



FINGERPRINT HANDBOOK

By

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With a Foreword by

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CHARLES C THOMAS • PUBLISHER

Springfield • Illinois • U.S.A.

CHARLES C THOMAS • PUBLISHER
BANNERSTONE HOUSE
301-307 East Lawrence Avenue, Springfield, Illinois, U.S.A.

Published simultaneously in the British Commonwealth of Nations by
BLACKWELL SCIENTIFIC PUBLICATIONS, LTD., OXFORD, ENGLAND

Published simultaneously in Canada by
THE RYERSON PRESS, TORONTO

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Library of Congress Catalog Card Number: 59-14194

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Printed in the United States of America

FINGERPRINT HANDBOOK

A Monograph in
THE POLICE SCIENCE SERIES

Edited by
V. A. LEONARD

Professor of Police Administration
The State College of Washington
Pullman, Washington

To my husband, Dudley Scott Field, I dedicate this book. His unshakable faith, vision, patience, and lovable tyranny made this work possible.

A.T.F.

FOREWORD

In spite of its fairly recent origin, "police science" has become a commonly used expression. Originally, the term connoted the application of natural science principles in the police laboratory. More recently, the term has been adopted to describe such broad areas as "the science of administration" and "scientific management." The quest for the utilization of systematic and exact methods in police work is exemplified by the use of fingerprints as a means of identification. The degree of progress that has been achieved in the system of dactyloscopy, can be attributed to those relatively few people who continue to develop and expand upon the original theories of Henry and Battley.

The *Fingerprint Handbook* meets the general needs of the student who is interested in the science of identification and, more particularly, in the science of fingerprints. Many of the existing textbooks on this subject are either too complex for the new student or too elementary for the experienced technician. This book is a departure from the usual textbook in its simple and unique presentation. Its object is to assist the novice and to be a ready reference for those already in the field.

The *Fingerprint Handbook* is a definite contribution to "police science" and I believe it is a worthy addition to the system of fingerprint identification. Its author, Annita Field, is to be congratulated for her interest and efforts in providing law enforcement agencies with another efficient and effective instrument. Only through such personal endeavors are law enforcement agencies able to keep ahead of the criminal element in scientific advancement.

W. H. PARKER
Chief of Police
Los Angeles, California

INTRODUCTION

This work is a fingerprint handbook, and is not the usual type of textbook.

The book does not pretend to be an innovation in fingerprinting, nor does it present new systems, theories, discoveries, or applications.

This *Fingerprint Handbook* breaks down all phases of procedure in the analysis and interpretation of fingerprinting into separate paragraphs, each clearly and specifically titled. The concise paragraphs serve as ready references, easily found, thus eliminating time-consuming searches for specific items which have been buried in long pages of long chapters.

Definitions and rules included herein are not arbitrary, but are either excerpts from or are based on the FBI's *Science of Fingerprints*, though some definitions have been restated in order to clarify them. The application of fingerprint classification indicated herein adheres to the procedure indicated by the FBI, which is the recognized authority in the United States.

Brief chapters of this work deal with the single print classification system, the single hand classification and with latent prints, but these present introductory material only.

Books are available which deal with these specialized fields of fingerprinting; this present work centers its interest on classification and interpretation of fingerprints.

ACKNOWLEDGMENTS

The author wishes to thank Mr. J. Edgar Hoover, Director of the Federal Bureau of Investigation, for his kindness in granting permission to use materials from the FBI's *Science of Fingerprints*.

Special thanks to Chief of Police William H. Parker, Los Angeles, California, for his generous contribution of the Foreword in this book.

Many thanks are due Mrs. E. Caroline Gabard for editing the language form of this work.

Appreciation and thanks to the numerous members of the Los Angeles Police Department, my superior officers and co-workers, for their cooperation, assistance and encouragement.

A.T.F.

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FINGERPRINT HANDBOOK

CHAPTER ONE

FINGERPRINT CHRONOLOGY

CHINA may have been the first nation to have used fingerprinting as a means of identification—if so, fingerprinting is well over two thousand years old. However, the Chinese may have used fingerprinting as part of a “ritual” rather than for actual identification. Authorities have argued the matter both ways, but have not yet been able to prove either point of view to the satisfaction of all concerned, and, unless new evidence is discovered, the question of China’s use of fingerprints will probably remain unanswered.

While the Orient was apparently the first to use finger impressions, the Occident was the first to recognize them as valuable individual characteristics and the first to distinguish the various designs.

According to their design (pattern), finger impressions were grouped, classified, and coordinated. Thus were instituted definite systems with numerous variances, but which were basically uniform with respect to patterns.

Many publications containing authoritative data on the science of fingerprinting, on its earliest known publications, its history, its adoption, and its various systems are available. With this in mind, the present author offers a brief chronology of fingerprints, rather than an actual history.

