

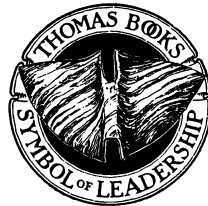
**CRIMINAL JUSTICE TECHNOLOGY
IN THE 21ST CENTURY**

Second Edition

**CRIMINAL JUSTICE
TECHNOLOGY IN
THE 21ST CENTURY**

Edited by

LAURA J. MORIARTY



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 62704

This book is protected by copyright. No part of
it may be reproduced in any manner without written
permission from the publisher. All rights reserved.

©2005 by CHARLES C THOMAS • PUBLISHER, LTD.

ISBN 0-398-07559-X (hard)
ISBN 0-398-07560-3 (paper)

Library of Congress Catalog Card Number: 2004059825

With THOMAS BOOKS careful attention is given to all details of manufacturing and design. It is the Publisher's desire to present books that are satisfactory as to their physical qualities and artistic possibilities and appropriate for their particular use. THOMAS BOOKS will be true to those laws of quality that assure a good name and good will.

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

Library of Congress Cataloging-in-Publication Data

Criminal justice technology in the 21st century / edited by Laura J. Moriarty.-- 2nd ed.

p. cm.

Includes bibliographical references and index.

ISBN 0-398-07559-X -- ISBN 0-398-07560-3 (pbk.)

1. Criminal justice, Administration of--United States--Data processing. 2. Criminal justice, Administration of--United States--Computer assisted instruction. 3. Criminal justice, Administration of--Study and teaching (Higher)--United States--Data processing. I. Moriarty, Laura J.

HV9950.C76 2005
364.973--dc22

2004059825

CONTRIBUTORS

Ryan Baggett holds a Master of Science degree in Criminal Justice (with a concentration in Police Administration) from Eastern Kentucky University's (EKU) College of Justice and Safety and a Bachelor of Science degree in Criminal Justice from Murray State University. Baggett is currently the Deputy Director for Technology and Administrative Services within the ECU Justice and Safety Center (JSC), an organization that manages federal and state grants to conduct research/development, assessments/evaluations, and training/technical assistance on various aspects of public safety and security. In his current capacity at the Justice and Safety Center, Baggett manages the technical aspects of a project's life cycle for several JSC projects including the evaluation of an advanced firearm simulation system (PRISim™), the research and development of an advanced surveillance system for covert and overt applications, and the evaluation of a technology integration project in eastern Kentucky. Additionally, Baggett supports the National Rural Law Enforcement Technology Center (RULETC) in Hazard, Kentucky, and serves as an Adjunct Instructor for the ECU Department of Criminal Justice and Police Studies as well as the Department of Loss Prevention and Safety.

Marialina Bello is a faculty research assistant at the University of Maryland's Bureau of Governmental Research (BGR). For the past 5 years, she has been involved in various projects implementing the "what works" principles into the supervision field. While working with the Maryland Division of Parole and Probation (MDPP), she assisted in the design and implementation of training sessions to over 600 MDPP staff on their new model of supervision; Proactive Community Supervision (PCS). The training curriculums include Motivational

Interviewing (MI) for Offender Change and “Sizing Up.” She also created various interactive tools such as the Break the Cycle (BTC) and PCS flowcharts and training games, Jeopardy and screen savers. She manages the production of the Maryland Offender Case Planning Software for Empowerment (MOCSE), which assists MDPP agents in supervising intensive offenders. She is involved in various projects such as creating “Tools of the Trade” for the National Institute of Corrections and maintains Websites.

Christine E. Bryce is a Senior Computer Forensic Examiner for the Virginia State Police Computer Evidence Recovery Unit. She also regularly instructs a variety of topics at the Virginia State Police Training Academy. Bryce frequently guest lectures and presents information around Virginia regarding “Parenting the Internet,” “Identity Theft,” “Internet Safety,” and other related topics. Bryce has a Master of Liberal Arts in American Studies (2002) from University of Richmond and a Bachelor of Social Work (1997) from Virginia Commonwealth University, and she is currently working toward a Ph.D. in Public Policy from Virginia Commonwealth University. Her research areas include computer forensics, judicial review, 1st Amendment interpretations, 2nd Amendment interpretations, 5th Amendment interpretations, state and local policy making, and other areas that capture her interest. Bryce has written and published over 40 training and procedural manuals in topics including computers, technical skills, writing and grammar, medical billing and procedures, and computer forensics. Bryce has also published several musical and poetry compositions.

