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Hidden Atrocities: The Forensic Investigation and Prosecution of Genocide

Caroline Alyce Tyers
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To the Graduate Council:

I am submitting herewith a dissertation written by Caroline Alyce Tyers entitled "Hidden Atrocities: The Forensic Investigation and Prosecution of Genocide." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Anthropology.

Tricia Redeker Hepner, Major Professor

We have read this dissertation and recommend its acceptance:

Murray K. Marks, Walter E. Klippel, Robert C. Blitt

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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HIDDEN ATROCITIES: THE FORENSIC INVESTIGATION AND PROSECUTION OF GENOCIDE

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Caroline Alyce Tyers
August 2009

DEDICATION

To Ludie and Mungus, who were with me from the beginning to the end.

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The William M. Bass Endowment and the W.K. McClure Fund for the Study of World Affairs granted support to participate in the Inforce Mass Grave Excavation and Mass Fatality Incident Mortuary Workshops.

ABSTRACT

The demand for forensic anthropologists and archaeologists to investigate violations of human rights and international humanitarian law is increasing. The International Criminal Court, established in 1998, has jurisdiction over the crimes of genocide, crimes against humanity, and war crimes. The development of a permanent tribunal with jurisdiction over these crimes as well as the numerous State Parties to the treaty is a reflection of the international community's commitment to the prosecution of these crimes. Forensic evidence can and will assume an essential role in future international criminal courts.

Forensic evidence made a significant contribution to the prosecution of genocide and several other crimes in trials held by the International Criminal Tribunal for the former Yugoslavia. This study examines three cases in which the defendants were indicted for committing the crime of genocide in Srebrenica, Bosnia and Herzegovina, in 1995 during the Bosnian War. These cases demonstrate three main concerns for forensic experts involved in a forensic investigation. First, forensic experts must testify to evidence that can satisfy the legal definitions of crimes. Second, the forensic expert must conduct an investigation using methods and standards that produce scientific evidence that is accepted by the Court as such. Third, the forensic expert must adhere to professional and ethical standards in an effort to maintain their personal integrity and to protect the legitimacy of the investigation and resultant evidence.

An examination of these three topics with direct references to the trial transcripts of forensic anthropologists, archaeologists, and pathologists' testimony provides insight into the prosecution of genocide as it relates to forensic evidence, identifies methodological practices and standard operating procedures that are particularly susceptible to judicial scrutiny, and highlights ethical and professional issues that must be considered by the forensic expert prior to participating in a criminal investigation. This study offers the potential to improve the utility of forensic evidence in future investigations. A deeper understanding of the legal aspects of forensic investigations may also invigorate research geared towards addressing the needs of court systems and maximizing the potential of forensic evidence in future trials.

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LIST OF ABBREVIATIONS

AAAS	American Association for the Advancement of Science
ABFA	American Board of Forensic Anthropologists
DVI	Disaster Victim Identification
EAAF	Equipo Argentino de Antropologia Forense
FAFG	Fundacion de Antropologia Forense de Guatemala
ICC	International Criminal Court
ICMP	International Commission of Missing Persons
ICRC	International Committee of the Red Cross
ICTR	International Criminal Tribunal for Rwanda
ICTY	International Criminal Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia
ILC	International Law Commission
JNA	Yugoslav National Army
MNI	Minimum Number of Individuals
MMNI	Merged Minimum Number of Individuals
NGO	Non-Governmental Organization
OTP	Office of the Prosecutor
PHR	Physicians for Human Rights
SOP	Standard Operating Procedure
UN	United Nations
UNPROFOR	United Nations Protection Force
VRS	Vojska Republike Srpske (Army of the Republika Srpska)

INTRODUCTION

> Forensic evidence often provides unequivocal corroboration to what would otherwise be suspect or dubious evidence.[1] *(Graham Blewitt, Deputy Prosecutor of the International Criminal Tribunal for the former Yugoslavia*)

The demand for forensic anthropologists and archaeologists to investigate violations of human rights and international humanitarian law is increasing as the international community demands justice for crimes committed that may have not garnered such attention in the past. Two international criminal tribunals were established in the early 1990s to address these crimes, including genocide, in Rwanda and the former Yugoslavia.[2] The forensic investigation of mass graves in the former Yugoslavia made a significant contribution to the trials and demonstrated the great value of forensic evidence. The International Criminal Court (ICC), established in 1998 by the Rome Statute of the International Criminal Court, entered into force on 1 July 2002 and ratified by 108 States, has jurisdiction over the crimes of genocide, crimes against humanity, and war crimes.[3] The development of a permanent tribunal with jurisdiction over these crimes and the numerous State Parties to the treaty is a reflection of the international community's commitment to the prosecution of these crimes. Forensic evidence can and will be an integral part of future international criminal trials.

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[1] Blewitt G. The role of forensic investigations in genocide prosecutions before an international Tribunal. Medical Science Law 1997;37(4):284.

[2] The International Criminal Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991 (hereafter "ICTY") was established by the United Nations Security Council on 25 May 1993 to prosecute individuals responsible for crimes committed within the territory of the former Yugoslavia since 1991 including grave breaches of the 1949 Geneva Conventions, violation of the laws or customs of war, genocide, and crimes against humanity; the International Criminal Tribunal for Rwanda (hereafter "ICTR") was established by the United Nations Security Council on 8 November 1994 to prosecute individuals responsible for crimes committed in 1994 in Rwanda or by Rwandan citizens in other nearby states including genocide, crimes against humanity, and war crimes as defined in Common Article Three and Additional Protocol II of the Geneva Conventions.

[3] International Criminal Court, A/CONF.183/09, Rome Statute of the International Criminal Court (17 July 1998) (hereafter "Rome Statute"), available at <http://untreaty.un.org/cod/icc/statute/english/rome_statute(e). pdf> (accessed 1 February 2009); International Criminal Court, Signatories to the Rome Statute, available at <http://www.icc-cpi.int/Menus/ASP/states+parties/The+States+Parties+to+the+Rome+Statute.htm> (accessed 30 March 2009).

In 2002 The International Committee of the Red Cross (ICRC) adopted a series of guidelines pertaining to forensic investigations of missing persons.[4] Prior to any exhumation or analysis of human remains the forensic expert must ask questions regarding the relationship between their work and the legal system in which it will be employed, namely:

1. How does criminal justice function in the domestic and/or international context in which violations of international humanitarian law / human rights law are being investigated?

2. How will their work affect the legal and political process?[5]

Forensic archaeologists and anthropologists involved in international investigations of human rights violations must be aware of how the collected forensic data will be used in legal proceedings. Those responsible for the organization of the forensic criminal investigation, compiling reports to be submitted as evidence, and/or testifying to the forensic evidence in court need a much more in-depth understanding of the legal process. The judicial system, as well as legal terminology and concepts, must be understood in order to interact effectively with the legal process.[6] Otherwise, the product of the investigation may not withstand the rigors of trial, making the judicial purpose of the whole investigation fruitless.

This study utilizes a series of court cases from the International Criminal Tribunal for the former Yugoslavia (ICTY) to demonstrate three main concerns for forensic anthropologists and archaeologists involved in a forensic investigation.[7] Although the case studies all focus on the events that occurred in Srebrenica, Bosnia and Herzegovina, and the crime of genocide, the

[4] International Committee of the Red Cross (hereafter "ICRC"). The missing: action to resolve the problem of people unaccounted for as a result of armed conflict or internal violence and to assist their families (hereafter "The Missing"). Geneva: International Committee of the Red Cross, 2003.
[5] The Missing, 13.
[6] Komar DA, Buikstra JE. Forensic anthropology: contemporary theory and practice. New York: Oxford University Press, 2008;44.
[7] ICTY, Prosecutor v. Radislav Krstić, Case IT-98-33 (hereafter "Prosecutor v. Krstić); ICTY, Prosecutor v. Vidoje Blagojević and Dragan Jokić, Case IT-02-60 (hereafter "Prosecutor v. Blagojević and Jokić); ICTY, Prosecutor v. Vujadin Popović, Ljubiša Beara, Drago Nikolić, Ljubomir Borovčanin, Radivoje Miletić, Milan Gvero, & Vinko Pandurević, Case IT-05-88 (hereafter "Prosecutor v. Popović et al.").

information has much wider application. The following three topics are relevant to all forensic investigations of any crime at any level of court system.

One, forensic experts must testify on evidence that can satisfy legal definitions of crimes. The legal definition of the indicted crime must be understood prior to the investigation because of its implications on the type of evidence being sought. This will ensure that the crime is fully investigated, legal stipulations of the crimes may be satisfied if the evidence allows, and the evidence can be presented to the Court in an effective manner.

Two, the forensic expert must conduct an investigation with methods and standards that produce evidence that is accepted by the Court. Each component of the investigation must be considered scientifically sound. The forensic expert must be prepared to explain the methods used in the investigation, their relevancy, and accuracy. The standard operating procedures must maintain the scientific nature of the investigation and protect the legality of the evidence.

Three, the forensic expert must adhere to professional and ethical standards to maintain personal legitimacy throughout the course of the investigation and legal proceedings. One of these professional standards is to understand the legal process in an effort to prevent the misuse or manipulation of their work, the evidence, by both the Prosecution and the Defense.[8] Another is to make legitimate interpretation of the forensic evidence based on prior professional experience and evidence based opinions. Ethics have legal and humanitarian considerations. Legally, the forensic expert must consider the source of his funding and maintain neutrality throughout the investigation.[9] The investigation must also include the humanitarian purpose of identifying the victims, even if this is not necessary for evidentiary purposes.[10] The forensic methods and standard operating procedures, as well as professional and ethical guidelines, adhered to throughout an international criminal investigation ought to be developed within an

[8] The Missing, 13.
[9] The Missing, 14.
[10] The Missing, 10.

interdisciplinary group of professionals prior to the investigation. This protocol can ensure the legality and legitimacy of the investigation and resultant evidence.[11]

A greater appreciation of each of these three topics and a deeper understanding of the legal aspect of forensic investigations may also invigorate research geared towards addressing the needs of court systems and maximizing the potential of forensic evidence in future trials.

Project Rationale

Forensic anthropologists and archaeologists are uniquely equipped with the skills required for the investigation of violations of human rights, and in particular, the investigation of mass graves as a result of genocide.[12] Although the crime of genocide does not require a massive loss of life, historically this is the situation that attracts the attention of the international community and results in a criminal investigation. Often, the result of genocide is clandestine mass graves filled with the decomposing or skeletonized bodies of victims. The demand for forensic anthropologists and forensic archaeologists to investigate mass graves will increase as more violations of human rights and international humanitarian law are identified and investigated by international courts. These disciplines must recognize this growing area of work by examining their role, function, and legal, professional, and ethical responsibilities in international criminal courts and respond by increased interdisciplinary training and development of relevant research.

An exercise for analyzing the potential use of forensic anthropology and archaeology in genocide and other criminal investigations made by the ICC and other *ad hoc* tribunals established by the United Nations (UN) is to reflect on these disciplines' applications in international tribunals, particularly the ICTY. There are two main reasons for this approach. One, the reasons why the Office of the Prosecutor (OTP) for the ICTY initiated an international

[11] Cordner S, McKelvie H. Developing standards in international forensic work to identify missing persons. IRRC 2000;84(848):882-883.
[12] Ferllini R. The role of forensic anthropology in human rights issues. In: Fairgrieve SI, editor. Forensic osteological analysis. Springfield: Charles C Thomas, 1999;290.

forensic investigation will likely be shared by other forensic investigations, such as those initiated by the ICC, due to the type of cases the ICC was created to prosecute. This will result in many similarities between the ICTY investigations and potential future investigations. Two, the ICC and other future courts may rely on the criminal law developed by the ICTY as a basis for its rulings, including interpretations of the crime of genocide.

International Jurisdiction

Several *ad hoc* criminal tribunals have been established to provide justice to the people of a State unable or unwilling to seek justice itself. Similarly, the ICC has jurisdiction to investigate and prosecute individuals for serious crimes only when a national judicial system fails to prosecute appropriately.[13] There are several reasons why a State may not or cannot prosecute an individual for a crime leading to involvement by the ICC. These can be categorized as judicial, personnel-, or resource-related. It is most commonly a combination of the three that lead to an international forensic investigation being the most appropriate way to investigate the crime.

A legal investigation of a crime can only be initiated when the judicial system finds that a crime may have been committed. In a State suffering from recent and/or long term turmoil, the judicial system may not be able to conduct a thorough investigation.[14] The judicial system may never have been well established or suffered losses, whether personnel-, resource-, or infrastructure-related, during the time the crime took place. A newly established judicial system following a regime change may choose not to prosecute in order to placate the old regime and focus resources on reconciliation instead. The judicial system may also be corrupt, have been involved in the crime itself, and therefore not likely to prosecute themselves. The State is often the very perpetrator of massive human rights violations.[15]

[13] Rome Statute, Article 17 Issues of Admissibility, 12.
[14] Fondebrider L. Reflections on the scientific documentation of human rights violations. IRRC 2002;84(848):887.
[15] Fondebrider, Reflections on the scientific documentation of human rights violations, 887.

Investigations must be performed by qualified forensic experts free from any personal, social, or political pressure to testify to anything other than factual evidence. First, not all States have a developed network of forensic experts to investigate crimes. Second, a corrupt judicial system may be linked to other dysfunctional systems such as police or medical systems, resulting in a less than non-partial investigation.[16] The families of the victims are also not likely to trust an investigation headed by the State that may have been involved in the alleged crimes.[17] Third, native forensic experts may feel personally threatened due to their involvement in an investigation and unable to speak to their professional opinion for fear of retribution.[18]

An investigation of mass graves and missing persons is a large financial investment and requires material resources and appropriate infrastructure. Mass graves may be purposely made in desolate areas where they are intended not to be found. Investigations of these graves may require roads to be laid in order for equipment and personnel to access the site; housing, laboratory and storage areas to be built; and electricity and water brought to the site. Heavy equipment may be needed as well as scientific equipment and consumables. Following an event requiring an investigation, it is likely an affected State cannot take on the financial burden of the investigation.

