No matter which authority, text, or reference one looks to for guidance, the response is generally the same: the boundaries of criminology, as a field, are broadly and poorly drawn. This hasn’t kept it from being a reliable and valid enterprise when actual scientists are involved, or from providing useful theories and references to those working in the criminal justice system. But it has caused more than enough confusion.

One critical omission from criminology that has helped to restrain vagaries in other professions is the lack of a governing or accrediting body whose purpose is to ensure that standards are met and maintained. While there are a number of criminological organizations around the world, few if any actually dictate membership to the profession through a vetting of educational and professional achievements. This, undoubtedly, has resulted in no small amount of deception and brigandry among its practitioners and may have gone a long way in undermining criminology (and specifically, forensic criminology) as a discipline capable of addressing complex social and legal problems.

The Domain

The domain of criminology is vast, involving any field or practice that intersects with the scientific study of crime and criminality. It looks at these issues from any available angle. As shown in the preceding section, criminology is therefore a field of study that is composed of and informed by an amalgam of subdisciplines. As explained in Reckless (1955, p. 7):

> Although criminology is a behavioral science as well as an applied science, it is also a highly synthetic science and not at all an exact science like physics and mathematics. It receives it contributions from experts in such disciplines as biology, anthropology, physiology, medicine, psychiatry, psychology, social administration, sociology, economics, law, political science, and penology and corrections.

Another similar short list of those disciplines that have contributed to the development of criminological theory and research includes “philosophy, history, anthropology, psychology, psychiatry, medicine, biology, genetics, endocrinology, neurochemistry, political science, economics, social work, jurisprudence, geography, urban planning, architecture, and statistics” (Williams, 1995, p. 179). Aside from the obvious, these refer to professionals such as the historian who studies criminal patterns of the past, the neurochemist researching neurotransmitter activity in the criminal brain, the economist who studies crime and poverty trends, and the architect who studies and designs prisons. All these professionals, their methods, and more, comprise or inform the multidisciplinary fabric of criminology as a composite field of study.

A useful way to define some of the discrete edges of that fabric, to identify the domain of criminology itself as it is woven, is to categorize the major
areas of criminological research apart from professionals and their methods, including

- The study and development of methods of crime detection and reconstruction
- The study and development of methods of criminal identification
- The study of the motives, causes, and consequences of crime
- The study of crime and deviant behavior
- The study of crime rates
- The study of crime victims
- The study of criminal justice system processes, interactions, and outcomes
- The study of crime patterns and deterrence

For example, crime may be detected by the criminalist identifying evidence from a scene and then reconstructed by a forensic scientist combining the results of several other forensic analysts; a criminal may be identified by a crime analyst using modus operandi patterns, or by a criminalist using DNA from the criminal’s blood; criminal motives may be inferred by a profiler, and deviant sadistic tendencies may be inferred by a forensic psychologist; burglary rates in a given neighborhood may be compiled and interpreted by a statistician; victim occupational risk factors may be studied by a sociologist; and the wrongful conviction rate of a particular race may be studied by a legal scholar. Each of these professionals contributes to criminology as a scientific body of knowledge, puts criminological knowledge to use, or both.

Consider the following hierarchy of criminology subjects, featuring forensic criminology, its related subdisciplines and associated specialties:

I. Criminology
   a. Applied Criminology
      i. Community Policing
      ii. Corrections/Penology
      iii. Criminal Justice Administration/Police Science
   iv. Forensic Criminology
      1. Criminal Investigation
         a. Crime Analysis
         b. Crime Scene Analysis and Case Linkage
         c. Crime Scene Investigation
         d. Criminal Profiling
         e. Fire Scene Investigation
         f. Interview/Interrogation
         g. Investigative Practice and Procedure
         h. Medicolegal Investigation
         i. Presentencing/Mitigation Investigation
         j. Polygraphy
         k. Threat Assessment or Risk Assessment
2. Forensic Mental Health
   a. Correctional Counseling and Therapy
   b. Forensic Psychology/Forensic Psychiatry
      i. Offender Competency Evaluation
      ii. Offender Diagnosis and Treatment
      iii. Offender Risk Assessment
3. Forensic Science
   a. Crime Reconstruction
      i. Accident Reconstruction/Forensic Engineering
      ii. Bloodstain Pattern Analysis
      iii. Shooting Incident Reconstruction
      iv. Wound Pattern Analysis
   b. Criminalistics
      i. Drug Chemistry/Analysis
      ii. Forensic Biology
         1. DNA
         2. Serology
      iii. Fire Debris Analysis
      iv. Trace Evidence Analysis
         1. Commercial Materials Analysis
         2. Fiber Analysis
         3. Glass Analysis
         4. Hair Analysis
         5. Soil Analysis
   c. Digital Evidence Analysis
   d. Equivocal Death Investigation
      i. Equivocal Forensic Analysis
      ii. Psychological Autopsy
   e. Fingerprint Analysis
   f. Footwear Pattern Analysis
   g. Forensic Dentistry/Odontology
   h. Forensic Nursing
   i. Forensic Pathology
   j. Forensic Toxicology
   k. Firearms & Tool Mark Analysis
      l. Questioned Documents
4. Forensic Victimology
5. Law
   b. Crime and Deviance
   c. Crime Statistics
   d. Crime Theory
   e. Criminal Motivations
f. Policy Development