David L. Carter (Ph.D., Sam Houston State University) is a Professor in the school of Criminal Justice at Michigan State University. He also serves as the Director of the National Center for Community Policing and Director of the Criminal Justice Study Abroad Program. He has written numerous books and articles and served as a trainer and consultant to law enforcement agencies throughout the United States and several foreign countries.

Pamela A. Collins is the Director of the Justice and Safety Center, housed in the College of Justice and Safety at Eastern Kentucky University in Richmond, Kentucky. She has also held the position of Acting Dean of Graduate School, Department Chairman of Loss Prevention and Safety, and is a Professor of both undergraduate and

graduate studies in the Loss Prevention and Safety Department. Dr. Collins holds a Bachelor of Science degree in Security and Public Safety, a Master of Science degree in Criminal Justice from Eastern Kentucky University, and a Doctorate in Higher Education with an emphasis in Educational Policy Studies from the University of Kentucky. She is a Certified Fraud Examiner (C.F.E.). Prior to coming to Eastern in 1986, she worked as an Industrial Security Specialist for General Electric, Aircraft Engine Business Group Division, and as a Fire and Safety Engineer for Industrial Risk Insurers.

Ann Marie Cordner (Ph.D., University of Maryland) is a senior research associate and project co-director in the Justice and Safety Center at Eastern Kentucky University, where she also teaches part-time in the Department of Criminal Justice and Police Studies. She has held faculty positions at Temple University and Niagara University and worked as a researcher/planner for the Kentucky Criminal Justice Council. Her research interests include the death penalty, prosecutorial decision-making, hate crime, and community policing.

Gary Cordner is Dean of the College of Justice and Safety (formerly the College of Law Enforcement) at Eastern Kentucky University, where he is also a Professor of Police Studies and Director of the Regional Community Policing Institute. He received his Ph.D. from Michigan State University and served as a police officer and police chief in Maryland. Cordner has co-authored textbooks on police administration and criminal justice planning and co-edited several anthologies on policing. He edited the *American Journal of Police* from 1987 to 1992, co-edited *Police Computer Review* from 1992 to 1995, and now edits *Police Quarterly*. Cordner is past president of the Academy of Criminal Justice Sciences, the country's largest association of criminal justice educators and researchers, and founder and former chair of that organization's Police Section. In recent years, he has worked with Abt Associates, the Police Executive Research Forum, and the Institute for Law and Justice on community policing and information technology projects, taught regularly for the Law Enforcement Management Institute of Texas, and served as a research consultant to the San Diego Police Department.

Jill A. Gordon is an Associate Professor in the School of Government and Public Affairs at Virginia Commonwealth University. She received her Ph.D. and Master of Science in Criminal Justice from the

University of Cincinnati, and a Bachelor of Science in Criminal Justice from Bowling Green State University. Her primary research interests focus on evaluative studies concerning correctional policy. In addition, she examines the attitudes held among those who work with correctional clients. She has been awarded several federal, state, and local grants and is published in a variety of journals including *Criminal Justice and Behavior*, the *Journal of Contemporary Criminal Justice*, the *American Journal of Criminal Justice*, the *Prison Journal*, the *Journal of Juvenile Justice and Detention Services*, and the *Journal of Quantitative Criminology*.

Robert C. Haas (M.A., Rutgers University) is the Chief of Police for the Westwood Police Department in Massachusetts. Prior to accepting his current position, he served fifteen years as a police officer in Morris Township Police Department in New Jersey, where he rose to the rank of lieutenant. While serving as a police officer in New Jersey, he also taught extensively at the Morris County Police Academy as a certified police instructor in a variety of topical areas and served on the Board of Directors for the New Jersey Battered Women's Services.

Janet Hutchinson is an Associate Professor and Coordinator of the Public Administration Program in the L. Douglas Wilder School of Government and Public Affairs, Virginia Commonwealth University. Her research and publications follow two threads: issues in child and family policy and feminist theory particularly in relation to public policy, and organization behavior and development. She also has a research interest in the sociology of knowledge use. She teaches courses in research methods and statistics, and women and family policy, and is affiliated with the Women's Studies program at VCU. Dr. Hutchinson received her undergraduate degree in sociology from the University of Maryland, her Master of Public Administration from American University, and her Ph.D. in Public Policy from the Graduate School of Public and International Affairs, University of Pittsburgh.