Each of the above scenarios highlights the need for forensic experts to perform criminal investigations of international humanitarian and human rights violations. An international forensic investigation provides professional forensic experts that offer legitimacy to the legal investigation. The involvement of international agencies also contributes financial and tangible resources to repair infrastructure and supply the material resources needed to conduct a scientific investigation.[19]

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[16] Kirschner R, Hannibal K. The application of the forensic sciences to human rights investigations. Medicine and Law 1994;13:457.
[17] Fondebrider, Reflections on the scientific documentation of human rights violations, 887.
[18] Kirschner, Hannibal, The application of the forensic sciences to human rights investigations, 457.
[19] Bernardi P, Fondebrider L. Forensic archaeology and the scientific documentation of human rights violations: an Argentinian example from the early 1980s. In: Ferllini R, editor. Forensic archaeology and human rights violations. Springfield, IL: Charles C Thomas Publisher, LTD, 2007;206-208.

Case Law

Each time a case is heard and the presiding Judges render decisions and judgments, case law is developed. Law is actively established in trials, especially when the indicted crime, such as genocide, has few prior instances of judgment. As the ICTY and the International Criminal Tribunal for Rwanda (ICTR) concurrently tried persons for various human rights and international humanitarian law violations, each court relied on its own and the other court's prior judgments as case law. The body of law developed by these two *ad hoc* tribunals may be drawn on in future cases. Forensic experts can learn what is required of the forensic investigation and what can be anticipated in trial by the study of these past cases.

The many advantages of an international forensic investigation, staffed with the best forensic experts and supplied with all of the necessary resources, can be negated by neglecting any one of the following legal or discipline-related considerations that must be made prior to and throughout the investigation. First is an understanding of the legal arena in which the forensic expert is participating. The depth of knowledge required is based partly on the responsibility level of the expert in the investigation. Second, a clear, coordinated approach among all experts whilst maintaining standards and adhering to rigorous scientific methods is required to maximize the evidentiary results from the inevitably complex investigation. Last, each involved expert must maintain a high level of professional and ethical integrity. Without attention to these details, the legal integrity of the investigation and the evidence can be jeopardized.[20]

The Study

Several of the factors described above contributed to the need for an international forensic investigation to be conducted in the former Yugoslavia in the mid 1990s. The ICTY OTP initiated a forensic investigation of mass graves to compile evidence and produce indictments against those responsible for grave crimes. The complicated time- and labor-

[20] Hunter J, Simpson B. Preparing the ground: archaeology in a war zone. In: Ferllini R, editor. Forensic archaeology and human rights violations. Springfield, IL: Charles C Thomas Publisher, LTD, 2007;268.

intensive forensic investigation continued as trials were held, judgments made, and defendants sentenced. The OTP relied extensively on forensic evidence and the testimony of forensic experts to prove the crime of genocide was committed against the people of Srebrenica, Bosnia and Herzegovina. A study of a series of ICTY cases, in which the Prosecution presented forensic evidence to support an indictment for the crime of genocide, exemplifies the potential of forensic evidence in international criminal courts, its application to international human rights and humanitarian law, the importance of professional and ethical integrity in a legal arena, and offers lessons to improve the utility of forensic evidence in future investigations.

The Cases

In the first case heard by the ICTY concerning Srebrenica, *Prosecutor v. Radislav Krstić*, the Prosecution had to establish for the first time that genocide occurred in Srebrenica.[21] Forensic reports submitted to the Court by forensic anthropologists, archaeologists, pathologists, and various other forensic scientists provided evidence for the Prosecution to prove genocide occurred. Court testimony of the forensic anthropologists, archaeologists, and pathologists exemplified what forensic evidence the Prosecution believed fulfilled the legal definition of genocide. Their testimony also revealed the types of interpretations of the evidence forensic experts were asked to make. The cross-examination of the forensic experts by the Defense revealed shortcomings, real and perceived, in the methodology applied and standards maintained throughout the forensic investigation. The judgment by the Trial Chambers exemplified the usefulness of forensic evidence in supporting multiple interpretations of the crime of genocide and proving genocide occurred in Srebrenica.

The three studied cases exemplify an evolution of the use of forensic evidence in an international court. The Prosecution relied on the forensic evidence and the testimony of the experts to support the indictment while the Defense increasingly scrutinized the methods and standards used and the professional and ethical standards adhered to by the forensic experts.

[21] ICTY, Prosecutor v. Krstić, Case IT-98-33.

Throughout the Krstić trial, the Defense focused on very few points and was generally reserved in their cross-examination of the forensic experts. In the second case concerning Srebrenica, *Prosecutor v. Blagojević and Jokić*, the Defense waived their right to cross-examine the forensic experts. However, in the third trial, *Prosecutor v. Popović et al*., the Defense questioned the forensic experts on the methods and standard operating procedures used in the investigations and were more rigorous in challenging interpretations of the forensic evidence. In some instances the forensic experts were able to provide strong forensic evidence to refute the Defense, but in others, the Defense interjected reasonable doubt. The Defense has become much more adept at cross-examination of forensic experts and the disciplines must be prepared for this scrutiny. Each challenge reveals an area of the discipline that must be strengthened to maximize the potential that forensic evidence has in criminal courts.

In addition to scrutinizing the evidence, the Defense also questioned the credibility of the forensic experts in both cases. Their ethical involvement and professional handling of the investigation were questioned. These issues are as equally important for the forensic expert to consider prior to their involvement in an international criminal investigation as the methods used to recover and analyze the evidence. Without strong individual credibility throughout the investigation, the entire product of the investigation may be regarded as less than scientific or credible.

Methods

Critical evaluation of trial testimony transcripts allowed for individual components of the forensic investigation and specific forensic evidence to be evaluated for their contribution to the prosecution of genocide. The Prosecution's direct examination and the Defense's cross-examination suggested what was relevant to demonstrating whether or not genocide had occurred and whether or not the indicted was guilty. The court testimony transcripts also provided insight into what elements defined the quality of the investigation and thus revealed its strengths and weaknesses.

The court transcripts regarding forensic evidence were examined for both the *Prosecutor v. Krstić* and *Prosecutor v. Popović et al.* trials. This examination included the testimony of every forensic anthropologist, archaeologist, and pathologist that testified, the relevant testimony given by the persons holding the positions of Chief Investigator for the ICTY and Investigator for the Office of the Prosecution, a forensic demographer, and one individual responsible for maintaining chain of custody of forensic evidence. Portions of the transcripts were identified and grouped according to the particular concept being discussed. Testimony that pertained to the following concepts were sought: 1) evidence that contributed to fulfilling components of the law of genocide, including individual criminal responsibility (performed for the Krstić case only), 2) forensic methods, 3) standard operating procedures, 4) professionalism, 5) ethics, and 6) interpretations of evidence regarding execution versus combat deaths and organization of the crime. The first five concepts were intentionally sought; the sixth group regarding interpretations of evidence was borne from the disproportionate amount of testimony dedicated to these two topics. The testimony concerning the circumstances surrounding death and the organization required to produce the associated mass graves clearly demanded scrutiny due to the forensic evidence's large contribution to the establishment of these vitally important legal components of the crime of genocide.

Examining the cases in chronological order revealed an evolution of the forensic experts' technical testimony and the Defense's more directed and educated cross-examination from the first to the third case. Reading the transcripts chronologically allowed for repeated patterns in the testimony to be recognized across cases. Isolating the testimony according to concept revealed style differences among experts testifying to the same concepts and allowed comparison of how concepts were addressed between the two cases.

It was the intent of this study to reveal the weaknesses of forensic disciplines in order to demonstrate which areas might be improved. Particular attention was given to exchanges that proved detrimental to the forensic expert's initial presentation or interpretation of evidence and to dialogue regarding the quality of the investigation. The following are some indicators that signaled a potential problem in the investigation or the interpretation of the evidence: a lengthy

cross-examination that resulted in the forensic expert's inability to refute an alternative scenario, the forensic expert's admittance of a particular weakness, and direct acknowledgement by the Trial Chamber of the lack of forensic evidence to establish a particular point.

Other additional documents were referenced for further information and to clarify the subject being discussed. Four forensic evidence summary reports submitted by the Prosecution were utilized to obtain numerical values referred to during testimony given by the forensic experts. Two written rebuttals of the forensic experts' reports and testimony submitted by the Defense were considered alongside the Defense's cross-examination as their argument against the forensic investigation. The Trial Chamber Judgments and Appeals Chamber Judgments, as well as transcripts from judgment day, supplied the opinion of the Trial and Appeals Chamber, respectively. Supporting documents were also examined as needed and included the ICTY Statute, the ICTY Rules of Procedure and Evidence (multiple versions), Decisions and Orders made by the Trial Chamber, and other legal documents of the ICTR, ICTY, and ICC.

My academic background in both biological anthropology and archaeology allowed me to critically assess the testimony of experts of these disciplines. Seven seasons of archaeological field work, including mortuary archaeology, and serving in a managerial role for an international archaeology project allowed for an appreciation of the excavation process as well as the administration of a large multi-national project. In particular, participation in the Mass Grave Excavation and Mass Fatality Incident Mortuary practicum offered by the Inforce Foundation provided a foundation for the recognition of the unique requirements and challenges of an investigation of mass graves.[22] Experience in a Medical Examiner system and working alongside forensic pathologists provided an informed perspective when evaluating the pathologist's testimony.

Through analysis of these three criminal trials, I present three lines of information: 1) a clearer understanding of the crime of genocide as it relates to forensic evidence, 2)

[22] Inforce is a non-governmental organization with the stated purpose of provide forensic expertise to nations investigating violations of human rights and humanitarian laws, available at <http://www.inforce.org.uk/page/what_is_inforce/> (accessed 8 May 2009).

methodological practices and standard operating procedures of forensic anthropology and archaeology that are particularly susceptible to scrutiny in the context of a criminal trial, and 3) the special demands of international criminal law – ethical and professional – that require forethought on the part of forensic experts prior to participating in a criminal investigation. This new information demonstrates the need for forensic anthropology and archaeology to adapt to the needs of human rights investigations. Recommendations are then made for how this best can be accomplished through directed research and the development of methods and standards, interdisciplinary training, and international collaboration.

Structure

This work is organized into two parts. Chapters one through six provide a historical perspective of forensic investigations for international criminal courts, introduces the Convention on the Prevention and Punishment of the Crime of Genocide (Genocide Convention), and briefly addresses the Bosnian War and the events that occurred in Srebrenica, Bosnia and Herzegovina, that were considered as the crime of genocide. The Genocide Convention is broken down into smaller components and forensic evidence is outlined according to the contribution it made to establish the various legal requirements of genocide.[23] Special attention is applied to the forensic evidence used to prove individual criminal responsibility. What might be considered the most difficult part of genocide to prove, the requirement for intent to destroy, is examined in further detail by considering 1) what interpretations of forensic evidence were provided by the forensic experts that demonstrate intent and 2) how the forensic experts presented this particular type of testimony. These early chapters essentially define what genocide is and describe how it has been successfully proven in an international criminal court. This background information is necessary to critically assess the areas of forensic anthropology and archaeology that need further research and development in regard to their application to criminal forensic investigations of genocide.

[23] The Convention on the Prevention and Punishment of the Crime of Genocide was adopted by the United Nations General Assembly on 9 December 1948 and entered into force 12 January 1951; it is currently ratified by 140 States (8 May 2009).

Chapters seven through twelve are paired chapters that deconstruct various aspects of the forensic investigation – their methods, standard operating procedures, and professional and ethical guidelines. For each topic, the first chapter considers how the topic was treated or performed in the Srebrenica investigation and subsequently addressed throughout the testimony in two ICTY cases. Then, legal requirements and the disciplines' individual standards are discussed. Deficiencies revealed in the ICTY cases are matched with necessary discipline-specific developments to better address the unique needs of international criminal forensic investigations.

Chapter One

HISTORICAL REVIEW OF INTERNATIONAL CRIMINAL FORENSIC INVESTIGATIONS

> The Agreement shall commence on 11 December 1992 and shall, unless earlier terminated by either Party, expire on a date to be agreed upon by the Parties upon completion of the investigation of the mass grave near Vukovar and of such other mass grave sites and places where mass killing are reported to have taken place.[24]
> *(Cooperation Service Agreement between the United Nations and Physicians for Human Rights, 1993)*

The use of forensic sciences in investigations of heinous crimes has developed alongside advances in international humanitarian law and human rights law. As law develops the forensic investigation of crimes is required to meet new and higher standards. The time period in which both were pressed to advance quickly occurred immediately following World War II. Human rights law was developed following the War's massive loss of life and invasive impact on civilian life. An investigation into mass graves was performed and presented during the Nuremberg trials. The extensive use of forensic anthropology and archaeology in the 1980's following the breakdown of repressive regimes in South America proved the dead could speak of the crimes committed against them. The relationship between forensic science and law was firmly established as forensic evidence proved it could contribute greatly to the maintenance of justice. The 1990's saw the largest forensic investigation of mass graves in the former Yugoslavia take place concurrently with a smaller scale investigation in Rwanda.[25] The potential for forensic science in international criminal law was demonstrated, its expectations defined, and its significant role established. The evolution of law and forensic sciences will continue as long as human rights are upheld and their abuses not tolerated by the international community.

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[24] UN, Commission on Human Rights, E/CN. 4/1993/20, Cooperation Service Agreement between the United Nations and Physicians for Human Rights (5 February 1993).
[25] Stover, Ryan, Breaking bread with the dead, 23.

First Forensic Investigation for an International Court

An early investigation of human rights violations by forensic experts was the 1943 exhumations of mass graves in the Katyn Forest in Soviet territory.[26] Victims in a mass grave were believed to be officers of the Polish military and Polish elite that had gone missing years before, but the identity of the perpetrators was contested. Pinpointing the timing of the massacres would indicate which nation was responsible – if the event occurred prior to 1941 the Soviets were guilty, but after 1941 Germany had invaded and controlled the Katyn Forest region.