g. Restorative Justice

h. Victimology

While not all-inclusive, this outline should provide readers with a threshold sense of what the authors, and many others across the centuries, are referring to when employing the word criminology and the relationships between its subdisciplines.

Again, and for the uninitiated, this structure relates to the field of criminology and exists separate from laws and legal systems.

The Practitioners

There are as many different types of criminology practitioners as there are of criminology and its subdisciplines. One way to distinguish this wide assortment is by their formal association with the profession. First, there are those who refer to themselves as criminologists, and those who do not.

Formally trained criminologists are for the most part social scientists with graduate- or doctoral-level education employed by universities (often dictated by institutional policy and employment requirements). As theoretical as this may seem, such positions are heavy with application, or at least its potential. As explained in van der Hoven (2006, p. 156):

Briefly, it can be stated that criminologists are trained in the social sciences and focus mainly on the causes, explanation and prevention of criminal behaviour. The study field includes the profiling of offenders as well as of victims of crime. The main emphasis is therefore on the individuals involved in the criminal act.

Dr Irma Labuschagne (2003, p. 5) rightly points out that criminology not only focuses on individual criminal behaviour, but also on all environmental circumstances, as well as the context within which the criminal was functioning when the crime was committed.

Criminologists specifically study the criminal in all his facets, such as causal factors contributing to the criminal event, predisposition (e.g., personality make-up, genetic factors), precipitating factors, triggering factors, the interaction between the offender and the victim, victim vulnerability, victim rights, role of the victim in the criminal justice process, the criminal justice process, the prevention of crime and victim support, et cetera. Criminological studies involve personality and sexual deviations, for example the antisocial personality, paedophilia, violent offenders, rapists, and phenomena such as domestic violence, school violence and workplace violence.
Criminologists focus on the causes, dynamics, theoretical explanation and prevention of violent behaviour. They also study the offender’s patterns of criminal behaviour in the past to predict his or her behaviour in future.

Professional criminologists are easily identified by their formal education—most often at the doctoral level in criminology, sociology, or criminal justice—and by the nature and extent of their research publications. Though infrequently employed by the police in our modern justice system, “it is the police who are relying most heavily on criminological research to make substantial changes in basic structure and methods of operating” (Williams, 1995, p. 182).

As a behavioral scientist, the criminologist is distinguished from those in the mental health professions, such as the psychologist and the psychiatrist, by virtue of a focus on examining causes, interactions, and patterns of criminal behavior rather than specific diagnoses and treatment (van der Hoven, 2006).

We have already explained that some of the work in the subdisciplines of criminology is theoretical and abstract research, related to the identification and scrutiny of various criminal phenomenon. Conversely, some of it is practical and concrete, involving the hands-on application of criminological research and analytical processes to resolve questions related to criminal inquiry, legal disputes, and even social problems.

This leads us necessarily to forensic criminology.

**FORENSIC CRIMINOLOGY**

Quis, quid, ubi, quibus auxiliiis, cur, quomodo, quando?