Janice O. Joseph is a Professor of Criminal Justice at the Richard Stockton College of New Jersey. She received her Ph.D. from York University (Canada). Her research interests include juvenile justice, criminology and deviance, minorities and crime, women and criminal justice, and corrections.

Andra J. Katz (Bannister) (Ph.D., Michigan State University) is an Associate Professor and Graduate Coordinator, Criminal Justice and Assistant Director at the School of Community Affairs at Wichita State University. Her research interests include computer crime, community policing, and international organized crime issues.

Robyn Diehl Lacks is an Assistant Professor of Criminal Justice in the School of Government and Public Affairs, College of Humanities and Sciences at Virginia Commonwealth University. She earned her Ph.D. in Developmental Psychology (2003) and her Masters degree in Criminal Justice (2000) from Virginia Commonwealth University and her Bachelors in Psychology (1998) from Randolph-Macon College. Her research areas include the impact of violence exposure on aggressive and delinquent acts, violent crime scene analysis and community-based program evaluation. She has published articles on DNA analysis and federal and state victim resources. She currently has articles under review on the impact of crowd behavior at homicide scenes and the impact of violence exposure on adolescent adjustment. She also has published several encyclopedia entries and community-based evaluation reports.

Dr. James E. Mays is an Associate Professor of Statistics in the Department of Statistical Sciences and Operations Research at Virginia Commonwealth University. His research interests include nonparametric and semiparametric regression techniques, with emphasis on smoothing considerations and the development of model-robust techniques. Dr. Mays is also involved in the development of introductory level (general education) statistics courses, including the implementation of interactive multimedia techniques in instruction and the development of supplement manuals to accompany numerous introductory statistics textbooks.

Lorraine Green Mazerolle (Ph.D., Rutgers University) is an Associate Professor at Griffith University in the Key Centre for Ethics, Law, Justice and Governance. Her research interests include crime prevention, policing and crime control, technology and policing, research methods.

Laura J. Moriarty is a Professor of Criminal Justice in the School of Government and Public Affairs and Associate Dean, Academic Affairs, College of Humanities and Sciences at Virginia Common-

wealth University. Her earned degrees include the Ph.D., Sam Houston State University (1988), the Master of Criminal Justice (1985), and Bachelor of Criminal Justice (1984) from Louisiana State University. Her research areas include victims of crime, victimology, fear of crime, and violent crime. She is the author, co-author, or co-editor of six books: *Victims of Crime* (with Robert Jerin, Nelson-Hall, 1998), *American Prisons: An Annotated Bibliography* (with Elizabeth McConnell, Greenwood Press, 1998), *Current Issues in Victimology Research* (with Robert Jerin, Carolina Academic Press, 1998), *Criminal Justice Technology in the 21st Century* (with David Carter, Charles C. Thomas, 1998), *Policing and Victims* (Prentice/Hall, 2002), and *Controversies in Victimology* (Anderson Publishing Company, 2003). She also has published over 45 scholarly articles, book chapters, and non-refereed articles.

Larry J. Myers is President of Justice Communications Incorporated (JCI), a software application development firm located in The Woodlands, Texas. JCI specializes in criminal justice education and training, as well as the development of Web-based and wireless communication systems for improving community justice. He received his Ph.D. in Educational Human Resource Development from Texas A&M University in College Station. In addition, he received his Masters in Criminology from Florida State University. His research interests include community justice, high technology crime investigation, instructional technology, criminal justice education, and training and development. Recent publications include two articles on teaching about computer crime in the *Journal of Criminal Justice Education*.

Laura B. Myers is Professor of Juvenile Justice in the College of Juvenile Justice and Psychology at Prairie View A&M University, Prairie View, Texas. Her doctorate degree in criminology is from Florida State University. Her publication areas include criminal justice education, criminal courts, criminal justice ethics, cultural diversity, and criminal justice administration. Recent publications include two articles on teaching about computer crime in the *Journal of Criminal Justice Education*, an article on substance abuse treatment for minority females in the *Prison Journal*, an article in the *Prison Journal* on cultural diversity awareness for correctional personnel, and two editions of a book on teaching criminal justice professors how to teach. She is currently writing a book on criminal justice ethics that will be published in 2005.

