SPEAKING AS AN EXPERT

ABOUT THE AUTHORS

Stephen C. McKasson started his career as a document examiner in 1971 with the US Postal Inspection Service in Chicago at a time when latent prints was included as a duty of the document examiners there. In 1978, he was promoted to Assistant Laboratory Director, but left shortly thereafter to take the newly created position of Document Section Training Coordinator with the Illinois State Police. His job was to reestablish the dormant section and train new examiners to staff the labs throughout the state. During this time, he created a "Court Training" class which is provided to all forensic science trainees in the Illinois State Police system, and has been adapted by many crime labs around the country. He has provided workshops on court testimony and how to train others in court testimony throughout the country.

He also took over the training of new examiners for fracture match and developed a workshop, "Fracture Match for Document Examiners," which has been presented throughout this country and in New Zealand as well. In 1992, Mr. McKasson was invited to the People's Republic of China where he was a guest lecturer and forensic examiner at the Ministry of Justice Crime Lab in Shanghai for approximately six months.

Carol A. Richards earned her Ph.D. in philosophy of communication at Southern Illinois University at Carbondale in 1993. She has worked as adjunct and fixed term instructor and assistant professor of speech communication and English at Bemidji State University in Bemidji, Minnesota since 1988. She earned her B.S. in English and speech and her M.A. in English at Bemidji State University.

SPEAKING AS AN EXPERT

A Guide for the Identification Sciences

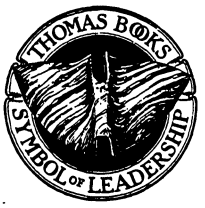
From the Laboratory to the Courtroom

By

STEPHEN C. McKASSON

and

CAROL A. RICHARDS



CHARLES C THOMAS • PUBLISHER, LTD.
Springfield • Illinois • U.S.A.

Published and Distributed Throughout the World by

CHARLES C THOMAS • PUBLISHER, LTD.
2600 South First Street
Springfield, Illinois 62794-9265

ISBN 0-398-06840-2 (cloth)
ISBN 0-398-06841-0 (paper)

Library of Congress Catalog Card Number: 97-32099

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Printed in the United States of America
SM - R-3

Library of Congress Cataloging in Publication Data

McKasson, Stephen C.
Speaking as an expert : a guide for the identification sciences from the laboratory to the courtroom / by Stephen C. McKasson and Carol A. Richards.
p. cm.
Includes bibliographical references and indexes.
ISBN 0-398-06840-2 (cloth). -- ISBN 0-398-06841-0 (pbk.)
1. Identification--United States. 2. Evidence, Expert--United States. 3. Crime laboratories--United States. I. Richards, Carol A. II. Title.
HV8073.M34 1998
363.25'6--dc21 97-32099
CIP

To Our Mother
Phyllis E. Luthy McKasson

PREFACE: SPEAKING OF WRITING

THE PURPOSE

Several years ago, Carol A. Richards and Stephen C. McKasson began talking about her course in public speaking and his course in courtroom training. The more they talked, the more they realized that their lessons overlapped. She had been trained to teach speech communication, and he had been trained for forensic identification, so she had only a casual understanding of his work and he of hers. Yet, she was impressed by his common-sense approach to teaching his students how to conduct themselves on the witness stand, and she began to supply him with the communication theory that would support his lessons and expand them. In order to understand how her studies applied to his, he had to explain the science and the logic of his work.

Eventually, this casual arrangement became a formal one. The two were determined to put on paper a concise justification for identification science, but one that would be as practical as the science itself. Years of discussion and many more years of McKasson's identification experience produced this text, a guide for identification scientists as they prepare for the courtroom.

Two matters became paramount: one, that the text provide a theoretical foundation for all the work of the identification scientist, including the report; and two, that the text provide practical answers to consuming questions about how to report that work to others, including a judge, a jury, and attorneys. The theory is not easy, but we believe it is readable and understandable because it has grown from what we know is true of identification science. Therefore, we might say that the theory is descriptive, not prescriptive. On the other hand, as a guide, it may be useful to prescribe ways of thinking about identification and its methods that are faithful to the principles on which the science is founded.

We realized that a need existed for such a text long before we began to write it, of course. But as we wrote, the need seemed to

increase as more and more colleagues expressed doubts about testimony and the thornier questions posed to expert witnesses. Further, court cases and conferences revealed a demand for answers that only an identification scientist could offer.

Lumped into the general category of "expert witness," the identification scientist may find himself or herself daunted by the preconceptions that others have about such witnesses. Feeling neither godlike nor mercenary, yet compelled to speak for the discovered facts of the casework, the scientist faces queries about bias, science, methods, experience, training, laboratory conditions, salaries, pretrial conferences, and the like. Testimony is difficult. Though it should be enough to remember that the witness has only to tell the truth, it seems that our courts and our lives are far too complicated to make mere truthtelling the sole matter of concern. Along with telling the truth, we must be aware of how that truth was learned, how that truth is expressed, and how that truth is to be believed.

