

Forensic Evidence in Court

Forensic Evidence in Court

A Case Study Approach

Christine Beck Lissitzyn

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Contents

Table of Cases	xv
List of Exhibits	xvii
Acknowledgments	xix
Introduction	xxi
Chapter 1 The Case Study: <i>State v. Grant</i>	3
Overview	3
Chapter Objectives	4
A Cold Case Is Reopened	7
The Crime and Investigation	7
Theory of the Case	7
Semen	8
Eyewitness Reports	8
Suspects	9
The Forensic Evidence	10
Cold Case Revived through a Fingerprint Match	10
The Trial	11
Fingerprint Testimony	11
DNA	11
Grant’s Character	12
No Alibi Evidence	13
Press Coverage of the Trial	13
The Lost Evidence	13
Written Statements Read at Trial	13
Lack of Motive	14
How the Fingerprint Got on the Box	14
Pre-Trial and Post-Trial Motions	15
Motion to Exclude DNA Results	15
Motion to Exclude Handkerchief Based on Chain of Custody	15
Motion to Exclude Statement Made by Grant to Police	16
Motion during Trial for a “Mistrial”	16
Motion for New Trial	16
Grant’s Appeal	17
What Kind of Issues Can Be Appealed?	17
Hurdles for a Defendant in Appealing a Conviction	18
Abuse of Discretion	18
Harmless Error Rule	19
The Grounds for Grant’s Appeal	19
The State’s Response	20

How Would You Decide?	21
Summary	21
Discussion Questions	22
Chapter 2 What Is Forensic Evidence?	23
Overview	23
Chapter Objectives	24
What Is Forensic Evidence?	24
Forensic Evidence and Expert Testimony	25
The Jury Is the “Finder of Fact”	26
The “Standard of Proof” for Crimes Is <i>Beyond a Reasonable Doubt</i>	27
Forensic Evidence Is Circumstantial Evidence	28
Linking Forensic Evidence to Ultimate Issues	29
The Richard Crafts Case—A Challenge to Circumstantial Evidence	31
Were Helle’s Statements Admissible under the Hearsay Rule?	33
Fingernail, Hair, Fiber, Tooth and Tissue	33
Standard of Proof Where One Inference Depends on Another	34
Circumstantial Evidence in the <i>Grant</i> Case	39
The Handkerchief	40
Jury Instruction on Circumstantial Evidence	40
Summary	41
Discussion Questions	42
Chapter 3 From Collecting Forensic Evidence to the Trial	43
Overview	43
Chapter Objectives	44
How Forensic Evidence Is Processed	44
Who Handles Forensic Evidence?	44
Crime Scene Processing	45
Locard’s Exchange Principle	45
On-Site Investigation	45
Laboratory Testing	47
Determining Class versus Individual Characteristics in Evidence	48
Chain of Custody	49
The Chain of Custody in the <i>Grant</i> Case	49
Linking the Forensic Evidence to Witness Statements	51
Types of Forensic Opinions	52
Finding and Preparing the Expert Witness	54
Expert Qualifications	55
Trial Strategy and Theory of the Case	56
Should the Defendant Testify?	57
Missing Evidence	57
No Experts for the Defense	58
Prosecution’s Theory of the Case	58
Defense Theory of the Case	62
Summary	64
Discussion Questions	64

