arising from the difference between image processing theories and method theories in art history research. The contradictory relationship on both sides cannot be eliminated, but even in large number of art history research where visible theory takes priority, the preparation of a common "accurate description of visual images" between the researchers is a necessity.

Applications of image processing technology in art history research is still in the elementary stage.

However there is a great possibility for the use of the technology as highly effective "presentation tools", such as data presentations making images easier to see or simulated restoration/manufacture of artwork. If computers are to be used as an analysis machine, discussion should take place (not limited to image processing) in terms of ways to express the quantitative data types in the artwork. A descriptive confirmation test of the method.
of art history research is also important.