Forensic trainees in Illinois have been able to take a course in courtroom training since McKasson inaugurated it many years ago. In a workshop setting, the course includes a diverse array of lessons from guest lecturers in the legal profession to casework applications to a mock trial. It is an ideal way to cover the material since students may ask questions of specific concern. This text is no substitute for such activities and discussion, but it may be useful to others as a textbook as it has been to McKasson in his course.

Seasoned professionals have already learned the hard way how to present their facts from the witness stand. Yet, they may find that new challenges from the bench, from the attorneys, and from the public require new ways of thinking about their work and better ways to talk about it. Our text was designed to address these challenges and to be of use as a shelf reference for any identification scientist anticipating a courtroom appearance.

University faculty in criminal justice are trying to provide a breadth of education and practical learning for their students. Some courses already exist that take up, in whole or in part, the role of the expert witness. Other curricula are too burdened to consider another specialized interest at this time. We hope that our book may be of service to those academic professionals who need a reference or a text to supplement criminal justice coursework.

Many science students have never considered forensic science as a

career simply because they do not realize how their studies would apply. We hope that as they research texts on science in their libraries that they might discover our book and realize the rigor and rewards that accompany research and lab work in the identification sciences.

Finally, let us say from our unified point of view that the book has satisfactorily completed our own search. We needed to set this down to give expression to myriad unformed thoughts and not a few quandaries about the work of the identification scientist. We knew what we knew, but we wanted to say how we knew it. We feel much better.

THE SCOPE

Let us say again what this book is not: This is not a manual. This is not a forensic science training text. This is not an identification science training text.

This book is a study of the theory and methods of identification science. Therefore, we take up the methods of identification science to initiate a conversation about how those methods operate. But, we do not offer sufficient detail to train anyone to do the science. Rather, we discuss how it works, what theories and principles demonstrate that it works, and how an identification scientist becomes an expert witness who can talk about such things.

We wanted to provide an exhaustive study of this type, and we would like to think that we have thought of everything and developed each topic fully. However, we are quite sure that every court case involving an expert witness will have us wondering what further matters we might have taken up.

THE PLAN

The book is divided into five chapters and includes a glossary. As we describe in the first chapter, the book follows our methodology of research: Describe, Reduce, Interpret; or Examine, Compare, Evaluate, Verify. Thanks to co-authorship, we have added verification to our writing methodology as well. Chapters 1 and 2 are descriptive of identification science, Chapters 3 and 4 comprise the reduction, and

Chapter 5 reflects our interpretation of identification science as testimony. We hope the glossary is of help in providing a link between our two fields of specialization, communication and identification. In addition, we intend the glossary to provide a ready reference when terms used in context become unwieldy. The text is, doubtless, the better source of meaning, but read in conjunction with the glossary, perhaps every reader has the best opportunity to interpret our ideas.

ACKNOWLEDGMENTS

We appreciate the fine help and advice, and the patience and encouragement of our colleagues and family members and students, all of whom have contributed to the completion of this book. They generously gave us their time: they listened and discussed, they read and commented, they learned and taught.

CONTENTS

SPEAKING AS AN EXPERT

Chapter 1

THE STRATEGY

It is our plan to describe, to abstract, and to interpret the science of forensic identification, and in doing so, to explore the nature of the forensic sciences. We attempt this task for the benefit of others who, like us, are: (1) interested in pursuing the nature of evidence and testimony about it, (2) interested in both theory and method, (3) interested in finding new ways to think about familiar matters and familiar ways to think about unfamiliar matters. Practically speaking, however, we assume an audience of readers who have some connection to the forensic sciences and, in particular, who may have some responsibility for teaching or training others. We concern ourselves with two major areas: the "what" and "how" of forensic identification and the "what" and "how" of expert witness testimony. The two are not easily separable, however, due to the purpose of such work; so, their division is not marked. Rather, we have divided the text into five chapters, and we explore the two areas of concern throughout the text.

Forensic science exists to provide evidence for judicial proceedings (Cowan in Peterson, 1975); testimony exists to present that evidence before such proceedings. All the research of the forensic expert is subject to reporting; the research is, in fact, "evidence" only because it is reported in some manner. Unfortunately, the importance of the report may be overlooked by researchers and citizens alike who believe that the "evidence speaks for itself." If that were true, persons would not have to be called to the stand to present, authenticate, interpret, and otherwise, *speak* for the facts as evidence. As W. W. McGee points out, "[W]e have not as yet found the way to get the 'computer' to testify under oath on the stand!" (in Davies, 1975, p. 11). Col. Maurice Fitzgerald concurs: "The laboratory tech is the ventriloquist of a criminal investigation. Physical evidence cannot talk to the criminal investigator . . . The lab tech makes it talk" (1974, p. 194).

There are manuals, textbooks, and many published papers that

deal with each of the forensic sciences in regard to procedure and practices. We do not intend to duplicate their efforts here. Since Stephen McKasson is a questioned document examiner, we choose Questioned Documents as a basis for discussion; however, it is not our purpose to teach readers how to do questioned documents examination. Rather, we are entering into a deeper study that we hope may be used by any examiner or any expert witness to better understand the nature of forensic science and of forensic science reporting. McKasson has become well known for his unique program in courtroom training. Trainees, examiners, and laboratories show increasing interest in his course as greater numbers of experts realize the importance of good skills in courtroom testimony.

