

A simple logical approach to questioned envelopes examination

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This case report outlines research undertaken as the result of a document examination case in which two envelopes were involved. The combination of the circumstances of the case and the results of the examination allows a simple application of a logical approach to pre-assess the probability that an envelope (or a package) potentially recovered at a suspect's home comes from the same batch (same source) as questioned envelopes. This highlights that it is useful to examine envelopes.

Ce casus décrit une recherche entreprise suite à un examen de documents dans lequel deux enveloppes étaient impliquées. La combinaison des circonstances du cas et les résultats de l'examen montrent une application simple d'une approche logique qui attribue la probabilité qu'une enveloppe (ou un paquet) potentiellement retrouvée au domicile d'un suspect, vienne du même lot (de la même source) que des enveloppes de questions. Cela illustre l'utilité de l'examen des enveloppes.

Dieser Bericht umreißt die Recherchen, die im Rahmen der kriminaltechnischen Untersuchung zweier Briefumschläge durchgeführt wurden. Die Kombination der Begleitumstände des Falls und der Untersuchungsergebnisse erlaubt die einfache Anwendung eines logischen Ansatzes zur Vorabschätzung der Wahrscheinlichkeit, mit der ein Umschlag (oder eine Verpackung), der möglicherweise im Lebensbereich eines Tatverdächtigen sichergestellt wurde, aus der gleichen Charge (gleichen Quelle) stammt wie die fraglichen Umschläge. Dies unterstreicht die Nützlichkeit solcher Untersuchungen.

Este trabajo describe la investigación emprendida como resultado de un caso de examen de documentos que involucraba dos sobres. La combinación de circunstancias del caso y los resultados del examen permiten una simple aplicación de un enfoque lógico para prevalorar la probabilidad de que un sobre (o un paquete) potencialmente recuperado de la vivienda de un sospechoso proceda del mismo lote (mismo origen) que un sobre dubitado. Esto enfatiza que es útil examinar sobres.

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Introduction

In February 2001 two threatening letters, which had been sent to a local politician, were submitted to our Questioned Document Unit. Both letters were supplied with their envelopes. The problem was to attempt to find any useful information that can link the questioned documents to a suspect. It has to be emphasized that at the beginning of the investigation no suspect was apprehended. From the circumstances of the case and the contents of the two threatening letters, the investigators were able to reduce the size of the suspected population; it was limited to 20 persons. This case report is limited to the examination of the envelopes and no further information regarding the content of the letters will be given. There are few papers [1–2] that document cases concerning the forensic examination of envelopes.

Methods and results

The questioned envelopes were initially externally examined to determine whether there were any relevant differences in brand, size, printed details or paper type, which would eliminate the possibility of them being from the same source. No differences were found.

Searches in our envelope database allowed us to identify the brand and the model of the two questioned envelopes as M-Budget (product N° 7201.401). This product is sold by the Migros supermarket only and is manufactured by Goessler AG in Saint Gallen, Switzerland (Figure 1). The envelopes are sold in packets of fifty.

A careful examination of the inside of the envelopes revealed that they had the same fabrication code (Figure 2a)

The inside of the envelopes had a blue ‘beehive’ pattern. This pattern is printed using a flexographic printing process. The examination was then directed towards finding physical features which potentially could be used to address the issue of whether or not the two envelopes had the same source. Among these features were the same printing defects produced by the flexographic process, and indicated by the arrows on the top edge of Figure 2b. Before visiting the factory which manufactures M-Budget brand envelopes, ten packets of 50 envelopes, arranged consecutively on the shop shelf, were bought. The flexographic defects were examined. The same defects were found within a packet, but the defects in different packets (Figure 2c) were different from each other.

Figure 1 The questioned envelope; brand M-Budget, product N° 7201.401.

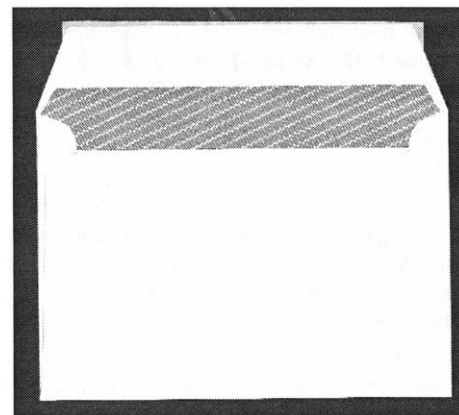
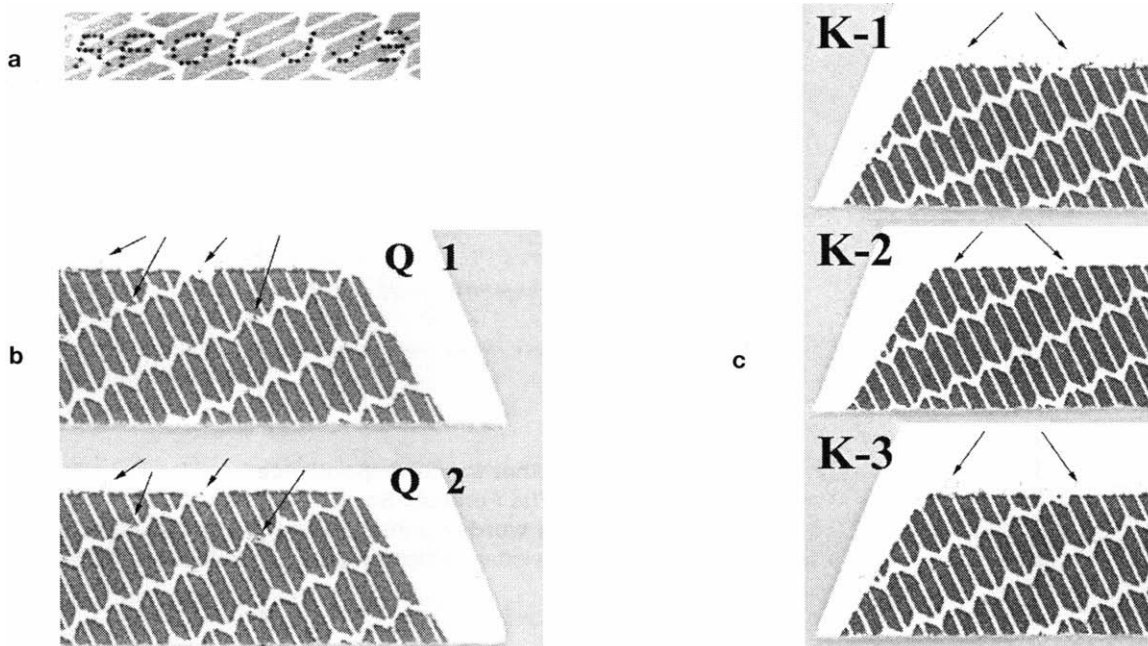


Figure 2 (a) The code visualized inside the questioned envelopes. (b) The same defects in printing (see arrows) produced by the flexography printing process and visible on both Q-1 and Q-2 envelopes. (c) Distinct defect printing (arrows) visible on envelopes from 3 different known packets (K-1, K-2 and K-3).



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