The Katyn Forest Forensic Investigations

A commission of twelve forensic experts from eleven European nations was assembled by Germany's initiative to exhume the mass graves.[27] International organizations including the International Red Cross and the international press were invited to witness the exhumations.[28] Exams by pathologists exposed systematic, execution-style gunshot wounds to the head with less than 8mm caliber bullets and bound arms.[29] Artifacts collected from the bodies included Polish bank notes, cigarettes, and matches; winter clothing including typical Polish hats; and documents including diaries, correspondence, and newspapers. The oldest document found on the bodies dated to the fall of 1939 and the most recent was dated 22 April 1940. All twelve forensic experts signed a document confirming these findings and dated the massacres to the months of March and April 1940, effectively implicating the Soviets of the crime.

The Soviets responded by forming the *Special Commission for Determination and Investigation of the Shooting of Polish Prisoners of War by German-Fascist Invaders in Katyn*

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[26] Ferllini R. The development of human rights investigations since 1945. Science & Justice 2003;43(4):221; see also Haglund WD. Recent mass graves, an introduction. In: Haglund WD, editor. Advances in forensic taphonomy: method, theory and archaeological perspectives. Boca Raton: CRC Press, 2002;245-246.

[27] International Katyn Commission Findings, Der Massenmord in Walde von Katyn Ein Tatsachenbericht (The Mass-Murder in the Katyn Forest, a Documentary Account of Evidence) (30 April 1943), available at <http://www.warsawuprising.com/doc/katyn_documents1.htm> (accessed 1 February 2009).

[28] Ferllini, The development of human rights investigations since 1945, 221.

[29] International Katyn Commission Findings, Der Massenmord in Walde von Katyn Ein Tatsachenbericht.

Forest and conducting their own investigation and exhumation of the mass graves in January 1944.[30] The name of this Special Commission left little to guess of what their investigation would reveal. Their submitted report of findings concluded the massacres took place in June 1941 based on documents found on the bodies dating up to 20 June 1941 and the decompositional state of the bodies.[31] The method of execution was also purported to be consistent with German mass shootings of Soviet citizens. The report concludes that the mass shooting of Polish prisoners of war in the Katyn Forest was committed by the German armed forces.

Katyn Forest in the Nuremberg Trial

The Charter of the International Military Tribunal was developed in 1945 to prosecute crimes committed by the European Axis Powers, including crimes against peace, war crimes, and crimes against humanity.[32] The Katyn Forest massacres were introduced at the Nuremberg trial by the Deputy Chief Prosecutor for the USSR, Colonel Pokrovsky, during the Prosecution's presentation of evidence of war crimes committed by the Germans.[33] Pokrovsky stated:

> One of the most important criminal acts for which the major war criminals are responsible was the mass execution of Polish prisoners of war, shot in the Katyn Forest near Smolensk by the German fascist invaders.[34]

Despite evidence that the perpetrators were the Soviets themselves, the judges allowed the Soviet Prosecution to submit into evidence the report made by the Soviet Special Commission and call witnesses to testify.

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[30] Ferllini, The development of human rights investigations since 1945, 222.
[31] Nuremberg Court, Doc USSR/54, Report by a Special Soviet Commission, 24 January 1944, Concerning the Shooting of Polish Officer Prisoners of War in the Forest of Katyn, (24 January 1944), trans. Porter WC, available at <http://www.cwporter.com/k1.htm> (accessed 1 February 2009).
[32] UN, Charter of the International Military Tribunal – Annex to the Agreement for the prosecution and punishment of the major war criminals of the European Axis ("London Agreement") (8 August 1945), available at <http://www.unhcr.org/refworld/topic,4565c22538,4565c25f443,3ae6b39614,0.html> (accessed 23 April 2009).
[33] Nuremberg Trial Proceedings, 14 February 1946, 424, transcript available at <http://avalon.law.yale.edu/imt/ 02-14-46.asp> (accessed 9 March 2009).
[34] Nuremberg Trial Proceedings, 14 February 1946, 424.

The Prosecution representing the Soviet Union called two forensic experts to the stand, one from the German created commission and one from the Soviet created commission. Dr. Marko Antonov Markov, a professor in the department of Forensic Medicine and Criminology at the University of Sofia in Bulgaria, testified to the handling of the German investigation and its conclusions.[35] Although Markov signed the International Commission's report that outlined evidence against the Soviets, Markov's testimony emphasized the political motivations behind the exhumations, the minimal medico-legal investigation performed by the commission, and coercion by the Germans to affirm evidentiary conclusions as a condition of their release. Political pressure and personal fear may explain Markov's change in interpretation of the evidence – Bulgaria had just switched alliances from Nazi Germany to Russia four days after Russia declared war on Bulgaria and Germans were being tried for war crimes.[36] Victor Il'ich Prosorovski, the Chief Medical Expert of the Ministry of Public Health of the Soviet Union, testified to the Soviet investigation.[37] Prosorovski's testimony emphasized the date of death being in the autumn of 1941, thus clearly implicating Germany.

The Defense for the Germans provided convincing evidence to refute the Soviet's claims. The United States and United Kingdom offered no support to the Soviets. The Soviets were also unable to place criminal responsibility for the Katyn massacres on any of the German defendants.

Judgment

There was no mention of the Katyn Forest in any judgment rendered by the Tribunal. Four decades after the crimes were committed, Mikhail Gorbachev admitted the role of the Peoples Commissariat for Internal Affairs, at that time the Soviet Union's secret police agency,

[35] Nuremberg Trial Proceedings, 1–2 July 1946, 331-359, transcript available at <http://avalon.law.yale.edu/imt/ 07-01-46.asp>; <http://avalon.law.yale.edu/imt/07-02-46.asp> (accessed 9 March 2009).
[36] Ferllini, The development of human rights investigations since 1945, 222.
[37] Nuremberg Trial Proceedings, 1-2 July 1946, 359-370.

in the Katyn Forest massacres, thus validating the results of the first international forensic investigation.[38]

The key characteristics that lent validity to the German investigation of the massacres – an international team of qualified experts, complete written and photographic documentation, and accessibility to the investigation by international organizations and the foreign media – persist as standards of an impartial forensic criminal investigation. Other components of the investigation required significant improvement, particularly the exhumation of the victims prior to the Commission's arrival to the site and the complete autopsy of only nine victims.

Establishing the Role of Forensic Anthropology and Archaeology in International Criminal Investigations

International Forensic Training

A significant advancement of international forensic investigations took place with the training of local forensic teams in South American countries suffering from missing persons as a result of repressive regimes in the 1970s - 1980s.[39] Argentina was the first South American country to receive forensic training following seven years of the Junta military regime. From 1976 to 1983, at least 10,000 Argentineans "disappeared" – kidnapped and were never heard from again.[40] Bodies were disposed of from planes over bodies of water, buried in clandestine mass graves and in cemeteries as unidentified persons.[41] Following the fall of the military regime, exhumations of mass graves began for judicial and humanitarian purposes. Bulldozers plowed through mass graves, unearthing skeletons but confounding the ability to identify the

[38] Mikhail Gorbachev publically announced that the Soviet Union's accepted responsibility for the Katyn Forest massacres on 13 April 1990 with a statement that ended, "The Soviet side, expressing profound regret over the Katyn tragedy, declares that this was one of the gravest crimes of Stalinism."; Crozier B. Remembering Katyn. Hoover Digest 2000; no.2, available at <http://www.hoover.org/publications/digest/3486292.html> (accessed 22 April 2009).

[39] Stover, Ryan, Breaking bread with the dead, 8-15.

[40] Bernardi P, Fondebrider L. Forensic archaeology and the scientific documentation of human rights violations: an Argentinian example from the early 1980s. In: Ferllini R, editor. Forensic archaeology and human rights violations. Springfield, IL: Charles C Thomas Publisher, LTD, 2007;210.

[41] Doretti M, Snow C. Forensic anthropology and human rights: the Argentine experience. In: Steadman DW, editor. Hard evidence: case studies in forensic anthropology. Upper Saddle River: Prentice Hall, 2003;290.

victims. Two groups – the National Commission on the Disappeared of Argentina and the Abuelas (Grandmothers) of Plaza de Mayo – lobbied the Argentinean government to stop exhumations until they could be exhumed scientifically. The American Association for the Advancement of Science (AAAS) was asked to assist in the exhumation and identification of the disappeared.[42]

In 1984 the AAAS sent a team of forensic anthropologists to Argentina.[43] They established dialogue with judges, morgue workers, human rights activists, lawyers, and relatives of the disappeared.[44] The AAAS recommended all exhumations be halted until personnel were trained to excavate the graves scientifically. Dr. Clyde Snow organized training courses on exhumation and identification methods for a group of volunteer graduate students. Subsequent exhumations led to personal identifications and gathered evidence was used in courts of law. This newly trained group of students eventually evolved into the Equipo Argentino de Antropologia Forense (EAAF). The AAAS continued to train teams to investigate human rights abuses in other Central and South American countries.[45] Today the EAAF and the Fundacion de Antropologia Forense de Guatemala (FAFG) perform investigations in their own countries and provide technical assistance to other countries around the world.[46]

International Law for Forensic Investigations

The United Nations General Assembly responded to the increase in forensic investigations of human rights abuses by adopting a series of resolutions in the 1980s involving the development of international standards for investigations of all suspicious deaths, summary, or arbitrary executions.[47] This led to the "Principles on the Effective Prevention and

[42] Doretti, Snow, Forensic anthropology and human rights: the Argentine experience, 291-293; see also Kirschner R, Hannibal K, The application of the forensic sciences to human rights investigations, 454-455.
[43] Doretti, Snow, Forensic anthropology and human rights: the Argentine experience, 292.
[44] Kirschner, Hannibal, The application of the forensic sciences to human rights investigations, 454.
[45] El Salvador (1988), Chile (1989), Brazil (1990), Panama and Mexico (1991), Guatemala (1992), and Haiti (1995).
[46] For more information regarding current work of the EAAF and FAFG see <http://www.eaaf.org> and <http://www.fafg.org> respectively (accessed 22 April 2009).
[47] UN, General Assembly Resolutions 35/172 (15 December 1980), 41/144 (4 December 1986), 42/141 (7 December 1987), 43/151 (8 December 1988), 44/162 (15 December 1989), and 44/159 (15 December 1989).

Investigation of Extra-legal, Arbitrary and Summary Executions" being adopted by the United Nations Economic and Social Council and endorsed by the General Assembly in 1989.[48] The "Principles" were supplemented by the "UN Manual on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions" with technical standards for legal investigations, autopsies, and the disinterment and analysis of skeletal remains in 1991.[49] This Manual was adapted from a document developed by the Minnesota Lawyers International Human Rights Committee, a group of international experts from multiple disciplines, including forensic science, law, and human rights, who came together to initiate a set of standards that could be applied in the investigation of forensic cases.

The UN began contracting with non-governmental organizations (NGOs) to conduct investigations on its behalf. Resolution 780 of the UN Security Council called for a Commission of Experts to investigate grave breaches of Geneva Conventions and violations of international humanitarian law in the former Yugoslavia.[50] An agreement was made between the UN and Physicians for Human Rights (PHR) to perform an investigation of mass graves in this country.[51] A 1994 Report of the Secretary-General on human rights and forensic science stresses the need to:

> articulate a standard arrangement such as a cooperation service agreement regulating the status of experts, their methods of work, and other relevant matters including issues of finance and confidentiality.[52]

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[48] UN, Economic and Social Council Resolution 1989/65, Doc E/1989/89, Principles on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions (24 May 1989), available at <http://www1.umn.edu/humanrts/instree/i7pepi.htm> (accessed 1 February 2009).

[49] UN, Doc E/ST/CSDHA/.12 -1991, UN Manual on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions, available at <http://www1.umn.edu/humanrts/instree/execution investigation-91.html> (accessed 1 February 2009); Cordner, McKelvie, Developing standards in international forensic work to identify missing persons, 871-872.

[50] UN, Security Council Resolution 780, Doc S/RES/780 (6 October 1992), available at <http://www.nato.int/Ifor/un/u921006b.htm> (accessed 1 February 2009).

[51] UN, Resolution 1992/24, Doc E/CN.4/1993/20, Report of the Secretary General on Human Rights and Forensic Science Submitted Pursuant to Commission on Human Rights (5 February 1993), available at <http://www.unhchr.ch/Huridocda/Huridoca.nsf/TestFrame/1ac96d31dfba63478025676600391d27?Opendocument> (accessed 1 February 2009).

[52] UN, Economic and Social Council, E/CN.4/1994/24, Question of the Human Rights of all Persons Subjected to any Form of Detention or Imprisonment (7 February 1994), available at <http://www.unhchr.ch/Huridocda/Huridoca.nsf/0/1419b8df2ca78c1c8025673d005ac022?Opendocument> (accessed 1 February 2009).

Cooperation Service Agreements made between the UN and teams of forensic experts outline the obligations of the UN and the legal, professional, and ethical obligations of the forensic experts.

Forensic Investigations of the 1990s

Forensic investigations of human rights violations continued to expand in the 1990s as forensic anthropology and forensic archaeology became more established disciplines and their merits became increasingly recognized by criminal courts.[53] Four of the most active organizations participating in international human rights investigations in the 1990s included the EAAF, FAFG, PHR, and the ICTY. These four organizations sent forensic anthropologists and/or archaeologists to a minimum of 1,283 sites for survey, exhumation, or skeletal analysis and excavated 179 mass graves in 33 countries between 1990 and 1999.[54] The ICTY investigations became the single largest forensic investigation deploying an international team of forensic experts to coordinate extensive investigations of mass graves and execution sites.