Chapter 4 The Rules of Evidence	67
Overview	67
Chapter Objectives	68
Admission of Evidence Depends on Rules of Evidence	68
State and Federal Courts Have Different Rules	68
The Role of the Courts in Admitting Forensic Evidence	70
Trial Courts	70
Appellate Courts	70
The Effect of a Not Guilty Verdict	71
More than One Trial Can Result from the Same Set of Facts	71
Double Jeopardy	72
The Legal “Elements” of the Crime of Murder	72
Intent	73
Motive	74
Safeguards against “Unfair” Evidence	74
Is DNA Testimony Prejudicial?	76
Evidence of Prior Crimes Is Generally Not Admissible	77
Evidence Rules and Expert Forensic Testimony	78
Judicial Notice	80
Summary	84
Discussion Questions	85
Chapter 5 The General Acceptance Rule and the <i>Daubert</i> Case	87
Overview	87
Chapter Objectives	87
The General Acceptance Test	88
The <i>Daubert</i> Rule	90
Remand of the <i>Daubert</i> Case	93
<i>Daubert</i> Requires Gatekeeper Hearings	95
The Gatekeeper Process	96
How State Courts Reacted to <i>Daubert</i>	98
The Standard of Appellate Review Is “Abuse of Discretion”	99
<i>Kuhmo</i> Extends <i>Daubert</i> to “Technical” Testimony	99
Post- <i>Daubert</i> Issues	101
“Science” Developed Specifically for Litigation—Is It Suspect?	101
Is General Acceptance Alone Sufficient for Admissibility?	103
How Well Do Trial Judges Understand Science?	104
Summary	105
Discussion Questions	105
Chapter 6 The Scientific Method and Forensic Evidence	107
Overview	107
Chapter Objectives	108
The Scientific Method	108
Proving a Theory Wrong	109
The Science Underlying Forensic Identification	110
Fingerprints	111
DNA	112

Eyewitness Identification	112
Handwriting	113
Junk Science	113
Junk Science Is Not New	114
Can Anthropometry Conclusively Identify a Person?	116
Do Electromagnetic Fields Cause Breast Cancer?	117
Do Silicone Breast Implants Cause Autoimmune Disease?	118
What Causes Fibromyalgia?	120
Toxins	122
Psychological Expert Testimony	124
Who Is the “Relevant Scientific Community?”	124
Admit the Testimony and Let the Jury Decide Its Reliability	125
<i>Daubert</i> Hearings Involving Criminal Forensic Evidence	125
Shoeprints	126
Novel Identification Theories	126
Forensic Evidence Offered to Prove “What Happened”	127
Post Mortem Hair Banding	127
Ballistics and Gun Shot Residue	127
The Evolution from Junk Science into Real Science	128
Can Your Smell Identify You?	128
Can Your Brain Waves Show If You Are Telling the Truth?	128
Can a Computer Identify Your Handwriting?	129
Summary	129
Discussion Questions	130
Chapter 7 Fingerprints	133
Overview	133
Chapter Objectives	134
The Evolution of Fingerprint Identification	134
The Process of Fingerprint Identification	137
Obtaining the Crime Scene Print	137
Taking Prints from a Suspect	138
Comparing Ridge Characteristics and Minutiae	138
The ACE-V Method of Fingerprint Comparison	140
Analysis	140
Comparison of Prints	141
Evaluation	141
Verification	142
Opinion	142
The Automated Fingerprint Identification System “AFIS”	
Matching System	143
Isolating the Print	143
Identifying the Ridge Characteristics	144
The Computer Search	146
Does Fingerprint Identification Pass the <i>Daubert</i> Test?	147
A Federal Trial Court Rules a Fingerprint Examiner May Not	
Give an Opinion about Fingerprint Identification	148
Whether the Theory or Technique Can Be Tested	150
Peer Review	151