Samuel Nunn is a Professor of Criminal Justice in the School of Public and Environmental Affairs at Indiana University-Purdue University, Indianapolis, and research director of the Center for Urban Policy and the Environment. He has been a consultant for, among other clients, the Indiana State Police and the Indiana Counter Terrorism and Security Council. His research focuses on criminal justice technologies and their impacts, with criminal justice-related publications in the *Public Administration Review*, *Journal of Policy Analysis and Management*, *Journal of Urban Technology*, *Policing: An International Journal of Police Strategies and Management*, *Police Practice and Research*, and *Evaluation Review*.

Timothy J. Potts has a Bachelor of Science degree in Visual Communications Technology from Bowling Green State University. He has worked in the audiovisual field for over a decade. He is currently the Senior Systems Engineer for Virginia Commonwealth University's Media Support Services department where he is in charge of the technological installations for the university. His work encompasses multimedia platforms, videoconferencing, and distance education.

Kathryn E. Scarborough is an Associate Professor at Eastern Kentucky University. She earned her Ph.D. in Criminal Justice from Sam Houston State University. She also has a Master of Arts in Applied Sociology with a Certificate in Women's Studies from Old Dominion and Norfolk State Universities, and a Bachelor of Science in Criminal Justice from the University of Southern Mississippi. Dr. Scarborough is the Director for Research and Evaluation for the Justice and Safety Center. Prior to her teaching at Eastern Kentucky University, she was a police officer in Portsmouth, Virginia, a United States Navy Hospital Corpsman/Emergency Medical Technician, and a chemical dependency technician. Her current teaching and research interests include criminal investigation, law enforcement technology, community policing, and police administration.

Eric Shepardson is a Research Assistant at the University of Maryland's Bureau of Governmental Research. For the past 5 years, he has been working extensively with the Maryland Division of Parole and Probation to assist them in implementing their "Proactive Community Supervision" initiative, which has represented a signifi-

cant change in their organizational culture and structure. Included in this work has been the development and delivery of training curricula that included the Proactive Community Supervision I Training, which focused on Motivational Interviewing as a brief intervention, and the “Sizing Up” training that introduced a new assessment process. Along with the development of the curricula, he has been extensively involved in the development and deployment of various interactive training tools that have been designed to assist staff in their understanding and use of these various new concepts. Some of the tools are the “Break the Cycle CD-ROM,” “Nuts and Bolts of PCS,” “Proactive Community Supervision CD-ROM,” and “Tools of the Trade.”

Irina R. Soderstrom is an Associate Professor in the Department of Corrections and Juvenile Justice Studies at Eastern Kentucky University. She received her Bachelor of Arts in Sociology/Pre-Law at the University of Illinois, Urbana-Champaign in 1987. She received her Master of Science in Administration of Justice in 1990, and her Ph.D. in Educational Psychology/Statistics and Measurement in 1997 from Southern Illinois University at Carbondale. Her primary teaching interests include statistics, research methods, and research seminar courses at both the undergraduate and graduate levels. Her primary research focus is in program evaluation and she has conducted considerable evaluative research on parole programs, boot camps, correctional industries, teen courts, and school safety.

Faye S. Taxman is a Professor in the Wilder School of Government and Public Affairs at Virginia Commonwealth University. Dr. Taxman’s work is in corrections, sentencing, and program evaluation. She is currently the principal investigator evaluating the implementation of the 12 sites in the treatment and criminal justice component of the Washington/Baltimore HIDTA program and two evaluations of substance abuse treatment programs. She is also the co-principal investigator (with James Byrne) for the grant entitled “Evaluation of Prison Culture,” sponsored by the National Institute of Corrections. Dr. Taxman has published in the areas of corrections, treatment, and evaluation.

To My Godchild
Haleigh Madison Moriarty

PREFACE

This new edition of *Criminal Justice Technology in the 21st Century* is the result of many individuals inquiring about the book being updated. Apparently, there are many universities and colleges that now offer courses in criminal justice that focus on technology. I find this very interesting as my institution is only just thinking about such a course for our program. Nonetheless, many of the individuals who have used the original book found it to be very useful in their classes, but as with all technology resources, it quickly became outdated. Thus, the impetus for the second edition stems from a push to update it by those who regularly used the book.