There are, likewise, many texts on public speaking and on communication in a variety of applications. It would not be helpful to rewrite those messages here. We are interested in how communication principles may be applied in the limited context of science and expert testimony. Carol Richards, a Ph.D. in the philosophy of communication, has been consulting with McKasson for several years about the relationship of the philosophy of communication to expert witness testimony, but she has also found links between her qualitative research in communication and McKasson's research in the forensic science laboratory. Together, we experts in our separate fields are setting down in this text a comprehensive approach to forensic science identification research that takes into account both lab and witness stand. The following paragraphs are a first step toward exploring the thinking that guides our approach.

THE SCIENTIFIC VIEW

Each scientific application has its reason for being and its theory for doing what it does, or there is nothing scientific about it. An important distinction to separate identification science from other sciences is that it is an applied science. Forensic means, "applied to the law." If what the forensic scientist is doing does not have application, then it is not an appropriate part of the scientific endeavor. Science is generally thought of as a body of knowledge–often an accumulation of knowledge for knowledge's sake alone (Walls, 1974). An applied science must have meaning in the real world (Beveridge, 1957). It has

a purpose and a focus that not all sciences have. One of the most important assumptions that we forensic scientists seldom state, but always make, is, "Given that we are operating in the here and now..." Research, therefore, is defined a little more narrowly for us than for academic scientists. For example, it is usually related to a specific problem that needs attention in the legal system, or it is related to how to *apply* someone's research to the real world of a crime scene. Or, it is research within a case. Every case can be seen as an example of applied research: "Science is an activity of putting order into our experience" (Bronowski, 1953, p. 100). If we make a study of casework procedures, we are performing a sort of higher order applied research. That is, when we practice casework, we are at the base level; when we talk about how we practice casework, we are at a metalevel.

This concept of multiple levels in observation or in investigation or in scientific inquiry is an important one. It resolves a number of apparent conflicts or anomalies. For example, we can be extremely objective in our application of subjective measures. Conversely, following sound scientific principles at one level may not always produce useful scientific results at another level.

It is very difficult to practice casework without performing some meta-practice. Borrowing from linguistics, we can explain what we mean about levels by considering the use of language. Every time we speak, we are applying linguistic practices. At the same time that we apply our language skills, we are employing the rules of that language. Though we may not talk about the rules, we are implicitly "talking" about them by demonstrating our abilities to follow them.

Every use of language is, then, a lower order use and a higher order use. Consider this paragraph, for example, wherein we are discussing these two levels, and we are using "levels" as an expression. This paragraph is an example of what it is talking about: "I use words to talk about the word 'word.'" I can take a test to test a test of tests. Human enterprise and the language that describes it have layered meanings. That these multiple levels are always at work is why we argue that, though practitioners may shun theory, they must use it in order to practice their skills (Hollien, 1990).

It is our observation that many texts and articles in forensic science research deal with theory or with practice without demonstrating the relation between the two (Hollien, 1990). It is as if knowledge could be separated from learning, cognition from experience, or, as if it is

enough to demonstrate our practices since their purposes must surely be known. Perhaps a more serious detriment to understanding is the text that appears to treat theory by invoking the scientific method or by citing the logic of the courtroom, yet it scarcely explains either. As Harry Hollien (1990) remarks in his text on forensic acoustics, we (in the applied sciences) find it difficult to isolate the practice from the discipline (pp. 11-12). If a practice is truly disciplinary, that is, if it is practiced by every expert in the field, then we who use it (scientists and technicians alike) should be able to provide an account for it *in theory* as well as by habit.

It is our plan, therefore, to provide our readers with the "how" and the "how to," taking nothing for granted about what "any of us must know" and taking nothing for granted about what "any of us must do."

FORENSIC IDENTIFICATION

We shall begin our study by reacquainting us all with the research question that generated the entire scientific discipline of forensic identification. That original research question reads: "Uniqueness exists in everything." That is, each person and each thing is unique. All research questions, or hypotheses, are generated from inference. Either we derive them from their relation to other hypotheses, deductively, or we derive them from our observations of the world, inductively. That is, some ideas lead to other ideas in an infinite string of conclusions. They build *logically.* For example, we deduce that X and Y have an inviolable relation because of their mutual relation to A. We also deduce by analogy, talking about the unfamiliar in terms of the familiar so that we can understand something new. We can use a mathematics of relations to test the validity of such deductions (Russell, 1956).

With no research question before us, and faced with a problem to solve, we generate a hypothesis from our observations of the world. We have our life experiences from which to draw. We know what we know because we have lived it. What we must do is to find a way to say what we have lived, and thus "know," so that its truth can be tested. Sometimes a person's life experience is too limited to generate a hypothesis, so the experience of others is essential to draw a conclusion. Those experiences, if credible and replicable, become the foun-