Rate of Error	151
Controlling Standards	151
General Acceptance	152
Other Cases on Fingerprints	153
Changes in Fingerprint Identification Technology	154
Fingerprint Identification Mistakes	156
Fingerprints in the <i>Grant</i> Case	159
Should One Fingerprint Have Been Corroborated?	159
The Fingerprint Identification on Appeal	162
Summary	164
Discussion Questions	165
Chapter 8 DNA	167
Overview	167
Chapter Objectives	167
The Process of DNA Profile Analysis	168
What Is DNA?	168
DNA Typing—A Quickly Changing Technology	170
The Principles of DNA Testing	170
Restriction Fragment Length Polymorphism (RFLP)	
Testing	171
DNA Testing Improves with Short Tandem Repeats	173
Polymerase Chain Reaction “Copies” Small DNA Samples	173
The Role of Statistics in DNA Profiling	174
DNA Testing of Degraded Samples	175
The Use of DNA Evidence in Court	176
The Expert Opinion in Court on a DNA “Match”	176
“Judicial Notice” of DNA Testing	176
Avoiding the “Prosecutor’s Fallacy”	176
Early Court Challenges to DNA Test Results	177
The <i>Chischilly</i> Case—Arguments about Population	
Subgroups	178
Later DNA Challenges to Population Profiles	180
<i>People v. Wilson</i>	183
“Cold Hit” DNA	184
Mixed Samples	185
DNA Evidence in the <i>Grant</i> Case	185
Porter DNA Hearing in <i>Grant</i> Case	189
What Objections Are Left to Refute DNA Profiles?	191
Review the Prosecution’s DNA Report for Case-Specific	
Anomalies	192
Planting	192
The Planting Argument in the <i>Simpson</i> Case	193
Objections Based on Poor Laboratory Procedures	194
DNA Identification Mistakes	195
<i>Daubert</i> Hearings on Mitochondrial DNA	196
The <i>Scott Peterson</i> Case	198
Summary	198
Discussion Questions	199

Chapter 9 Eyewitness Identifications	201
Overview	201
Chapter Objectives	202
Why Is Eyewitness Testimony Unreliable?	203
The Effect of Lineup and Photo Array Procedures	204
What Happens If the Administrator Knows Who the Suspect Is?	205
Proposed Lineup Reforms	205
One Court “Encourages” Lineup Reforms	206
Court Challenges to Eyewitness Identification	207
Common Knowledge	208
Testimony Would Not Be “Useful” for Jury	209
Testimony Is Not Supported by Scientific Research	209
Eyewitness Expert Testimony Lacks General Acceptance under <i>Frye</i>	212
Is There an Alternative to Expert Testimony on Eyewitness Reliability?	216
Eyewitness Errors in Exoneration Cases	216
Eyewitness Identification in the <i>Grant</i> Trial	218
Does the Composite Sketch Identify Grant?	221
Summary	222
Discussion Questions	223
Chapter 10 Blood Spatter Analysis	225
Overview	225
Chapter Objectives	226
What Is Blood Spatter?	226
Blood Spatter Analysis—What Are the Scientific Hypotheses?	227
Methods of Determining Patterns	229
Is Blood Spatter Expert Testimony Reliable?	230
Reliability Rulings	230
Crime Reconstruction	231
Challenges to Expert Qualifications	234
Blood Spatter “Experiments” Inadmissible	235
The <i>Sam Sheppard</i> Case—Blood Spatter in a Brutal Killing	238
Blood Spatter Testimony in the <i>Grant</i> Case	241
Summary	245
Discussion Questions	246
Chapter 11 Handwriting Analysis	247
Overview	247
Chapter Objectives	248
What Is Handwriting Analysis?	248
Handwriting Analysis Is Subjective	249
The Role of Training and Experience	250
Is Handwriting Analysis a Reliable “Science?”	250
Is There Any Proof That Handwriting Is Unique?	251
What Characteristics Are Most Useful in Distinguishing Handwriting?	251