Many of those who contacted me about updating the book are current contributors to the second edition. It only seems natural that those who are teaching, developing, and researching criminal justice technologies should be included in the text.

The text still has 14 chapters with 9 new chapters written specifically for this edition, one chapter has been updated, one chapter is a reprint, and 3 chapters remain as they were in the first edition. What I like about the second edition is the appropriate mixture of “knowledge” or information about specific types of technology with empirical studies (i.e., evaluations) of certain technology used in various sub-components of the criminal justice system. Students, educators, and practitioners will find this edition useful as it provides practical knowledge about different technology that is useful on many levels.

The book is arranged in the same format as the first edition. However, there are three introductory chapters, one that *is* the introduction written by Samuel Nunn, and two others, one that introduces Law Enforcement Technology written by Kathryn Scarborough and Gary Cordner, and the other introduces Prison Technology, written by Janice Joseph. These three chapters provide an excellent overview of

technology in criminal justice. Professor Nunn begins by defining technology, which is a very interesting discussion, and then he moves into explaining specific criminal justice technologies (as he labels it). Professors Scarborough and Corder focus on law enforcement technologies while Professor Joseph focuses on prisons. They make a skilled presentation of all the technology available to date in their respective areas. The chapters do not overlap; they complement each other. Both the neophyte and the techno “geek” will find these chapters informative and instructive.

The education section of the text has been increased from three chapters in the previous edition to four chapters. Three of the four chapters are new additions while the third chapter has been updated. The section has been expanded to include training in this section with two of the new chapters addressing specific training opportunities. The Taxman, Bello, and Shepardson chapter actually describes how to train individuals using interactive technology tools. The beauty of this system is that any type of training can be conducted using the interactive technology tools. The authors provide Websites and specific instruction for anyone interested in training in this manner. The Baggett, Collins, and Corder (AnnMarie this time, not Gary) chapter provides an evaluation of a computer-based training for DNA evidence collection. The focus is not on the DNA evidence collection training, rather it is on the application or protocol used to provide the training. In this case the authors compare traditionally delivered training with training delivered via technology. The authors point out that if both strategies are successful in training individuals, then consideration should be given to what type of delivery system works best for an agency given time constraints, budget restrictions, willingness to be trained, and so on.

In that same section, Laura and Larry Myers describe the evolution of the criminal justice discipline to produce cyber competent criminal justice practitioners and researchers. Their work lays the foundation for a new chapter entitled “Computer Forensics” that is presented later in the book. The point emphasized by the Myers is that we are obligated as scholars and professors to prepare the future practitioners to respond appropriately to cybercrime. And in doing so we must continue to conduct research in this area or we will neglect our fundamental charge as academicians and the discipline will become stagnant and be nonresponsive to societal changes.

The chapter by Hutchinson, Mays, and Moriarty is updated and presents technological aids that can be used in statistics courses. The authors are still developing a CD-ROM to facilitate the understanding of statistics in all courses but to date they have not completed the project. In the meantime, many other products have been published since the first chapter was written, and the authors do a very nice job at updating the readers.

The next section of the book entitled “Law Enforcement Technology” has three new chapters while one remains as it appeared in the first edition. As you will see, my colleagues at Eastern Kentucky University have been very involved in research focusing on technology. I have already discussed the Scarborough and Cordner chapter that provides an excellent update on law enforcement technology, and as you will see, Kay and Gary have also been busy conducting a national survey on technology and training needs of rural law enforcement. Their chapter with their co-authors, Pamela Collins and Irina Soderstrom, reports the results of the national study. Rural law enforcement is often ignored when we focus on policing, especially when we narrow the focus to training and technological needs. Thus, the goal of the chapter is to describe the technological capabilities and technology-related training needs of small and rural law enforcement agencies. You will find the results of their study very interesting.

The other chapters in this section focus on specific law enforcement technologies with an evaluation of them. The problem-solver chapter was in the first edition. Mazerolle and Haas provide an excellent explanation of a system used to support problem-oriented policing. The new chapter by Baggett and Cordner (AnnMarie) is an evaluation of a mobile firearm simulation system. Both chapters discuss two very important technologies that are very helpful to law enforcement.