The use of forensic experts in investigations of human rights abuses is now well established. In order to maintain the validity of forensic investigations and the resultant evidence of crimes, high standards of scientific methodology, standard operating procedures, professionalism, and ethics must be maintained. The three ICTY trials examined in this study highlight the importance of maintaining these standards to ensure that the forensic evidence can speak for the victims and bring justice to the perpetrators.

[53] Steadman, Haglund, The scope of anthropological contributions to human rights investigations, 23.
[54] Steadman, Haglund, The scope of anthropological contributions to human rights investigations, 26.

Chapter Two

THE GENOCIDE CONVENTION

> New conceptions require new terms. By "genocide" we mean the destruction of a nation or of an ethnic group. This new word, coined by the author to denote an old practice in its modern development, is made from the ancient Greek word *genos* (race, tribe) and the Latin *cide* (killing)…[55] *(Raphael Lemkin, 1944)*

Indictments served against 22 defendants in October 1945 in the Nuremberg Trials included one or more of four charges: Count One - conspiracy to wage aggressive war, Count Two - waging aggressive war or crimes against peace, Count Three - war crimes, and Count Four - crimes against humanity. As a part of Count Three, war crimes, under the sub-heading "Murder and Ill-treatment of Civilian Populations of or in Occupied Territory and on the High Sea," the Offense (Prosecution) made the first reference to genocide as a crime in a formal legal preceding:

> They conducted deliberate and systematic genocide, viz., the extermination of racial and national groups, against the civilian populations of certain occupied territories in order to destroy particular races and classes of people and national, racial, or religious groups, particularly Jews, Poles, and Gypsies and others.[56]

The term 'genocide' had only been introduced the previous year by Raphael Lemkin, a Polish-Jewish jurist, in his book *Axis Rule in Occupied Europe*.[57] Lemkin's concept of genocide was stimulated by the massacre of Armenians during World War I and of the Jews during World War II. Lemkin believed there was a need for a new word that would describe these crimes as crimes specifically directed against a group of people and advocated for genocide to be codified in law.

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[55] Lemkin R. Axis rule in occupied Europe: laws of occupation – analysis of government – proposals for redress. Washington D.C.: Carnegie Endowment for International Peace, 1944:79.

[56] Nuremberg Trial Proceedings, Statement of the Offense, available at <http://avalon.law.yale.edu/imt/ count3.asp> (accessed 9 March 2009); To maintain the integrity of trial testimony and judgments all court transcript is duplicated verbatim throughout this work.

[57] Lemkin, Axis rule in occupied Europe, 79-95.

After World War II, the newly established UN quickly accepted the task of developing international treaties that addressed human rights in times of war and peace. A convention on genocide was an early initiative. On 11 December 1946, the UN General Assembly passed resolution 96(1) acknowledging genocide as, "a denial of the right of existence of entire human groups, as homicide is the denial of the right to live of individual human beings."[58] The same resolution tasked the Economic and Social Council to draft a convention on the crime of genocide.

Two distinct aspects of genocide needed to be defined – *mens rea*, the mental aspect of the crime and *actus reas*, the physical acts of the crime. Both components underwent considerable debate before an agreement was made by the then fifty-eight member states of the UN. The political environment of the time, particularly the recent Holocaust and the beginning of the Cold War, heavily influenced the drafters.[59] Other influences included state sovereignty and the desire to protect current political leaders and States from being implicated in genocide.[60] Political compromises were struck among the drafting Delegates.[61] These influences are reflected in the final draft, the same version that exists unchanged today.

The ICTY, ICTR, and ICC adopted Article 2 of the Genocide Convention verbatim into their Statutes to define the crime of genocide and related punishable acts. Article 4(2) of the ICTY Statute states:

> 2. Genocide means any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such:
>
> (a) killing members of the group;
> (b) causing serious bodily or mental harm to members of the group;
> (c) deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;

[58] UN, General Assembly Resolution 96(1), Doc A/96 (1) (11 December 1946).
[59] Lippman M. A road map to the 1948 Convention on the Prevention and Punishment of the Crime Genocide. Journal of Genocide Research 2002;4(2):179; see also van Schaack B. The crime of genocide: repairing the Genocide Convention's blind spot. The Yale Law Journal 1997;106(7):2265.
[60] Lippman, A road map to the 1948 Convention on the Prevention and Punishment of the Crime Genocide, 179; see also van Schaack, The crime of genocide: repairing the Genocide Convention's blind spot, 2266.
[61] van Schaack, The crime of genocide: repairing the Genocide Convention's blind spot, 2264.

(d) imposing measures intended to prevent births within the group;
(e) forcibly transferring children of the group to another group.[62]

A Prosecution team must use this legal definition as the basis of their indictments and present evidence that supports the charge. The Trial Chamber must also use this definition to determine if the acts proven constitute genocide. The development and drafting process of the Genocide Convention is very relevant in its interpretation today; previous drafts, discussions held which illuminated the drafters' intentions, and the historical context at the time of the drafting, is a legitimate source of information used to interpret the true meaning of the Genocide Convention and the crime of genocide itself.[63] Therefore, a summary of its development, highlighting contentious decisions and negotiations, is relevant to understanding the true purpose of the Genocide Convention and who and from what it was designed to protect.

Defining *Mens Rea*

Protected Groups

At the time of its development, the concept of genocide was unique as a crime against a group of people. Which groups would be protected by the future genocide convention was especially contentious during the drafting process. Lemkin's introduction of genocide described various "techniques" of genocide including political, social, cultural, economic, biological, physical, religious, and moral acts.[64] UN General Assembly Resolution 96(1) states:

> Many instances of such crime of genocide have occurred when racial, religious, political, and other groups have been destroyed, entirely or in part.[65]

The first draft of the Genocide Convention, produced by the Economic and Social Council, the Division of Human Rights, and three experts including Raphael Lemkin, limited the protected

[62] ITCY Statute (February 2006), available at <www.un.org/icty/legaldoc-e/basic/statut/statute-feb06-e.pdf> (accessed 1 February 2009).
[63] ICTY, Prosecutor v. Krstić, Case IT-98-33, Judgment (2 August 2001) (hereafter "Krstić Judgment"), para. 541.
[64] Lemkin, Axis rule in occupied Europe, 82-90.
[65] UN, General Assembly Resolution 96(1), Doc A/96 (1) (11 December 1946).

groups to racial, national, linguistic, religious, or political groups.[66] The second draft submitted by the newly formed Ad Hoc Committee on Genocide omitted linguistic groups.[67] In the final text, submitted by the UN General Assembly's (Legal) Sixth Committee on 9 December 1948, political groups were also excluded. Understanding how the protected groups were whittled down to the four protected by the Genocide Convention – national, ethnical, racial, and religious – provides insight into why other groups failed to be included and how potentially ambiguous groups today might receive protected status.[68]

National, ethnical, racial, and religious groups made the final cut because they were considered historically targeted groups that could be defined by cohesiveness, homogeneity, inevitability of membership, stability, and tradition.[69] There was particular emphasis placed on the distinction between permanent and voluntary groups.[70] In contrast, political groups were excluded because they were considered a matter of individual choice and lacking homogeneity and stability.[71] Those opposed to this decision made several objections. The United Kingdom delegate argued that religion is also a choice not unlike political affiliation; Cuba claimed passions were more apparent in political struggles and political groups were therefore in great danger; and the Dutch pointed out that Nazis targeted political groups.[72]

[66] UN, Doc E/447, Secretariat Draft, First Draft of the Genocide Convention (May 1947), available at <http://www.preventgenocide.org/law/convention/drafts/> (accessed 1 February 2009).
[67] UN, Economic and Social Council, Doc E/AC.25/SR.1 to 28, Ad Hoc Committee Draft, Second Draft Genocide Convention (May 1948), available at <http://www.preventgenocide.org/law/convention/drafts/> (accessed 1 February 2009).
[68] For more in-depth discussion of protected groups see Fournet C. The crime of destruction and the law of genocide: their impact on collective memory. Hampshire: Ashgate Publishing Limited, 2007;51-56; see also Schabas W. Genocide in international law: the crimes of crimes. Cambridge: University Press, 2000;102-150; see also Aksar Y. The "victimized group" concept in the Genocide Convention and the development of international humanitarian law through the practice of Ad Hoc tribunals. Journal of Genocide Research 2003;5(2):211-224.
[69] Lippman, A road map to the 1948 Convention on the Prevention and Punishment of the Crime Genocide, 181.
[70] Quayle P. Unimaginable evil: the legislative limitations of the Genocide Convention. International Criminal Law Review 2005;5:367.
[71] Lippman, A road map to the 1948 Convention on the Prevention and Punishment of the Crime Genocide, 181; also see van Schaack, The crime of genocide: repairing the Genocide Convention's blind spot, 2264.
[72] van Schaack, The crime of genocide: repairing the Genocide Convention's blind spot, 2265.

The inclusion of political groups was also perceived by many as a roadblock to ratification of the Convention. Delegates noted that some States may be averse to ratifying a convention that limited the right to suppress internal disturbance.[73] The United States suggested political groups could be excluded temporarily in order to gain ratification and the convention could be improved at a later date, by their inclusion. In the 100th meeting of the drafters, protection for political groups was voted out, but as a negotiated trade-off, reference to an international tribunal, previously voted out, was reinstated.[74]

Other groups discussed and eventually excluded from the protected groups were linguistic and cultural groups.[75] Although it was the intent of Lemkin and the Genocide Convention to protect a group's culture alongside their existence, its inclusion was also seen as a potential barrier to ratification. A prohibition on cultural genocide may have been interpreted as criminalization of cultural or linguistic assimilation. Similar to the inclusion of political groups, cultural genocide was set aside to be considered later in a supplemental convention.[76]

As Such

The last two words of the *mens rea* for genocide, genocide means any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, *as such*, emphasize the protected group and its right to persist. Genocide is not murder of a group of individuals, but the destruction of a group through the targeting of individuals by virtue of their membership in a group. Lemkin introduced genocide as a crime:

> directed against the national group as an entity, and the actions involved are directed against individuals, not in their individual capacity, but as members of the national group.[77]

[73] van Schaack, The crime of genocide: repairing the Genocide Convention's blind spot, 2267.
[74] van Schaack, The crime of genocide: repairing the Genocide Convention's blind spot, 2267-2268.
[75] For more in depth discussion of the exclusion of cultural groups see Fournet, The crime of destruction and the law of genocide, 43-46.
[76] Lippman, A road map to the 1948 Convention on the Prevention and Punishment of the Crime Genocide, 183.
[77] Lemkin, Axis rule in occupied Europe, 79.

The UN Resolution 96 (I) defines genocide as "a denial of the right of existence of entire human groups."[78] The concept is simple and it is what separates genocide from other crimes.

Intent to Destroy, In Whole or In Part

The *mens rea* of genocide also requires "intent to destroy, in whole or in part," one of the four protected groups. Intent infers prior thought. Lemkin commonly referred to a "plan" when describing genocide, as in "a coordinated plan of different actions" and "to destroy nations according to a previously prepared plan."[79] The Soviet Union considered the inclusion of "intent" as a loophole by which perpetrators could claim a lack of specific intent to destroy a group.[80] The United States countered that the intent to destroy a group differentiated genocide from homicide. "In whole or in part" acknowledges that genocide does not require the destruction of a whole group, but merely the intent to destroy all or part of that group, however successful the attempt.

Defining *Actus Reas*

Similar to the protected groups, the acts that constituted genocide were debated and refined throughout the drafting process.[81] Lemkin's "techniques of genocide" in his 1944 book included offences against a group's political, social, cultural, economic, biological, physical, religious, or moral life.[82] The first draft of the Genocide Convention describes physical, biological, and cultural acts of genocide in alignment with Lemkin's examples of genocidal acts based upon Nazi imposed measures during World War II:

1. [Physical genocide] Causing the death of members of a group or injuring their health or physical integrity by:

[78] UN, General Assembly Resolution 96(1), Doc A/96 (1) (11 December 1946).
[79] Lemkin, Axis rule in occupied Europe, 79, 81.
[80] Lippman, A road map to the 1948 Convention on the Prevention and Punishment of the Crime Genocide, 181.
[81] For as more in depth discussion of the drafting of *actus reas* see Schabas, Genocide in international law: the crimes of crimes, 151-205.
[82] Lemkin, Axis rule in occupied Europe, 82-90.

(a) group massacres or individual executions; or
(b) subjection to conditions of life which, by lack of proper housing, clothing, food, hygiene and medical care, or excessive work or physical exertion are likely to result in the debilitation or death of the individuals; or
(c) mutilations and biological experiments imposed for other than curative purposes; or
(d) deprivation of all means of livelihood, by confiscation of property, looting, curtailment of work, denial of housing and of supplies otherwise available to the other inhabitants of the territory concerned.

2. [Biological genocide] Restricting births by:
(a) sterilization and/or compulsory abortion; or
(b) segregation of the sexes; or
(c) obstacles to marriage.