Are More Common Characteristics Required in Disguised Writing?	252
The Traditional Handwriting Analysis Process	252
Gathering Exemplars	252
Examine Pictorial Similarities	253
Look for Individualizing Characteristics	253
Forgeries	253
Disguise	253
The Handwriting Expert's Opinion	254
What Characteristics Do Experts Look For?	254
The Admissibility of Handwriting Expert Testimony	255
Handwriting Analysis after <i>Daubert</i> but before <i>Kuhmo</i>	255
Admissibility after <i>Kuhmo</i>	257
Disguised Writing	258
Rejections Based on Lack of Expert Qualifications or “Common Knowledge”	258
Reliability and Error Rate	259
Expert May Point Out Differences, but Not Give an Opinion	264
Does Scholarly Disagreement Show Lack of General Acceptance?	268
Will the Courts of the Future Insist on All of the <i>Daubert</i> Factors?	269
Will Computer Handwriting Analysis Meet the <i>Daubert</i> Test?	269
Ransom Notes—From Lindbergh to JonBenet—	
Has Anything Changed?	271
Who Wrote the JonBenet Ramsey Ransom Note?	273
Summary	279
Discussion Questions	280
Chapter 12 Polygraph Testimony	283
Overview	283
Chapter Objectives	283
The History of Polygraph in Court	284
What Is a Polygraph?	285
Scientific Hypothesis of Polygraph	285
The Importance of Experience and Training	291
Use of Polygraph in Law Enforcement	292
Use of Polygraph outside of Criminal Investigation	292
Role of Training and Experience	294
Common Objections to the Reliability of Polygraph	294
Error Rate	294
Countermeasures	299
Opponents to Polygraph	300
Rejection of Polygraph in Court	300
The New Mexico Approach	302
Some Federal Courts Have Admitted Polygraph	303
Would Admitting Polygraph Results Deprive the Jury of Its Role?	305
Sixth Amendment Rights and Polygraph As Exculpatory Evidence	307
Admitting Polygraph As Character Evidence of Truthfulness in General	309

Jury May Not Hear That Defendant Took a Polygraph	310
Confessions Made Following a Polygraph Examination	311
Will fMRI Testing Meet the <i>Daubert</i> Tests?	312
Summary	313
Discussion Questions	314
Chapter 13 DNA and Its Role in Exonerations	315
Overview	315
Chapter Objectives	315
The Innocence Project	316
Who Are the Exonerated?	316
Laws to Preserve DNA Evidence	317
What Is the Process Leading to Exoneration?	318
Getting the Conviction Reversed	320
One State's Approach	321
Federal Law	322
The Role of Eyewitness Misidentifications and Reform	
Efforts	323
Are the New Statutes Too Little, Too Late?	323
Claims Based on Failure to Test DNA Evidence	324
<i>House v. Bell</i> —A Reversal Based on Improper Blood Testing	327
Exoneration and Post-Conviction Mitochondrial DNA Testing	333
Can Exonerees Sue for Money for Wrongful Imprisonment?	334
How Does the Exoneree Return to Society?	335
James Tillman	336
Summary	337
Discussion Questions	338
Chapter 14 Closing Statements, Jury Instructions, Verdict and Appeal	339
Overview	339
Chapter Objectives	340
The Closing Arguments in the <i>Grant</i> Case	340
The Prosecution's Initial Closing Argument	341
The Defense's Closing Argument	344
The Prosecution's Rebuttal to the Defense's Closing	
Argument	353
Objections Made in Closing Arguments	354
Jury Instructions	355
The Verdict	358
Post-Trial Motions	359
<i>Habeas Corpus</i> Petitions Based on Insufficient Evidence	360
Grant's Appeal	362
The Grounds for Grant's Appeal	362
No Probable Cause for Warrant to Take His Blood	362
Wrongful Admission of Statement by Grant to Police	363
Prosecutorial Misconduct	363
The State's Response	363
Summary	366
Discussion Questions	367

Chapter 15 The Judge, the Jury, and Forensic Evidence	369
Overview	369
Chapter Objectives	370
How Well Do Trial Judges Evaluate Science?	370
Studies of <i>Daubert</i> Hearings	371
Is General Acceptance Good Enough?	373
Should Jurors Hear All Forensic Testimony?	374
How Well Do Jurors Understand Complex Forensic Testimony?	374
Can Experts Confuse a Jury into Ignoring Forensic Evidence?	374
Was Evidence Ignored in the <i>Simpson</i> Trial?	377
Do Juries Have Unrealistic Expectations about Forensics Evidence?	378
The CSI Effect	378
What Do Jurors Say about Forensic Evidence?	379
Comments from the <i>Grant</i> Jury	380
Summary	382
Discussion Questions	382
 Index	 385