EARLY PUBLICATIONS

- 1684 Nehemiah Grew published a report which was read before the Royal Society of London. He described the ridges and pores of the hands and feet.
- 1685 G. Bidloo published a treatise describing sweat pores and ridges.
- 1686 Marcello Malpighi published a book on his study of ridges and pores.
- 1751 Hintze wrote on ridge formation, but dealt with the subject from the viewpoint of anatomy rather than identification.

- 1764 Albinus followed along the same lines as Hintze had written.
- 1788 J. C. A. Mayer stated in his book (*Anatomische Kupfertafeln Nebst Dazu Gehorigen*): "Although the arrangement of skin ridges is never duplicated in two persons, nevertheless the similarities are closer among some individuals." He thus became the first to state that the prints of two different persons are never alike.
- 1823 Johannes E. Purkinje, professor at the University of Breslau, Germany, published a thesis (in Latin) describing the ridges, giving them names, and establishing certain rules for classification. He identified nine different patterns. He did not, however, refer to fingerprints for use as identification.
- 1856 Herman Welcher took the prints of his own right palm. In 1897 (forty-one years later) he printed the same palm to prove that prints do not change.
- 1883 Kollman, an anthropologist, wrote his book on ridges and pores. He did not associate fingerprints with identification.

FINGERPRINTS AS A METHOD OF IDENTIFICATION

- 1858 Sir William Herschel, in Hoogly, District of Bengal, India, printed the palms of natives in order to avoid impersonation among the laborers. Prints of the entire palms were used instead of signatures. The first person Herschel printed appears to have been one Raiyadhar Konai. In 1877, Sir Herschel requested permission to fingerprint prisoners in jail, but permission was denied.
- 1880 Henry Faulds, stationed at Tsukiji Hospital, in Japan, wrote on the subject of fingerprints. He advocated their use in the detection of crime.
- 1888 Sir Edward Richard Henry, succeeding Sir William Herschel at his post in India, became interested in fingerprints and arrived at a classification of his own.
- 1889 Sir Edward Richard Henry, at Dover, England, read a paper detailing his system before the British Association for Advancement of Science.
- 1891 Juan Vucetich developed his own system of classification. This was officially adopted in Argentina and is used today in most Spanish-speaking countries.
- 1892 Sir Francis Galton, an English biologist, wrote his first textbook; he devised a practical system of classification and filing. Much of his material is still in use in some parts of the world.
- 1894 Sir Francis Galton's report on fingerprints as identification, along with his devised system, was read at the Asquith Committee of London, England. His system was officially adopted on February 12, 1894.
- 1900 Henry published his system in book form.

- 1900 Alphonse Bertillon's system of measurements had by this date spread throughout the world.
- 1901 Henry was appointed Assistant Commissioner at Scotland Yard. His system was also acclaimed and officially adopted in Wales as well as throughout England. The system was so applicable that Henry emerged as the "Father of Fingerprints," at least as the first man to successfully apply fingerprints to identification.
- 1914 Fingerprints were officially adopted in France, replacing Bertillonage.

OFFICIAL USE OF FINGERPRINTS IN THE UNITED STATES OF AMERICA

- 1900 Gilbert Thompson, of the United States Geological Survey used thumb prints for camp orders on an expedition to New Mexico. This was not official, but it proved useful.
- 1902 The New York Civil Service Commission, on December 19, 1902, required that henceforth all civil service applicants were to be fingerprinted. Doctor H. D. de Forest, Chief Medical Examiner, put the system into practice.
- 1903 James Parke instituted fingerprinting in the State of New York Department of Prison, Albany, New York.
- 1903 Fingerprinting was adopted in the following penitentiaries: Sing Sing; Napanoch; Auburn; Clinton.
- 1904 John Kenneth Ferrier, of the fingerprint branch of Scotland Yard, attended the St. Louis, Missouri, World's Fair. He had been assigned to guard the British Crown Jewels. American police officials became interested in fingerprints through him, and he became their instructor.
- 1904 The City of St. Louis, Missouri, became the first city to use fingerprinting. The police department officially adopted the system on October 29, 1904.
- 1904 Fingerprinting was officially adopted at Leavenworth, Kansas.
- 1905 Fingerprinting was officially adopted by the United States Army.
- 1907 Fingerprinting was officially adopted by the United States Navy.
- 1908 Fingerprinting was officially adopted by the United States Marine Corps.
- 1908 Fingerprinting was officially adopted by the Federal Bureau of Investigation.
- 1910 Frederick A. Brayley published what appears to be the first American book on fingerprints: *Fingerprints, Their Identification and Uses*. The book was published in Boston by the Worcester Press.
- 1915 The International Association for Criminal Identification was founded. The word "Criminal" was later dropped from the Association's name.