3. [Cultural genocide] Destroying the specific characteristics of the group by:
(a) forcible transfer of children to another human group; or
(b) forced and systematic exile of individuals representing the culture of a group; or
(c) prohibition of the use of the national language even in private intercourse; or
(d) systematic destruction of books printed in the national language or of religious works or prohibition of new publications; or
(e) systematic destruction of historical or religious monuments or their diversion to alien uses, destruction or dispersion of documents and objects of historical, artistic, or religious value and of objects used in religious worship.[83]

In the second draft prepared by the Ad Hoc Committee on Genocide, physical and biological genocidal acts were condensed and grouped together, but still described, as were cultural genocidal acts.[84] In the final draft, physical and biological genocidal acts were listed in more generalized wording, instead of descriptively. This was done to serve two purposes: 1) to comply with the *nulla poena sine lege* principle – one cannot be prosecuted for an act not specified as a crime and 2) to standardize national criminal codes that incorporated the crime of

[83] UN, Doc E/447, Secretariat Draft, First Draft of the Genocide Convention (May 1947).
[84] UN, Economic and Social Council, Doc E/AC.25/SR.1 to 28, Ad Hoc Committee Draft, Second Draft Genocide Convention (May 1948).

genocide as required for ratification of the Genocide Convention.[85] Cultural genocide was again omitted, again due to its potential for barring ratification. Therefore, Article 2 of the final draft of the Genocide Convention enumerates only five acts of genocide relating to physical and biological destruction:

> (a) killing members of the group;
> (b) causing serious bodily or mental harm to members of the group;
> (c) deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;
> (d) imposing measures intended to prevent births within the group;
> (e) forcibly transferring children of the group to another group.[86]

Interpreting the Genocide Convention

The Genocide Convention's scant use of words to define genocide created a crime that is easily overlooked when convenient and difficult to prosecute. The initiators of the Genocide Convention, Western nations, have acted to punish genocide only three times – at Nuremberg, in the former Yugoslavia, and Rwanda – and acted to stop genocide only twice – in Kosovo and Bosnia and Herzegovina.[87] As the first international criminal courts to make judgments on the crime of genocide post ratification of the Genocide Convention, the ICTY and ICTR faced two arduous tasks: clarifying the constituent elements of genocide, both the *actus reas* and *mens rea*, and developing substantive criminal law for genocide. The Trial Chambers of the ICTY and ICTR were forced to actively interpret the objective and subjective elements of the crime of genocide while the Prosecution brought forth indictments and evidence to prosecute individuals.

[85] Lippman, A road map to the 1948 Convention on the Prevention and Punishment of the Crime of Genocide, 182; see also Fournet, The crime of destruction and the law of genocide, 40-42.
[86] UN, General Assembly Resolution 260 (III), Prevention and Punishment of the Crime of Genocide, Article 2 (9 December 1948).
[87] Kelly M. Nowhere to hide: defeat of the sovereign immunity defense for crimes of genocide and the trials of Slobodan Milosević and Saddam Hussein. New York: Peter Land Publishings, Inc., 2005;4.

The legal approaches of the ICTR and ICTY must be synchronous between the two courts.[88] Continuity between the two courts is essential because the rulings delivered by the courts establish precedent, become case law, and contribute to the development of international law, particularly suited for future use by the ICC. Any contradictions between the two courts would threaten the legality of the decisions and confuse future application of the crime of genocide. For this reason, the Tribunals share the same prosecutor and members of the Appeals Chamber.

The Trial Chamber of the ICTY interpreted genocide based on the rules for interpretation of treaties provided in Article 31 and 32 of the 1969 Vienna Convention on the Law of Treaties.[89] Several sources were relied upon, including the drafting process of the Genocide Convention and previous ICTY and ICTR rulings. The International Law Commission (ILC), which serves the function of codifying international law, reported on genocide in the 1996 Draft Code of Crimes against the Peace and Security of Mankind.[90] The work of other relevant UN committees including the Sub-Commission on Prevention of Discrimination and Protection of Minorities of the UN Commission on Human Rights was referenced. The 1985 Whitaker Report, which provided recommendations on the prevention and punishment of genocide, despite never being submitted to the UN General Assembly, was used as a source of interpretation.[91] Drafts of the Rome Statute were considered as a basis of *opinio juris* of States. Finally, legislative and judicial interpretations and decisions of States were also relied upon.

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[88] Akhavan P. The International Criminal Tribunal for Rwanda: the politics and pragmatics of punishment. The American Journal of International Law 1996;90(3):503.

[89] Krstić Judgment, para. 541.

[90] International Law Commission (hereafter "ILC") was established in 1947 to promote 1) the development of international law by preparing draft conventions on subjects requiring legal codification and 2) the codification of current international law by clarifying and systemizing rules between States, available at <http://www.un.org/law/ilc/>; the Draft Code of Crimes against the Peace and Security of Mankind (1996), available at <http://untreaty.un.org/ilc/texts/instruments/English/ draft%20articles/7_4_1996.pdf> (accessed 1 February 2009).

[91] UN, Economic and Social Council Commission on Human Rights, Sub-Commission on Prevention of Discrimination and Protection of Minorities, Doc E/CN.4/Sub.2/1985/6, Revised and Updated Report on the Question of the Prevention and Punishment of the Crime of Genocide (2 July 1985), available at <http://www.preventgenocide.org/prevent/UNdocs/whitaker/> (accessed 1 February 2009).

Other Crimes Under Jurisdiction of the ICC

The crime of genocide is perhaps the most difficult of crimes to recognize and prove due to its *mens rea* requirement. By providing evidence that meets the requirements for genocide many other crimes may be proved to have occurred. The ICC has jurisdiction over genocide, crimes against humanity, and war crimes. Each crime is defined in the Rome Statute.

Crimes against humanity are defined as:

> any of the following acts when committed as part of a widespread or systematic attack directed against any civilian population, with knowledge of the attack:
>
> (a) murder;
> (b) extermination;
> (c) enslavement;
> (d) deportation or forced transfer of population;
> (e) imprisonment or other severe deprivation of physical liberty in violation of fundamental rules of international law;
> (f) torture;
> (g) rape, sexual slavery, enforced prostitution, forced pregnancy, enforced sterilization, or any other form of sexual violence of comparable gravity;
> (h) persecution against any identifiable group or collectivity on political, racial, national, ethnic, cultural, religious, gender as defined in paragraph 3, or other grounds that are universally recognized as impermissible under international law, in connection with any act referred to in this paragraph or any crime within the jurisdiction of the Court;
> (i) enforced disappearance of persons;
> (j) the crime of apartheid;
> (k) other inhumane acts of a similar character intentionally causing great suffering or serious injury to body or to mental or physical health.[92]

A crime against humanity has a much simpler *mens rea* than genocide, lacking the requirement of intent and no need for the crime to be committed against any specific, definable, protected group. The *actus reas* of crimes against humanity overlap acts of genocide and include additional acts. For a particular indicted crime of genocide, if in trial proof of intent is lacking or

[92] Rome Statute, Article 7:1.

the victims are not considered as a protected group, the crimes committed are likely to still fall under crimes against humanity.

War crimes originate from the Geneva Conventions of 1949 and are defined in the Rome Statue as:

> any of the following acts against persons or property protected under the provisions of the relevant Geneva Convention:
>
> (a) willful killing;
> (b) torture or inhumane treatment, including biological experiments;
> (c) willfully causing great suffering, or serious injury to body or health;
> (d) extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly;
> (e) compelling a prisoner of war or other protected person to serve in the forces of a hostile Power;
> (f) willfully depriving a prisoner of war or other protected person of the rights of fair and regular trial;
> (g) unlawful deportation or transfer or unlawful confinement;
> (h) taking of hostages.[93]

The Court has jurisdiction over these crimes when they are committed as "part of a plan or policy or as a part of a large-scale commission of such crimes."[94] Twenty-six other acts are described and considered war crimes as:

> other serious violations of the laws and customs applicable in international armed conflict, within the established framework of international law.[95]

Additional acts considered war crimes are described for "armed conflicts not of an international character": four acts committed against persons "taking no active part in the hostilities" and an additional twelve acts that may be committed on civilians, persons involved in peacekeeping or humanitarian aid work, children, and physical materials, buildings, and property.[96] Similar to crimes against humanity, the evidence collected to prove genocide can also be used to prove war crimes were committed.

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[93] Rome Statute, Article 8:2(a).
[94] Rome Statute, Article 8:1.
[95] Rome Statute, Article 8:2(b).
[96] Rome Statute, Article 8:2(c) and (e).

It is notable that in the Rome Statute, crimes against humanity and war crimes are given significant amount of clarification. Each act of crimes against humanity is followed by a description of what may qualify as that act, and war crimes are explicitly detailed in a considerably long list. The crime of genocide received no similar extra consideration; it was simply defined with the exact adoption of the crime's definition as originally written in the Genocide Convention. The crime of genocide is very ambiguous; the study of case law is one way to understand its true legal meaning.

Chapter Three

THE BOSNIAN WAR: SREBRENICA, BOSNIA and HERZEGOVINA

> In just a couple of days, Sarajevo will be gone and there will be five hundred thousand dead, in one month Muslims will be annihilated in Bosnia and Herzegovina.[97] *(Radovan Karadžić, future president of Republika Srpska, speaking to Momcilo Mandic, Justice Minister of Republika Sprska, 13 October 1991)*

This study relies on the events that occurred in Srebrenica, Bosnia and Herzegovina, during the Bosnian War; it explores the relationship between forensic evidence collected from execution sites and mass graves and the prosecution of the crime of genocide in an international criminal court. Srebrenica is both a municipality in eastern Bosnia and Herzegovina and a distinct city within the municipality. The conflict there began early in the war and culminated with the execution of more than 7,000 Bosnian Muslim men just months prior to the end of the Bosnian War.[98]

The Bosnian War began in March 1992 following the break-up of the Socialist Federal Republic of Yugoslavia. Yugoslavia in 1990 was made up of six Socialist Republics: Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, and Macedonia (Figure 1). Following the fall of communism in Eastern Europe and the break-up of the USSR, Yugoslavia struggled with ethnic tensions, a rise of nationalism, and conflicting opinions on the future of the republic.[99] The disintegration of the Republic began with Croatia and Slovenia's declaration of independence on 25 June 1991, followed by Macedonia's in September 1991.

[97] ICTY, Prosecutor v. Slobodan Milosević, Case IT-02-54-T, Decision on Motion for Judgment (16 June 2004), para. 241.
[98] Krstić Judgment, para 84.
[99] Rogel C. The breakup of Yugoslavia and the war in Bosnia. Westport, CT: Greenwood Press, 1998;18-21.

Figure 1. The Former Yugoslavia in 1992.

Source: The History Place, Genocide in the 20th Century, Former Yugoslavia, available at <http://www.historyplace.com/worldhistory/genocide/former-yugo.jpg> (accessed 1 February 2009); amended by the labeling of Srebrenica, Bosnia and Herzegovina.

Independence did not come without conflict. The Yugoslav National Army (JNA) was overpowered in Slovenia during a ten day war following their declaration of independence.[100] In Croatia, the Serbian area of Krajina in western Croatia seceded from the republic and the JNA, with 70% Serbian officers, supported the Serbian population. By November 1991, one-third of Croatia was controlled by the Serbs. The UN monitored a truce allowing the Serbian held territory to remain separate and protected from Croatia. Serbian leaders were thus able to direct their full attention to Bosnia and Herzegovina.

The independence of Bosnia and Herzegovina was complicated by its population's diverse national and religious identifications. It was the only Yugoslavian Republic without a national or religious majority. In 1991, Bosnia and Herzegovina was 43.7% Bosnian, 31.4% Serb, and 17.3% Croat. Generally, Bosnians were Muslim, Serbs Orthodox, and Croats Catholic.[101] The impending independence of Bosnia and Herzegovina, favored by both Croats and Bosnians, was not supported by the Serbian population who favored remaining a part of Yugoslavia. In October 1991, the Serb members of the Bosnian and Herzegovinian parliament formed the Bosnian Serb Assembly, a referendum was held, and the Bosnian Serb population voted to remain a part of Yugoslavia. The Bosnian Serb Assembly designated as territories of the federal Yugoslav state the voting regions, municipalities, and cities that favored remaining a part of Yugoslavia. Independence was declared 1 March 1992 by the Bosnian Government and Bosnian Serbs countered this declaration by asserting independence for the Serbian Republic (Republika Srpska) within Bosnia on 27 March 1992.[102] The war in Bosnia began ten days later. The two remaining states of the Socialist Federal Republic of Yugoslavia, Serbia and Montenegro, joined together to form the Federal Republic of Yugoslavia on 27 April 1992.

Throughout the Bosnian War, Serbs, Croats, and Bosnian forces fought and formed allegiances. The JNA, no longer an army of the fractured Yugoslavia, was split between the

[100] Rogel, The breakup of Yugoslavia and the war in Bosnia, 24-26.
[101] Ljubisic D. A politics of sorrow: the disintegration of Yugoslavia. Montreal: Black Rose Books, 2004; 110-111; see also Rogel, The breakup of Yugoslavia and the war in Bosnia, 29.
[102] For a chronology of events from 500AD to 1997 see Rogel, The breakup of Yugoslavia and the war in Bosnia, x-xxiv.

newly formed Federal Republic of Yugoslavia and the Army of the Republika Srpska or Vojska Republike Srpske (VRS). The VRS was the main aggressor of the Bosnian War, having the clear goal of forming a contiguous Serbian state by joining the Serbian population of Bosnia and Herzegovina with Serbia.[103] Serbs populated both western and eastern Bosnia and Herzegovina; Serbian forces pressed to capture and join these territories.

Srebrenica, 1992 – June 1995

Serbian forces began a directed attack against the non-Serbian civilian population of Bosnia and Herzegovina in early 1992.[104] Serbian forces took control of Srebrenica in April, but it was recaptured by May 1992. Srebrenica, Žepa, and Cerska, all Bosnian Muslim cities, were contiguous but remained separated from Bosnian-held territory further west. In January 1993, Serbian forces captured Cerska and Konjevic Polje, effectively isolating Srebrenica. The Srebrenica enclave territory shrunk from 900 to 150 square kilometers while the population increased to over 50,000 people.[105]

In April 1993, in response to Serbian threats of attack, the UN Security Council passed Resolution 819 declaring Srebrenica a "safe area" free from armed attacks.[106] A United Nations Protection Force (UNPROFOR) was stationed in the municipality. Each side was accused of breaking the "safe area" agreement; Serbian soldiers made attacks directed towards the area, and Bosnian forces used the area for staging their own attacks.[107] UNPROFOR troops lacked the manpower and weapons necessary to protect the people or halt the Serbian force's advance on the "safe" territory.