Table of Cases

- Abreu, *United States v.* 147–148, 165
Black v. Food Lion, Inc., 120
Brandt v. Rokeby Realty, 123
Brown, *State v.*, 73
Brown, *United States v.*, 99, 257, 372
Campbell, *State v.*, 162
Carter, *United States v.*, 209
Chischilly, *United States v.*, 178–179
Clegg v. Medical Engineering Corp., 119
Coleman v. *State*, 232
Gaynor, *Commonwealth v.*, 185
Crafts, *State v.* 24, 31–34, 36, 38–39, 41–42, 48, 57, 73
Crawford v. *Commonwealth*, 81, 83, 85
Crawford v. *County of Dauphin*, 226, 235
Crisp, *United States v.* 257, 260–261, 269
Daubert v. Merrell Dow Pharmaceuticals, Inc./*Daubert v. Merrell Dow/Daubert*, 78, 87–88, 90–91, 93–109, 112–113, 119–126, 129–131, 133–134, 139, 147–153, 156, 164–166, 176, 189–191, 196, 201, 207–209, 230, 233, 235, 237, 247–250, 255–257, 259–262, 264–267, 269, 278–281, 283–285, 291, 301–304, 306, 309, 312, 314, 333, 369–374, 382–383
Dengler, *State v.*, 124
Denton v. *Northeast Ill. Railroad*, 123
Dorsey, *State v.*, 305
Dracz v. *American General Life Insurance Co.*, 258
Edmonds v. *State*, 124
Ege v. Yukins, 97
Epp v. Lauby, 97, 121
Franco v. *Texas*, 231–232
Frye v. *United States/Frye*, 55, 87–93, 98, 103–105, 108, 121, 124, 127, 131, 176, 184, 190, 212–214, 223, 283–284, 303, 313–314, 369, 372
Fugate v. *Kentucky*, 176
Gaynor, *Commonwealth v.*, 185
General Electric Co. v. *Joiner*, 99
Gilbert v. *DaimlerChrysler*, 373
Ginardi, *State v.*, 222
Giordano, *State v.*, 71–72
Giordano, *United States v.*, 72
Grant v. *Boccia*, 121
Grant, *State v.*, 3–4, 7, 9–22, 24–27, 29, 39–40, 44–45, 48–51, 53, 55–58, 62–65, 68–70, 72–75, 78–80, 93–94, 97, 112, 123, 138, 140, 150, 159, 162–163, 165–168, 177, 185–192, 194, 196, 199–201, 212, 218–223, 225–226, 229, 239, 241–246, 301, 311, 313, 323, 326, 336, 339–341, 343–349, 351–355, 358–359, 362–367, 370, 379–383
Griffin, *State v.*, 124
Groom v. *Knoll Construction*, 123
Halake, *State v.*, 234
Harrington v. *State*, 312
Harvaard, *United States v.*, 153
Hauptmann, *State v.*, 248, 271–273, 280–281, 377
Hernandez, *United States v.*, 258
Hines, *United States v.*, 264–267
Holmes v. *Texas*, 230–231
House v. *Bell*, 327, 329, 333
In re *Prempro Products Liability Litigation*, 123
Jabali, *United States v.*, 373
Jakobetz, *United States v.*, 179
Jennings, *People v.*, 133, 147
Johnson, *People v.*, 184
Karr, *People v.*, 279
Kogut, *State v.*, 127