The next section focuses on courtroom and corrections technology. The first chapter written by Gordon, Moriarty, and Potts is an evaluation of videoconferencing in one jurisdiction. The authors survey courtroom personnel to determine their attitudes and opinions about this technology. It is an interesting chapter, especially when one thinks about the average age of the respondents, what the literature suggests about age and technological savvy, and the conclusions made by the authors that the respondents would like to see the technology used in more court-related procedures and/or settings.

The second chapter in this section is entitled “Technoprison: Technology and Prisons.” It is a reprinted chapter that describes all the

possible technology that can be used in prisons. It is a great overview just like the chapters written by Sam Nunn and Kay Scarborough and Gary Cordner. Professor Joseph discusses the specific technology used in prisons, the potential for increasing that technology, and identifying new types of technology that can be used while not losing sight of the fact that some of these technologies might violate prisoners' rights. It is a fascinating chapter—especially when you consider how little knowledge the public really has about the potential to use technology in a prison setting.

The last section is entitled “Criminality and Technology.” One new chapter is presented, “Computer Forensics,” and two chapters from the first edition are included. This section is compiled as it is to help with the “evolution of the discipline.” In responding to the Myers' admonishment that we must “prepare the future practitioners to respond appropriately to cybercrime,” this section provides a foundation for beginning to do so. Robyn Lacks and Christine Bryce fully support the Myers' warning and provide their own justification for their chapter that parallels what Laura and Larry are advocating: With “the increase in computer-related crimes it is imperative that law enforcement agencies and prosecutors gain the technology, skills, and abilities to obtain electronic evidence stored in computers (Lacks & Bryce, Chapter 12).” With that goal in mind, the authors present an overview of computer forensics including definitions, aspects, and activities of it. They also explore the legal aspects governing information technology in the criminal justice system, major computer crimes, and they conclude with a case study from the Virginia State Police's Computer Crime Unit.

The two chapters written by Katz and Carter and Carter and Katz provide an excellent overview of computer crime victimization in the United States, and computer applications by international organized crime groups. The three chapters together add to the cybercrime literature, providing material for instructors and others to use when studying such behavior.

The second edition developed into what I think is an excellent reader/text that allows both the neophyte and the expert to learn something. As this book goes to print, we will continue to investigate current criminal justice technologies, because one thing is clear; technology development, no matter where the arena, waits for no one.

L. J. M.

ACKNOWLEDGMENTS

The second edition of this text would not have been possible without the extraordinary contributions of the many contributors to this volume. I am especially indebted to Kay Scarborough who contacted me long ago to provide feedback about the first edition. We talked and she informed me that she and her colleagues at Eastern Kentucky University were very involved in projects focusing on technology. I was intrigued and we talked more. Kay graciously volunteered to coordinate the ECU effort, making sure that all the chapters were turned in on time and that all the necessary information was correct. I am honored to publish their work in this volume, and I appreciate everyone at ECU being so willing to submit a chapter for the cause.

Other contributors in this volume were contacted directly by me, and none of them shied away from the request. I met Sam Nunn when he interviewed for a position at VCU, and immediately felt very comfortable with him. We discussed our mutual interest in technology, where he expanded on some of his recent work in the area. I asked him to write the introduction chapter to the book, and he agreed. He did a fantastic job, and I think it really sets the stage for the remainder of the text. I thank you, Sam, for your fine work.

Jill Gordon, Robyn Diehl, Christine Bryce, Janet Hutchinson, James Mays, and Faye Taxman are all colleagues of mine at VCU. They got the “call” from me asking for either an update of a chapter or for a new contribution to the book. Their work is excellent and I thank them all for responding—some on very short notice—and for the quality of their work.

Laura Myers always comes through for me and I thank her! I saw her at the ACJS conference and asked her to update the chapter. I did not expect to get a completely revised chapter, as I know her plate is

full, but that is exactly what Laura and Larry provided. Without her knowing, by writing a completely new chapter, she provided a perfect lead in for the last section of the book.