At the start of 1995, the isolation of the Srebrenica enclave from other Bosnian controlled territory resulted in shortages of food, medicine, ammunition, and fuel for the UNPROFOR

[103] Rogel, The breakup of Yugoslavia and the war in Bosnia, 32.
[104] Krstić Judgment, para. 13.
[105] Krstić Judgment, para. 14.
[106] UN, Security Council, Resolution S/RES/819 (16 April 1993), available at <http://www.nato.int/IFOR/un/u930416a.htm> (accessed 1 February 2009).
[107] Krstić Judgment, para. 22-25.

troops.[108] In March, Radovan Karadžić, the President of Republika Srpska, issued Directive 7 to the VRS:

> Complete the physical separation of Srebrenica from Žepa as soon as possible, preventing even communication between individuals in the two enclaves. By planned and well-thought out combat operations, create an unbearable situation of total insecurity with no hope of further survival or life for the inhabitants of Srebrenica.[109]

This directive was shortly followed by a more aggressive plan to attack the enclave.

July 1995

On 2 July 1995 the VRS operation "Krivaja 95" was ordered by the commander of the Drina Corps.[110] Over the course of 10 days in July, VRS forces invaded Srebrenica, forcibly removed the Bosnian Muslims population from the region, and executed 7,000 – 8,000 men. The VRS offensive began on 6 July as troops approached Srebrenica and began pressing in toward the main city.[111] Faced with little resistance in the first few days, Serbian President Karadžić ordered the VRS Drina Corps, one of six geographically defined Corps, to capture the town of Srebrenica.[112] The Bosnian Muslim population fled to Potocari, a town 6 km northwest of Srebrenica and the location of a UN compound.[113]

By 11 July Srebrenica was emptied and the number of refugees at Potocari swelled to 20,000 to 25,000 persons.[114] There conditions continued to deteriorate. Food and water were sparse. Serbian soldiers performed seemingly random acts of violence including executions, rapes, and burning houses.[115] That night, the Bosnian men made the decision to flee by foot

[108] Krstić Judgment, para. 26.
[109] Krstić Judgment, para. 28.
[110] Krstić Judgment, para. 30.
[111] Krstić Judgment, para. 31.
[112] The role of the Drina Corps in the Krivaja 95 operation is summarized in the Trial Chamber's "Findings of Fact: The Role of the Drina Corps in the Srebrenica Crimes," in the Krstić Judgment, para. 118-166.
[113] Krstić Judgment, para. 34.
[114] Krstić Judgment, para. 37.
[115] Krstić Judgment, para. 38-47.

through the surrounding forest to Bosnian held territory.[116] The largest group of men, estimated at 10,000 to 15,000 men, headed north towards the Bosnian controlled city of Tuzla; two smaller groups of less than 1000 men each headed southwest and east. Less than 1000 men remained with the women, children, and older men unable to make the trek.[117]

Forced deportation from Potocari began on 12 July.[118] The VRS provided buses to relocate women, children, and the elderly to Bosnian held territory. The men who had remained at Potocari were separated from the group, some were executed there, and the remainder transported to and detained in Bratunac, the municipality just north of Srebrenica.[119] This operation was completed by the evening of 13 July.

The column of men in the forest met their first ambush between Konjevic Polje and Nova Kasaba on 12 July.[120] The column was interrupted; only one-third of the men were able to cross past the ambush. The thousands of men captured were brought to two detention areas in Bratunac, the Sandici Meadow and the Nova Kasaba football field, where men from Potocari were also being detained.[121] The one-third of men who evaded capture at Konjevic Polje pressed on but faced another ambush shortly after.[122]

Well organized mass executions of the captured men began 13 July and terminated on or about 17 July.[123] The groups of men were organized into smaller groups and transported from initial detention areas to several secondary detention sites via the same buses used to evacuate Potocari of women, children, and the elderly.[124] At secondary detention sites, mainly schools and warehouses, resistance was minimized by applying ligatures and blindfolds.[125] From there, men were marched or transported to nearby fields, lined up, and shot. At some execution sites,

[116] Krstić Judgment, para. 60-61.
[117] Krstić Judgment, para. 66.
[118] Krstić Judgment, para. 48.
[119] Krstić Judgment, para. 53-59.
[120] Krstić Judgment, para. 62.
[121] Krstić Judgment, para. 64.
[122] Krstić Judgment, para. 65.
[123] Krstić Judgment, para. 67.
[124] Krstić Judgment, para. 66.
[125] Krstić Judgment, para. 68.

large graves were being dug as the men were being executed. Others graves were dug shortly after the executions and then filled with bodies.

The Peace Agreements

The momentum of the war turned sharply after the Srebrenica massacres through a series of events that placed pressure on Serbia. Allied Bosnian and Croat forces took back western Bosnian territory from the Serbs. These same forces threatened the Bosnian Serb capital of Republika Srpska, Banja Luka. A mortar shell dropped by Serbian forces on 28 August 1995 at a marketplace in Sarajevo, killing 37 and wounding 88, prompted North American Treaty Organization (NATO) air strikes.[126] The ICTY issued indictments for Bosnian Serb military and government leaders. World powers pressured the leaders of Serbia, Croatia, and Bosnia and Herzegovina to enter negotiations.

The three sides met in Dayton, Ohio; attendees included Serbian President Slobodan Milošević, Croatian President Franjo Tuđman, and Bosnian President Alija Izetbegović. Radovan Karadžić, President of Republika Srpska, did not attend. The conference took place over the first 21 days of November, concluding with the Dayton Peace Accords on 21 November 1995. The agreement was later formally signed in Paris, France, on 14 December 1995.[127]

As a result of the Dayton Peace Accords, two political entities compose Bosnia and Herzegovina, the Federation of Bosnia and Herzegovina and the Republika Srpska. They are separated by the Inter-Entity Boundary Line, defined in the Dayton Peace Accords, and resemble the military lines at the end of the war. The Republic of Srpska covers 49% of Bosnia and Herzegovina and includes the Srebrenica municipality. The Brčko District, the only municipality that belongs to both entities, separates western and eastern Republica Srpska (Figure 2).

[126] Rhode D. Endgame: the betrayal and fall of Srebrenica, Europe's worst massacre since World War II. New York: Farrar, Straus and Giroux, 1997;338-340.
[127] Rhode, Endgame, 340-342.

Figure 2. Map of Bosnia and Herzegovina after the Dayton Peace Accords.

Source: United States Institute of Peace, available at <http://www.usip.org/events/pre2002/images/Bosnia_Herzegovina.jpg> (accessed 23 April 2009); amended for clarity only.

Chapter Four

GENOCIDE IN SREBRENICA

> Thus, the Trial Chamber concentrates on setting forth, in detail, the facts surrounding this compacted nine days of hell and avoids expressing rhetorical indignation that these events should ever have occurred at all. In the end, no words of comment can lay bare the saga of Srebrenica more graphically than a plain narrative of the events themselves, or expose more poignantly the waste of war and ethnic hatreds and the long road that must still be travelled to ease their bitter legacy.[128] *(Trial Chamber, Krstić Judgment)*

It is the burden of the Prosecution to provide evidence that the crime of genocide was committed. Two constitutive elements of the definition of genocide must be satisfied: the *mens rea* and *actus reas.* The *mens rea* of genocide requires the Prosecution to prove that there was intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such, by one of the five enumerated acts of genocide. The *actus reas* of the crime is perhaps the easier of the two elements to satisfy with forensic evidence, but forensic evidence can also be relied upon for proving *mens rea*. Forensic evidence was used by the Prosecution to describe the crimes committed, including 1) the identity of the victims, 2) their manner and cause of death, 3) patterns of injury, 4) time of death, and 5) how mass graves were made. The forensic evidence also corroborated testimony of survivors regarding times, places, and the events that occurred at these sites.

Prosecutor v. Radislav Krstić was the first ICTY trial that forensic experts testified to evidence collected in Srebrenica (Figure 3). The Prosecution's initial presentation of the forensic evidence through testimony of the forensic experts, the Defense's cross-examination of the experts, and the Trial Chamber's direct questions to the forensic experts serve to exemplify the most useful forensic evidence relevant to the crime of genocide.

[128] Krstić Judgment, para. 2.

Figure 3. Photograph of Radislav Krstić.

Source: ICTY, Krstić Case IT-98-33, Case Information Sheet, available at <http://www.icty.org/x/cases/Krstić/cis/en/cis_Krstić.pdf> (accessed 21 April 2009). Photograph provided courtesy of the ICTY.

The testimony of the forensic experts also demonstrates how forensic evidence was collected, summarized, and presented in a criminal court to satisfy the definition of genocide.

Forensic evidence is interwoven into the Trial Chamber's judgment along with reflections on preparatory work, case law produced by the ICTR and ICTY, and several other sources of interpretation to find Radislav Krstić guilty of genocide. The Trial Chamber relied upon the forensic evidence to meet multiple legal requirements of genocide. This judgment becomes a part of international criminal jurisprudence, establishing a precedent for the use of forensic evidence to prove certain aspects of genocide. Future Prosecutors can reference the Krstić case to demonstrate the successful use of forensic evidence in cases of genocide.

Summary of Forensic Evidence

The forensic experts holding the position of Chief of Exhumations or Chief Pathologist for the investigation testified to the work performed by the forensic teams under their direction. The following forensic experts testified at the Krstić trial:

- Bill Haglund, Chief of Exhumation 1996, forensic anthropologist
- Richard Wright, Chief of Exhumation 1998 and early 1999, forensic archaeologist
- Jose-Pablo Baraybar, Chief of Exhumation late 1999, forensic anthropologist
- Christopher Lawrence, Chief Pathologist 1998, forensic pathologist
- John Clark, Chief Pathologist 1999 – 2001, forensic pathologist

Two investigators for the Prosecution also testified regarding the forensic evidence collected:

- Jene-Rene Ruez, Chief Investigator for the ICTY
- Dean Manning, Investigator for the Office of the Prosecution

In addition to testimony by these forensic experts, two reports were submitted by Dean Manning that summarized the volumes of reports submitted by these experts and others who performed investigative work. The first report, entitled "Srebrenica Investigation. Summary of Forensic Evidence – Execution Points and Mass Graves" (Manning Report), summarizes the

forensic evidence collected at execution sites and mass graves from 1996 through 1999.[129] This report includes the evidence that the forensic experts testified to in late May 2000. The second report, entitled "Srebrenica Investigation. Summary of Forensic Evidence Mass Graves Exhumed in 2000, Lazete 1, Lazete 2C, Ravince, Glogova 1" (Additional Manning Report), summarizes the forensic evidence collected in 2000.[130] This second report was not admitted into evidence until 4 April 2001, almost a full year after the last forensic experts testified for the Krstić case. The Trial Chamber took all of the forensic evidence admitted from 1996 through 2001 into consideration when making their judgment.

Forensic evidence was collected from 21 exhumed gravesites: 14 primary graves, 8 of which were disturbed [disturbed graves indicated with * (Cerska, Nova Kasaba 96 and 99, Lazete 1*, 2*, and 2C*, Pilica*, Petkovci Dam*, Kozluk*, Konjevic Polje 1 and 2, Glogova 1* and 2*, Ravnice)], and seven secondary graves (Cancari Road 3 and 12, Hodzici Road 3, 4, and 5, Liplje 2, Zeleni Jadar 5). The Manning Report provides a definition of "primary" and "secondary" graves:

> A primary grave is a grave in which the individuals were placed soon after death or indeed where the individuals were executed and then buried. A secondary grave is one in which the individuals, removed or "robbed" from a primary grave were later placed.[131]

Eight execution sites were identified: two buildings, the Kravica Warehouse and Pilica Dom, and six open air sites (Nova Kasaba, Cerska, Orahovac, Branjevo Military Farm, Dam near Petkovci, Kozluk) (Table 1). An additional 20 secondary mass graves were not exhumed, but only examined for the presence of human remains, their size, and primary or secondary status.[132]

[129] Manning D. Srebrenica Investigation: Summary of Forensic Evidence – Execution Points and Mass Graves. ICTY Evidence Report, Unpublished document Property of the United Nations, ICTY (16 May 2000) (hereafter "Manning Report").
[130] Manning D. Srebrenica Investigation. Summary of Forensic Evidence – Mass Graves Exhumed in 2000, Lazete 1, Lazete 2C, Ravince, Glogova 1, ICTY Evidence Report, Unpublished document Property of the United Nations, ICTY (February 2001) (hereafter "Additional Manning Report").
[131] Manning Report, 16.
[132] Manning Report, 4; Additional Manning Report.

Table 1. Twenty-one exhumed mass graves in Srebrenica testified to in the Krstić case.