- Kuhmo Tire Co. v. Carmichael, 99–100
Lauder, United States v., 154–156, 165
Ledbetter, State v., 203, 206, 223
Lee v. Martinez, 302
Legrand, State v., 212, 214–216, 223
Lester, United States v., 209, 223
Lewis, United States v., 258
Link v. Luebbers, 56
Maher v. Quest Diagnostics, 81, 335
Mahone, United States v., 49
Martin, United States v., 134, 209
McClendon, State v., 208
Mincey v. Arizona, 46
Mitchell, United States v., 148–151
Monzo, State v., 162
Moore, State v., 124, 229
Moua, State v., 128
Mustapha, United States v., 153
Nations v. Texas, 209
Nelson v. Freightliner, 125
Nonnon v. New York, 123
Pappas, State v., 189–190, 197
Payne, State v., 161, 359–360, 367
Perry, State v., 310
Piccinonna, United States v., 304
Pizarro, People v., 171, 178, 180, 183–185,
192
Plaza, United States v., 96, 112, 133, 135,
140–141, 148–153, 165, 264, 269
Polston v. McGhan, 119
Porter, State v., 98–99, 189, 191, 199,
283–285, 290, 296–297, 299–302,
305–306, 314, 333, 369
Posado, United States v., 305
Pozefsky v. Baxter Healthcare Corp, 119
Prime, United States v., 261–263, 268–269,
281
Prince, People v., 182–183
Ragland v. Commonwealth, 127
Ramirez v. Florida, 127
Ratliff v. Alaska, 126
Reddick v. Florida, 318
Reid, State v., 48, 197–198, 303, 333–334,
336
Rogers, State v., 229, 231
Rufo v. Simpson, 311
Saelee, United States v., 259, 268
Schaeffer, United States v., 297–298, 309
Schrott v. Bristol–Myers, 119
Shea, United States v., 177–178
Sheppard v. Maxwell, 240
Sheppard, State v., 238–241, 246, 334,
338
Smith v. Commonwealth, 183, 233
Smithers, United States v., 202, 210
Starzecpyzel, United States v., 249, 251,
255, 257–258
Swinton, State v., 127
Tafoya v. Baca, 302
Valdez, State v., 305
Walters, United States v., 304
Weisgram v. Marley, 101
Wilson, People v., 154, 180, 183
Wolf v. Ramsey, 275, 277–278
Zeigler, United States v., 303

List of Exhibits

Chapter 1	The Case Study: <i>State v. Grant</i>	
	Penney Serra, trial exhibit 3.1	5
	Latent print on tissue box, trial exhibit 244	5
	Car with tissue box in back (boxed), trial exhibit 2.3	5
	Latent print on tissue box with detective's initials, bottom, trial exhibit 2.21	5
	Tissue box with blood closeup, trial exhibit 2.19	5
	Handkerchief, trial exhibit 6.3	5
	Crime schematic graphic	6
Chapter 4	The Rules of Evidence	
	State and Federal System of Trial and Appellate Courts Example: State of Connecticut Criminal Trials	69
Chapter 7	Fingerprints	
	Patterns (Loops, Arches and Whorls)	136
	Ridge Characteristics	137
	AFIS screens, courtesy of Connecticut State Forensic Laboratory	144
	AFIS printout, courtesy of Connecticut State Forensic Laboratory	145
	Composite of Madrid prints, used with permission, onin.com (Latent at site, Ouhnane, Mayfield)	157
	Daoud Ouhnane and latent Madrid prints enlarged, used with permission, onin.com	157
	Grant's latent and inked prints, exhibit 55.1	160
	Grant's Grants ten prints, exhibit 218	160
Chapter 8	DNA	
	Location of DNA and MtDNA	169
	Grant's DNA report, trial exhibit 254	186
	Grant's electropherogram, trial exhibit 84	187
Chapter 9	Eyewitness Identifications	
	Lineup photo, trial exhibit 207	219
	Grant and composite drawings, trial exhibit s 222.1, 208, 216, and 41.1	219
	Selman Topciu, trial exhibit 1067	219

