Bloodstain pattern analysis

Resume

The purpose of my thesis is to analyse bloodstain pattern analysis as a forensic science, which is developing quickly and can aid the investigator with many useful informations. Bloodstain pattern analysis is relatively new forensic discipline and it is used mostly in United States of America and United Kingdom. Bloodstain pattern analysis is considered to be a part of forensic biology, therefore this thesis covers basics about forensic biology as well.

The thesis is composed of three basic chapters. The core of this thesis constitutes mainly of the second chapter, hower chapter three is also important as it helps to understand bloodstain pattern analysis via demonstration of this new forensic science on real case. This thesis is also appended with pictures for easier understanding of given issue.

Chapter One is introductory and defines basic terminology used in forensic biology, detecting and securing of criminological traces at a crime scene and some basic division of criminological traces. Chapter one also briefly deals with DNA, including legal regulation of national DNA database. In the end of chapter one the reader will find informations about other means used for identification of persons via biological methods.

Chapter Two focuses on bloodstain pattern analysis. The chapter is subdivided into seven parts. Part one focuses on introduction in bloodstain pattern analysis and describes the history of bloodstain pattern analysis. Part two addresses the issue of basic terminology used in bloodstain pattern analysis. Part three describes properties of blood and the significance of partially dried, clotted,aged, and physically altered bloodstains. Part four describes the process of documentation, collection, and evaluation of bloodstain evidence. Part five concentrates on problems resulting from determing motion and directionality of blood, angel of impact, point of convergence and point of origin. Part six deals with reconstruction of crime scene including use of automation applications in bloodstain pattern analysis. Part seven describes different

types of impact and their typical characteristics. These impacts consist of low-velocity impact, medium-velocity impact and high-velocity impact.

Chapter Three illustrates the approach to crime scene investigation from the point of view of bloodstain pattern analyst. It includes the description of given case. The reader can find in this chapter a brief list of cases, in which the bloodstain pattern analysis aided to sucessfuly solve the given case.