Exhumed Mass Graves	Exhumed	Primary	Disturbed	Secondary	Linked Graves	Linked Execution Sites
Cerska Valley	1996	X				Cerska
Konjevic Polje 1	1999	X				Undetermined
Konjevic Polje 2	1999	X				Undetermined
Nova Kasaba 1996	1996	X				Undetermined
Nova Kasaba 1999	1999	X				Undetermined
Ravnice	2000	X				Undetermined
Branjevo Military Farm	1996	X	X		Cancari Road 12	Branjevo Farm
Glogova 1	2000	X	X			Kravica Warehouse
Glogova 2	1999	X	X		Zeleni Jadar 5	Kravica Warehouse
Kozluk	1999	X	X		Cancari Road 3	Kozluk
Lazete 1	2000	X	X		Hodzici Road 3 and 4	Orahovac
Lazete 2	1996	X	X		Hodzici Road 3,4,5	Orahovac
Lazete 2C	2000	X	X		Hodzici Road 3 and 4	Orahovac
Petkovci Dam	1998	X	X		Liplje 2	Petkovci Dam
Cancari Road 3	1998			X	Kozluk	Kozluk
Cancari Road 12	1998			X	Branjevo Military Farm	Branjevo Military Farm
Hodzici Road 3	1998			X	Lazete 1 and 2	Orahovac
Hodzici Road 4	1998			X	Lazete 1 and 2	Orahovac
Hodzici Road 5	1998			X	Lazete 2	Orahovac
Liplje 2	1998			X	Petkovci Dam	Petkovci Dam
Zeleni Jadar 5	1998			X	Glogova 2	Kravica Warehouse

Many of the execution sites and mass grave sites were located by aerial reconnaissance photographs taken in 1995 by the United States.[133] Photographs depict mass groups of people and shortly thereafter in the same place, disturbed earth.[134] Heavy earthmoving equipment, used to dig graves and move bodies, was also captured in some ofthe photographs.[135] Primary and secondary graves were located from before-and-after pictures showing freshly disturbed ground (Figure 4 and 5).[136] The aerial photographs were able to narrow the timing of events, including executions, primary burials, and the movement of bodies from primary graves to secondary graves. Nova Kasaba was located from information provided by refugees in Germany.[137]

A forensic investigation was conducted at the two execution site buildings.[138] Blood, hair, and tissue samples were collected from the buildings (Figure 6). The Netherlands Forensic Institute tested these samples for the presence of human DNA.[139] Samples of suspected explosives residue was also collected from each building and tested at the Netherlands Forensic Institute.[140]

Ground survey was performed utilizing metal detectors to locate shell casings and metal fragments on the ground surface at suspected execution sites and shell cases were collected for comparative analysis from the surface of these sites and primary and secondary graves.[141] Forensic archaeological techniques were used to excavate each grave as a piece of evidence. The construction of the grave was determined by size and slope of the ground floor, tool marks, and soil impressions on the floor and walls of the graves. The construction method was linked to the known use of heavy equipment by the Drina Corps, evidenced by aerial photographs and written documents, during the same time period as the grave preparation.[142]

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[133] Manning Report, 1.
[134] Krstić Judgment, para. 237.
[135] Krstić Judgment, para. 241.
[136] Krstić Judgment, para. 202, 222, 238, 251.
[137] Krstić Judgment, para. 249.
[138] Manning Report, Annex A, 1-7.
[139] Manning Report, 12.
[140] Manning Report, 13.
[141] Manning Report, 5, 14.
[142] Krstić Judgment, para. 225, 232, 243, 253.

Figure 4. Before-and-after aerial photographs of Kozluk. On the left, Kozluk on 5 July 1995; on the right, Kozluk on 17 July 1995 of disturbed ground corresponding to the creation of mass graves.

Source: ICTY, Krstić Case IT-98-33, Exhibits – OTP, available at <http://www.un.org /icty/cases-e/cis/Krstić/exhibits/16.jpg> (accessed 13 December 2008). Photograph provided courtesy of the ICTY.

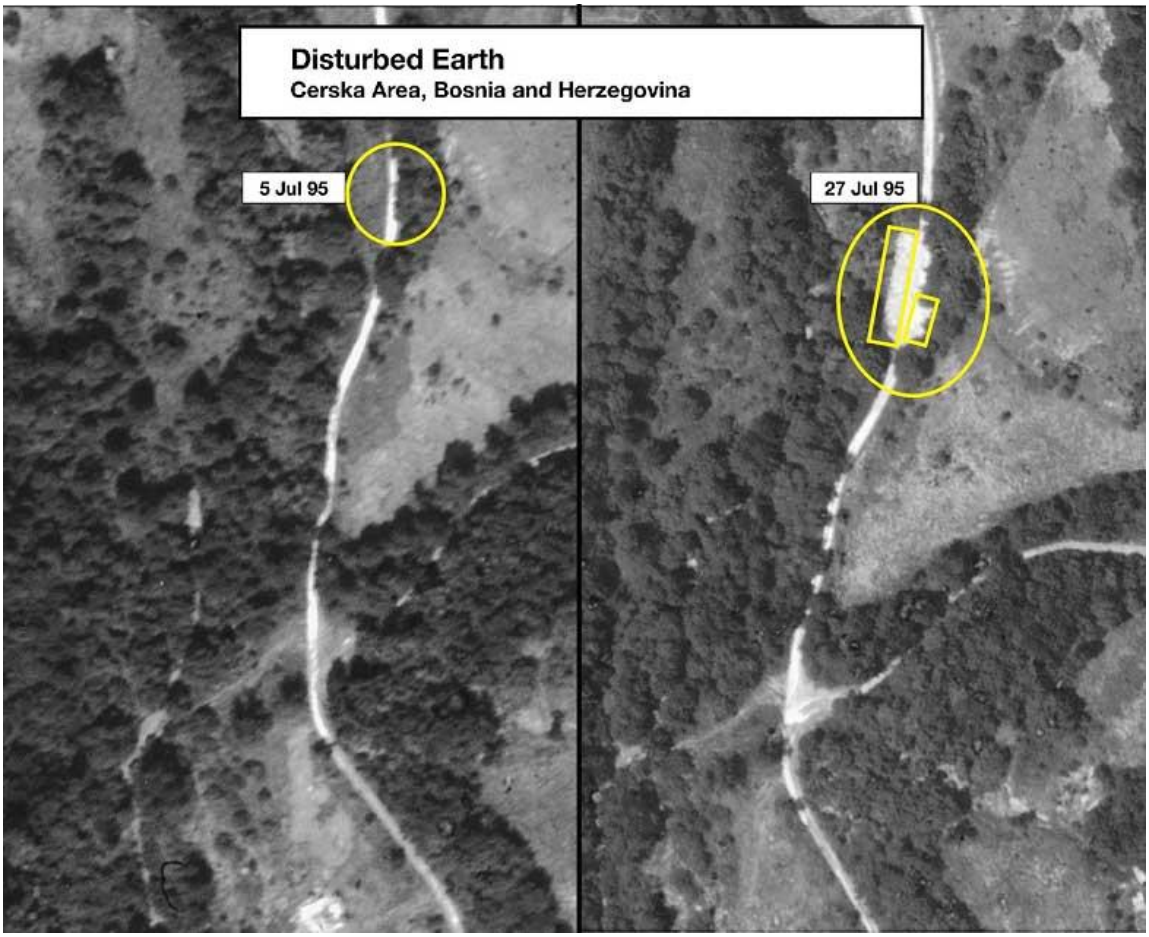

Figure 5. Before and after aerial photographs of Cerska. On the left, Cerska on 5 July 1995; on the right, Cerska on 27 July 1995. The yellow rectangle indicates the location of a mass grave.

Source: ICTY, Krstić Case IT-98-33, Exhibits – OTP, available at <http://www.un.org /icty/cases-e/cis/Krstić/exhibits/1.jpg> (accessed 13 December 2008). Photograph provided courtesy of the ICTY.

Figure 6. Interior of the Kravica warehouse.

Source: ICTY, Krstić Case IT-98-33, Exhibits – OTP, available at <http://www.un.org /icty/cases-e/cis/Krstić/exhibits-e.htm> (accessed 1 February 2009). Photograph provided courtesy of the ICTY.

The method by which the bodies were placed in the grave was also deciphered based on the relationship between the bodies, soil, and vegetation. Victims were counted for the minimum number of individuals in each grave and amongst all of the graves.[143] A demographic profile of the victims was constructed and included age-at-death and sex distributions.[144]

Cause of death was determined when possible and the type of weapon, directionality, range, and any pattern of gunshot wounds assessed. Body position within the grave was recorded to determine if victims were executed within the grave or placed there after death. Bullets embedded in the grave floor were recorded as further evidence of possible in situ executions.

Personal identifications were made of several victims based on comparisons made between antemortem and postmortem data.[145] Personal property found on the bodies greatly contributed to personal identification. Artifacts found on the victims and loose in the grave also provided evidence of the victims' religious affiliation and geographic origin.[146] Artifacts provided evidence of the victims' status as civilians, some of which were handicapped. Self-winding watches with date windows were examined by Mark Mills, Technical Support Manager of Seiko, for their potential to date the executions.[147] The placement of ligatures and blindfolds were recorded in situ and the quantity confirmed in a mortuary setting.[148]

Forensic examinations of soil, shell cases, ligatures, and blindfolds were performed in an effort to link execution sites, primary graves, and secondary graves.[149] Soil samples were collected from the grave matrix and in close association with bodies, and from each of the identified execution sites. Tony Brown, a palynologist at the University of Exeter, United Kingdom, performed mineral and pollen comparison analysis.[150] Shell cases were collected and

[143] Manning Report, 3.
[144] Krstić Judgment, para. 74.
[145] Manning Report, Annex B, 1-2.
[146] Manning Report, Annex C.
[147] Manning Report, 12.
[148] Manning Report, 3.
[149] Diagrams of links between primary and secondary graves based on shell cases, ligatures and blindfolds are available in the Manning Report, 14-15.
[150] Manning Report, 12.

ejector marks compared by the United States Bureau of Alcohol Tobacco and Firearms.[151] Cloth blindfolds and ligatures were compared relative to fabric type, weave, pattern, and color by the Netherlands Forensic Institute.[152] Other collected artifacts contributed to the linking of primary and secondary graves, such as green glass from a bottling factory, found at the primary disturbed Kozluk mass grave and a related secondary grave, Cancari Road 3.[153]

Proving *Mens Rea*

> The *mens rea* of genocide, the requisite mental intent, is:
>
> Genocide means any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such.[154]

This phrase is compound, complicated, and yet the crux of genocide. The Prosecution and the Defense interpreted these words quite differently and each argued their version of genocide. The *mens rea* of genocide was broken down into its parts, considered for its original object and purpose, and its words given meaning by the Trial Chamber.[155] Portions of the Trial Chamber Judgment are discussed alongside testimony given by the forensic experts to demonstrate how the forensic evidence was used to fulfill a legal interpretation of the crime of genocide.

The Trial Chamber concluded that genocide against Bosnian Muslims at Srebrenica was proven beyond a reasonable doubt by the Prosecution.[156] The forensic evidence utilized for each part of the *mens rea* of genocide can serve as a template for many other cases that share the general characteristics of mass executions and mass graves.

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[151] Manning Report, 13-14.
[152] Manning Report, 15.
[153] Manning Report, Annex A, 42.
[154] Genocide Convention, Article 2.
[155] Krstić Judgment, para. 550-599.
[156] Krstić Judgment, para. 599.

National, Ethnical, Racial or Religious Group, As Such

The Genocide Convention lists four groups that can be targeted in an act of genocide – national, ethnical, racial, and religious groups. The Prosecution focused their attention to the victims belonging to the same national and religious group – Bosnian Muslims.[157] The Defense also maintained that Bosnian Muslims made up the only protected group to which genocide laws would apply.

By using the evidence presented to them, particularly forensic evidence, the Trial Chamber first confirmed the group identity of the victims. Then the determination had to be made whether this group was protected by the Genocide Convention.

Religious Group – Muslims. The forensic evidence used to demonstrate the victims were Muslim included religious artifacts found interred with the victims and personal identification of known Bosnian Muslims. Manning described the type of Muslim related artifacts found in the mass graves:

> In the majority of sites, Muslim religious artefacts were located, such as small copies of the Koran, et cetera.
>
> This item was removed from Hodzici 3 grave. The "A" and the number indicates it's an artefact which normally means separate from a body. It was loose in the grave; during the disturbance it separated. It was a plastic packing which included this script, which is a long thin sheet of paper with apparent Muslim verses on it; I've been informed that it's of a religious nature. It's indicative of the sorts of religious texts, or Muslim texts located in the graves.[158]

The two Manning Reports individually list each religious item found in each grave. Artifacts included prayer beads, miniature Korans, individual pages of the Koran, prayers written in Arabic, embroidered pouches commonly made by Muslim women, and muskas, small triangle charms that hold verses of the Koran.[159] The Trial Chamber affirmed that the forensic evidence "suggests the presence of victims with Muslim religious affiliation."[160]

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[157] Krstić Judgment, para. 545.
[158] Prosecutor v. Krstić, Dean Manning (hereafter "Manning"), Transcript pages (hereafter "T."), 3588.
[159] Manning Report, Annex C.; Additional Manning Report, Annex A.
[160] Krstić Judgment, para. 74.

National Group – Bosnians. As a national group, the Prosecution focused on proving the victims were Bosnians by demonstrating the victims were gathered from Srebrenica. This was done in three fashions: 1) providing artifacts that connected victims to Srebrenica with circumstantial evidence, 2) personal identification of victims from Srebrenica, and 3) demographic similarities between the exhumed victims and missing person's lists from Srebrenica.[161] Manning described the forensic evidence to establish the victims as persons from Srebrenica and in turn, members of the Bosnian national group:

> […] In each of the graves that we exhumed, documentation or other items were found which provided a positive link to Srebrenica. They included licna carte or licence cards, identification, other. In some instances, they have provided identification of the victims.
>
> Prosecutor: Can you describe, just in -- using a general example, how the discovery of an artefact in a mass grave site leads to the identification of someone from Srebrenica?
>
> Manning: In the general sense, the licence card may have the address or the opstina of Srebrenica on it. It may be some other artefact as documentation from factories, offices, receipts naming Srebrenica or addresses in Srebrenica.[162]

Manning confirmed that artifacts linking the victims to Srebrenica were found in every primary mass grave and every secondary grave. He then illustrated the method by which personal identifications were made by describing the process which led to the identification of a 15 year old boy from Srebrenica exhumed from the Cerska grave:

> It's a pendant, a gold coloured pendant or necklace with an "S" as part of the pattern. You can also see on the top of the photo a knot in the chain of that pendant. This was removed from the victim, Cerska 60.
>
> […] As part of the attempt to interview, to identify the victims from Srebrenica, families would report the missing to known government organisations such as PHR and the International Red Cross. In that process, they would provide as much information as they could on the description of the individual; age, height, injuries. Also personal effects such as clothing, such as wallets, such as medallions such as this. This particular thing was identified by a family prior to it being investigated by the OTP. They drew a picture of a pendant with an S on it and a knot in the chain. On the basis of that, on the basis of the

[161] Manning Report, Annex B; Additional Manning Report, Annex A.
[162] Prosecutor v. Krstić, Manning, T. 3579-3580.