Chapter 10 Blood Spatter Analysis	
Low velocity blood spatter, courtesy Connecticut State Police, Department of Records	227
Serra and spatter on stairs, trial exhibit 1.2	241
Spatter in garage and handkerchief, trial exhibit 6.3	241
Chapter 11 Handwriting Analysis	
Cedar-Fox computer handwriting analysis image, courtesy Sargur Srihari	271
Chapter 12 Polygraph Testimony	
Sample polygraph chart, courtesy Leighton Hammond	286
Sample polygraph report, courtesy Leighton Hammond	287
Chapter 13 DNA and Its Role in Exonerations	
Attorney Karen Goodrow, of the Connecticut Innocence Project, James C. Tillman, exonerated after 18 years for a crime he did not commit, and the author	336

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Christine Beck Lissitzyn

Introduction

In criminal trials today, science has become the gold standard of evidence. In 1995, in the O.J. Simpson trial, a jury failed to convict Simpson of the murder of his wife, Nicole, and Ron Goldman, a waiter, and in the process rejected a mass of DNA and other scientific evidence pointing to his guilt. Today, three factors have coalesced to make scientific evidence virtually invincible to juries:

- Jurors have been steeped in a culture of media that makes it appear that science is both easy to obtain and test, and virtually invincible in its conclusions.
- Jurors are aware of defendants who have been exonerated based on subsequently tested DNA—they expect evidence at trial to ensure that they convict the right defendant.
- Jurors have come to expect the “dazzle” of the scientific presentation. Television shows and commentators have made many formerly esoteric technologies accessible to the public.

The public is fascinated with forensic evidence. It is the new medium in which murder mysteries are solved. But is all forensic evidence equal? Can some evidence impermissibly prejudice the jury? Have juries come to expect forensic evidence?

Is what you see on the television show CSI (Crime Scene Investigation) accurate? Is fingerprint matching done by a computer superimposing a picture of a fingerprint over a print taken from a crime scene? Do DNA results come back in twenty minutes (or even a day), identifying a specific person? Do forensic investigators go out to the crime scene and then try to track down the bad guys? Can all of this be done in one hour?

This book will examine several areas of forensic evidence in light of evolving standards in science, in the content and the application of the rules of evidence, and in the working of the judicial system. Most forensic evidence is admitted in criminal trials with the aid of an “expert,” someone with scientific credentials who can explain the methodology to the jury. This expert frequently gives an “opinion” to the jury. For example, a fingerprint examiner may give his opinion that a fingerprint lifted from a crime scene identifies a particular suspect. A handwriting expert may show the jury similarities in writing between a ransom note and the suspect’s normal handwriting and give his opinion that the suspect wrote the ransom note. These expert opinions are powerful evidence at trial, as they frequently carry great weight with the jury.

Not all experts are permitted to testify, however. First, they must be qualified based on training, education and experience. Second, they must be able to articulate the methodology used in their evaluation of the forensic evidence and convince the trial judge that the science itself is reliable. One test for reliability is whether the scientific community generally accepts the area of science. An example is DNA testing. The scientific community accepts the scientific hypothesis that one’s DNA can conclusively iden-

tify a person to the exclusion of all others. They may not agree with a particular method of obtaining the DNA profile, but they all agree with the science and that proper profiling methods will yield a reliable DNA profile. A number of courts have decided that DNA profiling is “judicially accepted,” which means that the party putting on the DNA evidence does not need to produce any evidence of the reliability of DNA testing.

This text examines in some depth six different areas of forensic evidence:

- Fingerprint identification
- DNA profiling
- Eyewitness identification
- Blood spatter analysis
- Handwriting analysis
- Polygraph

The first four types of evidence are routinely admitted in court. Fingerprint identification and DNA both rest upon accepted scientific principles. Blood spatter analysis is scientific at the level of measuring the size and shape of blood drops, but can become more hypothetical when analysts try to reconstruct a crime based on the blood patterns. Eyewitness identification has historically been viewed as the most important evidence in a criminal trial. Juries believe that a witness who identifies a suspect is one of the most important factors in a trial. Yet new science has shown that eyewitness identifications are subject to many possible errors and are not nearly as reliable as people once believed.