Offered at the beginning of *In the Tracks of Crime* by Henry T. F. Rhodes (1952) as the “Maxim of a Roman Jurist”:

It may be argued that forensic criminology first appeared in U.S. literature as scientific criminology in the book *Crime’s Nemesis* by Luke May, published in 1936. He referred to this work as the scientific detection of crime and criminals, coming from the combined perspectives of physical evidence analysis and criminal modus operandi analysis. May (1936) states (pp. vi-viii):

The successful criminologist has no illusions about himself, despite the superman that fiction depicts. He lays no claim to psychic powers or clairvoyance. And yet, he must be more clever than the criminal. The criminologist often fights a battle of wits with diabolical cunning. His knowledge of life and men must be immense; his powers of logic and deduction, acutely developed. His must be a thirst for knowledge
in every field... Modern crime detection methods and the marvelous
developments in the scientific detective laboratories of today bring
stupendous odds against the criminal.

It is the purpose of this book to reveal these methods, bring them into
the light...

Criminology demands much... Much of this work, especially its
application to crime problems, was, of necessity, original; for science
has only recently become the handmaiden of the criminologist.

Not surprisingly, this language is essentially an adaption of the writings of
Hans Gross (to be discussed in the “Key Historical Figures” section of this
chapter), which had significant influence over May, and his holistic approach
to forensic casework.

The next major appearance of the concept occurred postcriminalistics, in the
text *Expert Witnesses: Criminologists in the Courtroom*, published in 1987. The
authors of this work come from an applied social science background: one is
a professor of criminology with a Ph.D. in criminology, and one is a profes-
sor of criminal justice with a Ph.D. in sociology. Both are criminologists and
both have confronted the issues of expert social science testimony in forensic
casework. Their approach to criminology and expert witnessing takes a narrow
but important perspective, leaving the investigative, physical evidence exami-
nation, and forensic mental health aspects entirely aside. They focused their
treatment instead on criminology as it relates to “matters of policing, court
processing, and prison treatment” (Anderson and Winfree, 1987, p. ix), where
research, theoretical, and process-oriented expertise in criminology becomes
important to legal questions and court proceedings, often in a civil context.
They explain that (p. 13):

The presence of criminologists in the court as expert witnesses
offering testimony on a broad range of criminal justice practices and
procedures, or criminological testimony in criminal trials, has included,
and continues to include evidence provided by forensic criminologists
trained in criminalistics... Experts are available for every imaginable
type of physical evidence and are usually qualified as expert witnesses
based on training and experience.

...

More recently, owing largely to the expansion of the academic field
of criminal justice..., to the increased liability of actions of its criminal
justice personnel..., and to social issues on key constitutional issues..., be-
behavioral scientists and social scientists with criminological or
criminal justice expertise have increasingly been asked to appear as
expert witnesses.
The university-based criminologist, therefore, generally provides expert testimony based on research which transcends and precedes the events or matters before the court and which the expert applies to such matters.

The authors of this earlier work provide deep and useful insight into the role of expert criminologists and social science testimony, which are important threads in the overall fabric of forensic criminology.

Based on the long history of criminology, and the multidisciplinary literature cited thus far, the authors of this text define forensic criminology as the scientific study of crime and criminals for the purpose of addressing investigative and legal questions. This is very similar to the equally broad definition offered in van der Hoven (2006, p. 153): “Forensic criminology refers to the actions of a criminologist in collecting, analysing and presenting evidence in the interest of objective proceedings in the judicial process.” It is an applied subcategory of general criminology where the abstract and the theoretical meet the practical and the concrete. It involves the proficient, critical, and objective examination of criminal cases and related evidence, featuring the scientific method and subsequent evidentiary interpretations. While there are a number of forensic criminologists in private practice, this field also encompasses many forensic subdisciplines.

In terms of forensic criminology practitioners (a.k.a. forensic criminologists), it quickly becomes evident that there are generalists and there are specialists. As with any profession, the specialist is highly proficient and informed regarding a very restricted area of practice. Forensic criminology specialists might focus entirely on a single subject matter, such as police use of force, risk assessments, security, criminal profiling, threat assessment, pre-sentencing assessments, or an area of physical evidence examination such as criminalistics. Forensic criminology generalists, on the other hand, have a broad spectrum of knowledge from multiple areas of study and will have multiple areas of expertise. They are fluent in the theory and application of a broad range of criminology subjects without necessarily knowing all there is to know about a given sub discipline. There are also forensic criminology generalists with speciality areas of concentration—hybrids of a sort. While being knowledgeable about many areas in general, they have localized strengths by virtue of greater research, skill, or experience in particular areas over the course of their career.