I must thank Janice Joseph and Roz Muraskin for allowing me to reprint Janice's chapter from Roz's book. We were discussing the chapter at the ACJS meeting in Las Vegas and I immediately knew that I wanted it for this book. Both Janice and Roz immediately agreed to let me publish it in my volume. What I did not know was how to go about getting permission from Pearson/Prentice-Hall to do so. When I found out there was a financial charge for doing so, I did not know if I would be able to get the chapter. Our new Interim Dean and the Director of the Wilder School of Government and Public Affairs, Dr. Robert Holsworth, graciously agreed to pay the fee to reprint the chapter. I always knew Bob supported scholarship and this generous gesture reinforced that idea in my mind. Thank you, Bob!

I would also like to thank the Dean's Office staff, especially India Urbach who is so helpful with everything I need. She has an incredible amount of knowledge about the university and knows how to get anything accomplished. Eventually, I guess, I would figure it out, but honestly I am not sure that this is an accurate statement.

I would also like to thank Dr. Patricia Grant. Her technological skills are phenomenal! She was a tremendous help as I tried to prepare Janice's chapter to be reprinted. Pat is my computer wiz and I am proud to call her my colleague and friend.

I would also like to thank Charles C Thomas Publisher, especially my editor, Michael Thomas. Michael has always been very responsive and supportive of this project.

Lastly, I have to thank my family. They have always supported me no matter what I decided to do.

CONTENTS

	<i>Page</i>
<i>Preface</i>	xv
<i>Chapter</i>	
1. THE TECHNOLOGY INFRASTRUCTURE OF CRIMINAL JUSTICE	3
<i>Samuel Nunn</i>	
Part I: Criminal Justice Education/Training and Technology	
2. MEETING THE DEMAND FOR CYBER COMPETENT CRIMINAL JUSTICE PRACTITIONERS AND RESEARCHERS: THE EVOLUTION OF A DISCIPLINE	33
<i>Laura B. Myers and Larry J. Myers</i>	
3. TECHNOLOGICAL AIDS FOR TEACHING STATISTICS IN THE 21ST CENTURY	42
<i>Janet R. Hutchinson, James E. Mays, and Laura J. Moriarty</i>	
4. USING INTERACTIVE TECHNOLOGY TOOLS AS PART OF SKILL DEVELOPMENT FOR CRIMINAL JUSTICE STAFF	55
<i>Faye S. Taxman, Marialina Bello, and Eric Shepardson</i>	
5. EVALUATION OF COMPUTER-BASED TRAINING FOR DNA EVIDENCE COLLECTION	78
<i>Ryan Baggett, Pamela A. Collins, and AnnMarie Cordner</i>	

Part II: Law Enforcement Technology

6. OVERVIEW OF LAW ENFORCEMENT TECHNOLOGY 97
Kathryn E. Scarborough and Gary Cordner
7. TECHNOLOGY AND TRAINING NEEDS OF RURAL LAW ENFORCEMENT: A NATIONAL STUDY 124
Gary Cordner, Kathryn E. Scarborough, Pamela A. Collins, and Irina R. Soderstrom
8. “THE PROBLEM-SOLVER”: THE DEVELOPMENT OF INFORMATION TECHNOLOGY TO SUPPORT PROBLEM-ORIENTED POLICING 145
Lorraine Green Mazerolle and Robert C. Haas
9. EVALUATION OF A MOBILE FIREARM SIMULATION SYSTEM 158
Ryan Baggett and AnnMarie Cordner

Part III: Courtroom and Corrections Technology

10. VIDEO CONFERENCING: AN EXAMINATION OF COURTROOM PERSONNEL ATTITUDES 195
Jill A. Gordon, Laura J. Moriarty, and Timothy J. Potts
11. TECHNOPRISON: TECHNOLOGY AND PRISONS . 214
Janice O. Joseph

Part IV: Criminality and Technology

12. COMPUTER FORENSICS 243
Robyn Diehl Lacks and Christine E. Bryce
13. AN ASSESSMENT OF COMPUTER CRIME VICTIMIZATION IN THE UNITED STATES 261
Andra J. Katz and David L. Carter
14. COMPUTER APPLICATIONS BY INTERNATIONAL ORGANIZED CRIME GROUPS 288
David L. Carter and Andra J. Katz