Handwriting analysis has been accepted in the courts for years, yet many examiners can give no particular method to their analysis or a specific number of handwriting characteristics that they must find in common to determine a match. Polygraph, by contrast, is extremely scientific in its measurement. No one disagrees that it accurately measures blood pressure, heart rate, and sweaty hands. But do those physiological measurements equate to evidence of deception or telling the truth? And even if they are accurate measures of deception, is the error rate—assumed to be about 20% at the most favorable—too high to allow it into court? As the jury is the one that is supposed to decide whether the defendant is telling the truth, doesn’t polygraph take away an important jury responsibility?

Finally, both handwriting and polygraph are now developing new forms of science to measure the same phenomena but with more reliability. Computer programs have been developed to measure known handwriting characteristics. Scientists are experimenting with using a functional magnetic resource imaging technique to measure brain waves that they believe will automatically react to statements that can connect a suspect with a crime.

The court system is changing constantly in its approach to admitting new scientific evidence. At the same time, the science is changing as well.

How important is science in determining “truth” in the courtroom? Are today’s juries overly impressed with science? Do they reject science if it sounds too complex or intimidating?

We will examine many of these questions in the context of case studies about actual criminal trials. The primary case study is *State v. Grant*, a cold case involving the stabbing death of a young woman in a New Haven, Connecticut garage in 1973. The case remained unsolved until 1997, when a fingerprint examiner at the Connecticut Forensic Science Laboratory found a match to an unidentified fingerprint taken from the crime scene by checking in an AFIS [Automated Fingerprint Identification System] database. The fingerprint belonged to Ed Grant, a garage mechanic who lived about a half hour

away from the crime scene. The fingerprint led to a warrant for Grant's blood, which was matched by DNA to a small spot on a handkerchief that was found at the scene.

Based on these two powerful pieces of forensic evidence, Grant was arrested, tried and convicted in May of 2002. He was sentenced to 20 years in jail. Investigators were unable to link Grant with the victim or to show any motive for the crime. The eyewitnesses had given somewhat different descriptions of a man they saw running in the garage and one eyewitness actually identified Serra's boyfriend. The witness was wrong and the boyfriend was released based on his blood type and alibi. Investigators sought an arrest warrant for another man and were ready to begin his trial when blood results showed his DNA did not match the blood found at the scene and believed to be that of the murderer.

Yet, how could the jury ignore the fingerprint and the DNA on the handkerchief? As the prosecution commented, the defense offered no "innocent explanation" for their presence at the crime scene.

In the course of studying this case and other famous cases, we will also examine other issues such as:

- How does the way crime scene investigators handle evidence affect whether it can be admitted in court?
- What is circumstantial evidence? Is it as good as direct evidence? Why is forensic evidence circumstantial?
- Does a jury have to believe an expert witness?
- What causes eyewitnesses to remember a particular face, when subsequent events prove that is not the person they saw?
- How do the Rules of Evidence work to keep out statements such as the entries in Nicole Brown Simpson's diary that she was afraid O.J. would kill her?
- Why wasn't the jury allowed to hear that Grant's fingerprint was entered into the database as the result of a domestic dispute?
- Why does an appeals court allow an evidence ruling of a trial court to stand, even where the appeals court might have made a different decision if it were the trial court?
- How can a prisoner who believes he is innocent get access to the crime scene DNA for testing so that he can be exonerated?
- Is the judge better than the jury to evaluate whether scientific testimony is reliable? Why not just let all forensic evidence in and rely on opposing counsel to cross examine the experts?
- Do defendants have a Constitutional right to present certain forensic evidence, such as polygraph, in their defense?
- How can the court determine if evidence is based on a reliable science that has been reliably applied?
- Does the possible prejudice to the defendant of admitting the evidence justify excluding it?
- How does the fact that the examiner uses his judgment in evaluating the evidence affect its admissibility?
- Does the evidence require an expert to explain it to the jury, or can the jury understand it just by looking at it?