J13 Classification of Counterfeit Japanese Passports Using the Quantification Theory Type 3

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After attending this presentation, attendees will have information regarding thirty-seven counterfeit passports that were classified based on their printing methods using the Quantification Theory Type 3 to classify the printing methods and the passports into three groups.

This presentation will impact the forensic community and/or humanity by demonstrating the application of the statistical method, Quantification Theory Type 3, to forensic document examination thereby showing the importance of the printing method of the background as well as the examiner's knowledge of counterfeiting.

Learning Objective and Outcome: Thirty-seven counterfeit passports were classified based on their printing methods. The Quantification Theory Type 3 classified the printing methods and the passports into three groups respectively. Analysis also showed that printing methods used for the background was the basic information for the classification.

There are various methods used for counterfeiting printed materials. Counterfeiters are expected to have a counterfeiting technique of their own. Two passports which are made by the same counterfeiting technique may indicate that they are made by the same counterfeiter. If that is true, one can identify a counterfeiter by the comparison of the counterfeiting technique used. Researchers collected 37 counterfeit Japanese passports and classified them to get fundamental information on the relationship between the printing method and the counterfeiting technique.

Thirty-seven counterfeit Japanese passports were identified the printing methods by the microscopic observation. Printing methods of the portrait, signature, background, fixed letters, and personal data letters on the inside front page were examined.

The printing devices or the printing methods used for counterfeiting were as follows; inkjet printer, full-color laser printer, black toner printer, thermal transfer printer, dye sublimation printer and lithography. An inkjet printer was the most frequently used for the forgery. Nearly eighty-five percent of the portraits were printed by the inkjet printer. A black toner printer, on the other hand, was the most frequently used for printing personal data. A dye sublimation printer was mainly used for printing the portrait and/or background. Lithography was used only for the background.

Variety of the printing methods was analyzed using the Quantification Theory Type 3. Printing methods were classified into three groups by the category score. Three groups were as follows; full color laser printer, combination of the inkjet printer and the black toner printer, and the combination of the dye sublimation printer and the lithography or thermal transfer printer. Passports were also classified into three groups by the sample score. Characteristics of each group correspond with the result of the category score. Some passports that were printed by the same printing method had the same printing defects in common.

The analysis suggests that the printing method used for the background is the key information for the classification because the dye sublimation printer and the lithography are used mainly for the background. This also suggests that there are roughly two main counterfeiting methods.

Counterfeit Passport, Printing Method, Quantification Theory Type 3

 ** Presenting Author*