- Author Index* 303
- Subject Index* 308

**CRIMINAL JUSTICE TECHNOLOGY
IN THE 21ST CENTURY**

Chapter 1

THE TECHNOLOGY INFRASTRUCTURE OF CRIMINAL JUSTICE

SAMUEL NUNN

The term technology typically conjures up images of sophisticated machines doing various routine and complicated tasks rapidly and efficiently, sometimes with and other times without the assistance of humans. We speak of the technologies that put humans on the moon, or that place sophisticated imaging technologies millions of miles into space, of transportation technologies, of digital technologies, and in the case of this book, of criminal justice technologies. However, in some respects, this popular treatment of the word misses its essence. One definition of technology is simply applied science—the study of industrial arts, how to make tools do the bidding of humans. Going further back, the Greek root of the word, *techne*, actually means art or artifice (which, in turn, means skill, ingenuity, trickery, or craft). It is not too much of a stretch, then, to conceptualize criminal justice technologies as the actions and attempts by various agents of the system to use new and existing tools and apply techniques in tricky and ingenious ways to the conduct of crime, the crime prevention and control operations of the police, the judicial processing functions of the courts, and the warehousing, rehabilitation, and monitoring functions of corrections systems. The primary actors in criminal justice—the criminals, the people who measure and analyze crime, the police, judges, prosecutors, defense attorneys, and corrections officers—are all interested in using information technologies and other technological forms (e.g., electronic databases, surveillance systems, pharmaceuticals, explosives, weaponry) to achieve their various objectives.

This chapter examines the technology infrastructure of criminal justice, offering an overview of the kinds of technologies now underpinning criminal justice systems as well as how these technologies are used by the various actors within criminal justice—including criminals—to accomplish ends. It first categorizes criminal justice technologies into seven broad groups, and includes a brief description of each category. Following that, the various ways that criminal justice actors rely on technologies are briefly explored. The last section deals with some of the key issues generated by criminal justice technologies: diffusion and adoption of use, the desired outcomes of technology applications, and the impacts on criminal justice work.

BROAD CATEGORIES OF CRIMINAL JUSTICE TECHNOLOGIES

There are at least seven different—though highly related—types of technological systems in use among actors inside criminal justice. Criminals, criminal organizations, and the entire public safety, courts, and corrections systems utilize different technology systems and rely to different degrees on each of them to support their respective missions. It is assumed that all actors have personal computers (PC), or that most agencies have some version of computing power connected via local or wide area networks (LANs, WANs), or else they rely more simply on unconnected PCs. Table 1-1 offers an overlook of criminal justice system actors and the technologies important to each.

Table 1-1: Types of Technology Systems within Criminal Justice

Primary types of technological systems	Primary users in criminal justice	Examples of systems	Other synergistic requirements
1. Communications	Criminals, police, courts, corrections	Analog radio, digital wireless, mobile digital terminals, cell phones, cellular digital packet data (CDPD)	Wired and wireless LANs and WANs, (ideally) interoperability among agencies

Table 1-1: Continued

<i>Primary types of technological systems</i>	<i>Primary users in criminal justice</i>	<i>Examples of systems</i>	<i>Other synergistic requirements</i>
2. Database and recordkeeping	Criminals, police, courts, corrections	Criminal histories, warrants, NCIC, state systems, MAGLOCLEN, IAFIS, CODIS, property room and evidence inventories	Relational and inquiry capabilities, interconnected networks and files
3. Decision support	Police, courts	VICAP, Link analysis software, data mining software, MATRIX, case management software, CAPPS II	Human experts to evaluate output and suggestions from systems
4. Biometrics	Police, courts, corrections	Biometric access control systems, pattern recognition systems	Large databases with metrics inventory (e.g., prints, irises, DNA, etc.)
5. Monitoring	Police, corrections	Video cameras, passive scanning thermography, in-car videotaping, ECHELON, Carnivore	GPS systems, wiretapping equipment, local cable or wireless networks to connect sites
6. Imaging	Police, courts, corrections	Facial recognition software, aerial photography, GIS, thermographics, passive scanning devices	Large databases with searchable images
7. Weaponry and personal defense	Criminals, police, corrections	Taser stun guns, rubber bullets, beanbag guns, sticky shocker, laser dazzler, pepper spray, laser "heating" weapons, body armor	Training, standard operating procedures, "rules of engagement"