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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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The Investigation of Automobile Accidents

The July-September, 1940, issue of the *Police Journal* (London) contains an article dealing with the investigation of automobile accidents in which the importance of laboratory examinations is emphasized.

Dr. F. G. Tryhorn, of the University College at Hull, in an article entitled "Scientific Evidence in Cases of Motor Accident" discusses the various types of materials or traces which are most frequently encountered in such cases, including tire tracks, hairs, blood, fibers, paint, oil, metal marks, dents or impressions, glass fragments, and vegetation and soil.[1] He suggests that in the search for such traces the investigator keep in mind the "exchange principle" in which the contact of the vehicle with the person or object struck frequently results in "one-way" or "two-way" transfers of material; the collection and comparison of such transfers may provide several links between the vehicle and the object struck. The author describes several cases to illustrate this principle. One of particular interest involved a hit-and-run automobile which knocked down and killed a boy riding a bicycle. A suspected automobile was located and the following evidence was disclosed in the investigation:

"The car was finished with black enamel which had been applied over a middle coating of red, and an undercoating of grey. Fragments of enamel showing these three layers were recovered from the dust of the victim's jacket, from a stone taken from a wall at the scene of the accident and from a black patch on the saddle-lug of the damaged bicycle. In the two latter cases the smears appeared like dabs of black paint, and it was only by high magnification that their composite nature was revealed.

"Evidence that the nearside front wheel of the car had struck the bicycle was obvious from the exchange that had occurred on impact: the spokes of the car wheels had been painted with aluminum paint over an undercoating of a red lead paint: traces of both these were found on the bicycle in a dent that had been caused in one of the side stays.

"The bicycle had been gilt-enamelled over a black base. From the nearside front wheel of the car, where some of the aluminum paint had been rubbed off, traces of black grease were noticed: when these were dissolved up in petrol, a residue of fragments of gilt on a black enamel base were obtained. A whitish smear on the rim of the nearside rear wheel proved to be pulverized sandstone of the same type as that composing the stone that bore the traces of paint from the car. Further links between the car and the damaged bicycle were obtained by comparing the contours and height from the ground of deep indentations on the bicycle frame and saddle lug with the contour and height from the ground of the wing [fender] of the car: the contours and heights agreed satisfactorily. An interesting point in the medical evidence in this case was the fact that the tyre of the car had left an extremely clear print of its tread, about 15 in. in length on the boy's leg. The characteristics of the tread were well defined, although the elasticity of the flesh prevented exact agreement in size of the pattern."

[1] Tryhorn, F. G., "Scientific Evidence in Cases of Motor Accident." The Police Journal *13* (3): 288-300 (1940).