The distinction between generalist and specialist forensic practitioner is made clearer by a discussion provided in Chisum and Turvey (2007) regarding forensic scientists (pp. ix–x):

Forensic generalists and forensic specialists alike are a requirement for informed forensic case examination, laboratory testing, and crime reconstruction to occur. A forensic generalist is a particular kind of
forensic scientist who is broadly educated and trained in a variety of forensic specialties. They are "big picture" people who can help reconstruct a crime from work performed with the assistance of other forensic scientists and then direct investigators to forensic specialists as needed. They are experts not in all areas, but in the specific area of evidence interpretation. According to DeForest et al. (1983, p. 17),

Because of the depth and complexity of criminalistics, the need for specialists is inescapable. There can be serious problems, however, with overspecialization. Persons who have a working knowledge of a broad range of criminalistics problems and techniques are also necessary. These people are called generalists. The value of generalists lies in their ability to look at all of the aspects of a complex case and decide what needs to be done, which specialists should be involved, and in which order to carry out the required examinations.

Specialization occurs when a forensic scientist has been trained in a specific forensic subspecialty, such as an area of criminalistics, forensic toxicology, forensic pathology, or forensic anthropology. Specialists are an important part of forensic science casework, with an important role to fill. Traditionally, forensic specialists provide the bricks, and forensic generalists have traditionally provided the blueprints.

The forensic generalist in criminology, therefore, understands that informed case analysis is the result of objectively examining a whole related system of evidence rather than a narrow, specialized portion. The forensic generalist considers the totality of the known physical and behavioral evidence and only then frames theories regarding the behavior and circumstances related to a crime. He or she is steered by good science and the scientific method, holding no investment in the outcome. The forensic generalist then tests those theories and the theories of others against the evidence, using a framework of analytical logic and critical thinking to distinguish facts, assumptions, opinions, and inference.

DISTINGUISHING FORENSIC CRIMINOLOGY

The single distinguishing feature of forensic criminologists, with respect to any other type of criminologist, is the expectation that their findings will be submitted as evidence within the context of a formal investigation or legal proceeding. That is to say, their findings are not only bound by adherence to the scientific method, but are also intended to be of sufficient quality and certainty
for courtroom use. To that end, they must be prepared to offer their conclusions under penalty of perjury, whether in a written declaration or affidavit, a forensic report, or sworn expert testimony.

While the majority of university-based criminologists are concerned with crime and criminality from a research, process, or theoretical perspective, forensic criminologists have a particular type of examination to perform or a particular set of questions to answer. They are interested in research or theory only inasmuch as it can be applied to forensic analyses or the subsequent interpretations of results in casework. Generally, this will relate to the detection, investigation, reconstruction, and analysis of crime and criminal behavior, as well as to the identification, apprehension, examination, and adjudication of criminals. In civil cases, this will relate to areas of liability as defined by law.

It is necessary at this point to delineate forensic criminology from other like areas of criminology. This includes its “mother,” applied criminology, as well as the areas of police science and criminal justice administration.

Applied criminology is a term that “refers to the application of criminological theory to criminal justice practice” (Heligott, 2008, p. 419). It is also argued that “Applied Criminology should have a critical edge, casting a discriminating analytical gaze over the processes of criminalization, crime enforcement, and the criminal justice system” (Stout, Yates, and Williams, 2008, p. 6). Using these descriptions, applied criminology is an appropriate term for characterizing any application of criminological knowledge to any process related to the criminal justice system as we have defined it. This encompasses many areas, including the application of criminological knowledge to the making of laws, the management of police agencies, the management of prisoners, and the treatment of victims, to name but a few. It also includes, as a subcategory, the area of forensic criminology.

Forensic criminology is, as defined, a particular type of applied criminology involving the scientific study of crime and criminals for the purpose of addressing investigative and legal questions. This distinction involves an appreciation of applied criminology as a form of macro-analysis: it tends to involve the nomothetic (group) examination of systems, processes, and their relationships. Alternatively, forensic criminology is a form of micro-analysis: it tends to involve the idiographic (individual) examination of one or more related cases and consideration of its internal issues.

Police science, on the other hand, is a general term referring to those subjects relating to the process of policing. Despite the misunderstanding of some, it does not refer to scientific policing or to police officers who are acting in the capacity of scientists. This is in fact a contradiction because police culture