> description of the individual, and the post mortem data, they established that the individual Cerska 60 was the individual that had been identified as wearing this chain and this pendant.[163]

Personal artifacts, in combination with antemortem and postmortem data collected by PHR and ICRC, and identification of personal belongings by family members led to the personal identification of 45 persons.[164] All 45 persons were Muslim men and all were listed as missing from Srebrenica. These men were exhumed from five separate graves, representing 4 different executions.[165] Other unique artifacts with identification potential collected from the graves included photographs; various identification cards including bank, school, medical, and retirement cards; official government documents including passports, birth, and court documents; and personal effects such as letters, engraved tobacco tins, and an artificial leg.[166]

Helge Brunborg, a demographer, testified to a missing persons list compiled by the merging of the ICRC's and PHR's missing person's lists for Srebrenica.[167] The combined missing persons' list contained 7,475 missing persons: only five persons were not Muslim, 93% were from Eastern Bosnia, and 2,280 were reported missing from Potocari.[168] The demographic work in conjunction with the forensic evidence suggested that the persons listed as missing were indeed the victims exhumed from mass graves.[169] Brunborg described a comparative analysis performed on the anthropological age-at-death estimation of the victims and the missing persons' lists:

> Here we have compared the age distribution of the missing persons with the age distribution of the exhumed bodies… the age distributions are fairly similar. Not surprisingly similar but they are very similar. This indicates that the exhumed bodies come from the population of missing persons, that they represent the same population, you could say.[170]

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[163] Prosecutor v. Krstić, Manning, T. 3581-3582.
[164] Manning Report, Annex B.
[165] Positive identification was made for victims exhumed from Cerska (9), Nova Kasaba (1), the Branjevo Military Farm (13), Cancari Road 12 (1), and Lazete 2 (21).
[166] Manning Report, Annex C; and Additional Manning Report, Annex A.
[167] Prosecutor v. Krstić, Helge Brunborg (hereafter "Brunborg"), T. 4042-4063.
[168] Prosecutor v. Krstić, Brunborg, T. 4067-4068; 4062; 4079-4080.
[169] Krstić Judgment, para. 74.
[170] Prosecutor v. Krstić, Brunborg, T. 4071.

Figure 7 was provided to the Court depicting the similarities among three age groups from the two sources of information.[171] Additionally, only one female was identified during the forensic examination of exhumed bodies, and the majority of missing persons on the ICRC list for Srebrenica were males.[172] These similarities were noted by the Trial Chamber in the judgment as supporting evidence that the victims were the missing persons from Srebrenica.[173]

Additionally, several survivors of executions testified, all of whom professed to be Bosnian Muslim men from the Srebrenica area prior to its occupation by Serbs.[174] These survivors also described the men with them at the executions as Bosnian Muslim men, some of which they knew personally.

The forensic evidence supported the fact that the victims were from Srebrenica, thus Bosnians and affiliated with the Muslim religion. The Trial Chamber was satisfied that the victims were Bosnian Muslims.[175]

As Such. "As such" requires the group to have been targeted because of membership in that group. The Trial Chamber referred to the ILC:

> […] the intention must be to destroy a group and not merely one or more individuals who are coincidentally members of a particular group. The […] act must be committed against an individual because of his membership in a particular group and as an incremental step in the overall objective of destroying the group.[176]

[171] For an in-depth description of Brunborg's methodology and the source of this figure see Brunborg H, Lyngstad TH, Urdal H. Accounting for genocide: how many were killed in Srebrenica? European Journal of Population 2003;19:229-248.
[172] Manning Report, 3; Prosecutor v. Krstić, Brunborg, T. 4070.
[173] Krstić Judgment, para.74, 82.
[174] Witness I survived Pilica, T. 2366; Witness J survived Kravica Warehouse, T. 2441; Witness K survived Kravica Warehouse, T. 2498-2499; Witness L survived Orahovac, T. 2649-2650; Witness N survived Orahovac, T. 2792; Witness O survived Petkovki Dam, T. 2862-2863; Witness P survived Petkovki Dam, T. 2942-2943; Witness Q survived Branjevo Farm, T. 3016; Witness S survived Jadar River, T. 3238-3239.
[175] Krstić Judgment, para. 84.
[176] Krstić Judgment, para. 561.

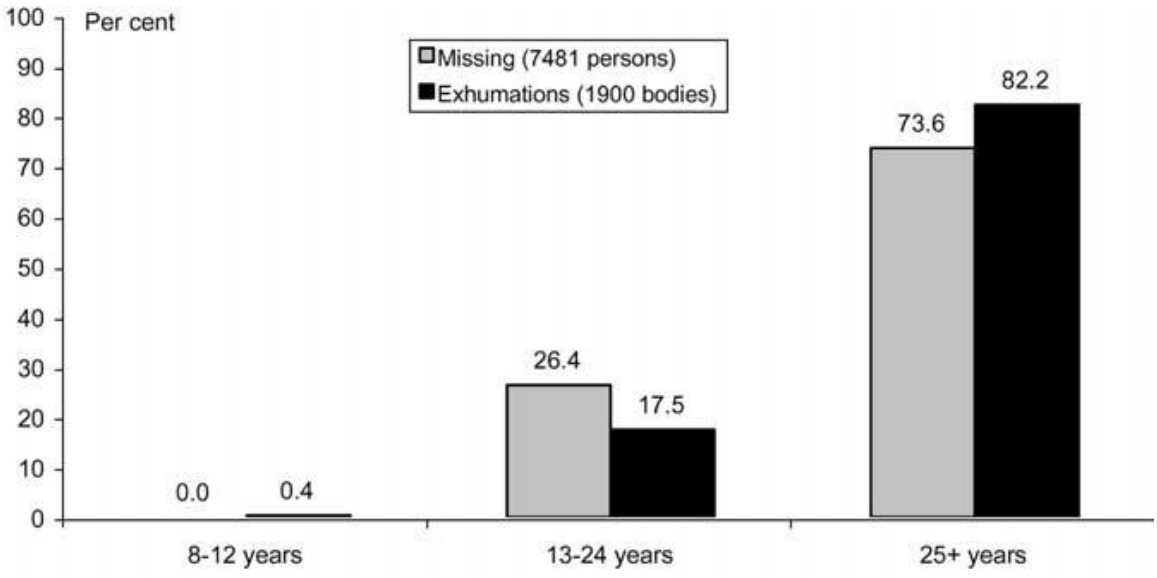

Figure 7. Age distribution of missing persons from Srebrenica and victims exhumed in the ICTY forensic investigation.

Source: Brunborg H, Lyngstad TH, and Urdal H. Accounting for genocide: how many were killed in Srebrenica. European Journal of Population 2003;19:229-248. Permission granted by author for reproduction.

The Bosnian Serbs' war objective was no secret: the Serbian people were to be united in a single State.[177] Srebrenica lay between Serbia and Serbian populations in western Bosnia; the area was an especially desirable area over which to gain control. By destroying this group of Bosnian Muslims the Serbs could gain possession of the land and further eradicate Bosnian Muslims in the area. The multitude of acts committed against the Bosnian Muslim people of Srebrenica proved to the Trial Chamber that Bosnian Serb forces targeted the Bosnian Muslim population of Srebrenica by virtue of their membership in the group.[178] These acts included the transfer of women, children, and the elderly outside of the Bosnian held territory, the deaths of thousands of Bosnian Muslim men, and the numerous other violent acts that occurred in the commission of the crime.

The Trial Chamber turned to the preparatory work of the drafters of the Genocide Convention and other human rights instruments for clarity on whether Bosnian Muslims qualify as a protected group. The drafting process, with the inclusions and exclusions of various groups, was found by the Trial Chamber to be a method by which the drafters could describe national minority groups.[179] The Trial Chamber ruled that the protected group that could qualify as victims of genocide were Bosnian Muslims.[180] Further evaluation of the phrase "in whole or in part" was required to determine if the targeted group constituted a protected part.

In Whole or In Part

The Defense did not challenge the allegation that a significant number of Bosnian Muslims from Srebrenica were killed.[181] They did argue, however, that the required intent to destroy was not satisfied because the whole group, that being Bosnian Muslims, was not targeted.[182] The Defense argued that the intent to destroy must be targeted towards the whole

[177] Krstić Judgment, para. 562-564.
[178] Krstić Judgment, para. 568.
[179] Krstić Judgment, para. 55.
[180] Krstić Judgment, para. 560.
[181] Krstić Judgment, para. 545.
[182] Krstić Judgment, para. 593.

group, citing that the phrase "in whole or in part" referred to the destruction.[183] They further argued that genocide may occur when there is intent to destroy a whole group, but only a part is actually destroyed. Conversely, the Prosecution interpreted "in whole or in part" in referring to the targeted group, to mean a "substantial" part of the group was targeted, either quantitatively or qualitatively.[184]

> The first draft of the Genocide Convention provides a definition of genocide as: a criminal act directed against any one of the aforesaid groups of human beings, with the purpose of destroying it in whole or in part or of preventing its preservation or development.[185]

The second draft omits this phrase. The Trial Chamber made an interpretation based upon a plain reading of the Convention.[186] The phrase, "in whole or in part" was determined to be in reference to the *intent to destroy*, more consistent with the first draft of the convention. Therefore, intent to destroy a part of a group could be construed as genocide.

What exactly constitutes "a part" of the group required clarification. Several sources were provided by the Trial Chamber in their interpretation of "in part" and their judgment that the Srebrenica victims constituted a part of a protected group. Three ways of interpreting "in part" were expounded upon: geographical, quantitative, and qualitative.[187] Forensic evidence was used to support each interpretation.

Geographical Limit. The Prosecution argued for the part of the protected group to be defined as Bosnian Muslims of Srebrenica, and referred to the victim group throughout the trial as such or alternatively, "Bosnian Muslims of Eastern Bosnia".[188]

The Prosecution referenced several judgments that ruled genocide could be committed on a geographically limited group.[189] The ICTY ruled as such in *Prosecutor v. Goran Jelisic* and

[183] Krstić Judgment, para. 583.
[184] Krstić Judgment, para. 582.
[185] UN, Doc E/447, Secretariat Draft, First Draft of the Genocide Convention (May 1947).
[186] Krstić Judgment, para. 584.
[187] Krstić Judgment, para. 585-589; For further discussion on these three interpretations see Fournet, The crime of destruction and the law of genocide, 69-74.
[188] Krstić Judgment, para. 591.
[189] Krstić Judgment, para. 582.

invited the Prosecution to pursue an indictment of genocide against Dragan Nikolić for acts performed in one region of Bosnia and Herzegovina. The ICTR found Jean-Paul Akayesu guilty of genocide in the Taba commune of Rwanda.

The Trial Chamber provided several additional instances of a geographically restricted interpretation of a group.[190] Two separate cases against Bosnian Serbs tried by German courts, those of Nikola Jorgic and Novislav Djajic, found that genocide was committed in the Doboj region of Bosnia and Herzegovina and the administrative district of Foca, respectively.

The Trial Chamber concluded that prior rulings had firmly established that a protected group could be defined by geography as long as there was intent to destroy that distinct, geographically limited group.[191] Artifacts found interred with the victims along with the personal identification of many Srebrenican residents exhumed from graves convinced the Trial Chamber that the victims were Bosnian Muslims from Srebrenica.[192]

Quantitative. The Prosecution's interpretation of "in part" having a quantitative meaning was based on draft code prepared by the International Law Commission in 1996:

> It is not necessary to intend to achieve the complete annihilation of a group from every corner of the globe. None the less the crime of genocide by its very nature requires the intention to destroy at least a substantial part of a particular group.[193]

The Trial Chamber further quoted two ICTR judgments, *Prosecutor v. Clement Kayishema and Obed Ruzindana* and *Prosecutor v. Ignace Bagilishema*, which relied upon and confirmed the ILC's quantitative description of "in part".[194] There was a clear precedent for a quantitative interpretation of "in part" for the Trial Chamber to implement.

What a "substantial" part meant quantitatively was not as clear. To make a quantitative judgment the Trial Chamber considered numerical data provided by forensic experts and the forensic demographer to determine whether a significant number of Bosnian Muslims from

[190] Krstić Judgment, para. 589.
[191] Krstić Judgment, para. 590.
[192] Krstić Judgment, para. 74.
[193] Krstić Judgment, para. 586.
[194] Krstić Judgment, para. 586.

Srebrenica was affected.[195] Two calculations were provided to the Trial Chamber by forensic experts quantifying the number of victims in the mass graves. The merged minimum number of individuals exhumed from the 21 excavated graves was 2,028.[196] Richard Wright estimated an additional 2,571 bodies were contained in 21 secondary graves that were not excavated, but only probed to determine size and confirmed as secondary graves by the presence of multiple body parts.[197] A third number was provided by Brunborg. Based on missing person's lists generated by PHR and the ICRC, a minimum of 7,475 persons were missing from Srebrenica.[198]

A significant amount of testimony was given by the forensic experts regarding the anthropological method for determining the merged minimum number of individuals (MMNI).[199] Jose-Pablo Baraybar explained for the court how MMNI is calculated for multiple graves, including secondary graves filled with partial bodies and robbed primary graves not fully emptied.[200] A simple count of the most represented portion of bone from one side of the body was not sufficient under these circumstances. An inventory was made of all bones and recognizable bone fragments for each grave. This list was then partitioned into three age groups: 12 years and under, 13 to 24 years, and 25 years and older. The bone inventories of related primary and secondary graves were merged. The most represented bone in each of the three age groups and among the different related graves was counted to create a conservative MMNI estimate of 2,028 persons.

Wright testified regarding the numerous secondary graves that were located during the forensic investigation but not exhumed.[201] Twenty-one secondary graves were probed to determine the shape of the grave and its length and width. Each site was examined to confirm the presence of multiple body parts within the grave. Wright described the method by which the estimate of 2,571 additional bodies was made:

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[195] Krstić Judgment, para. 594.
[196] Additional Manning Report, 14.
[197] Prosecutor v. Krstić, Richard Wright (hereafter "Wright"), T. 3668-3669.
[198] Prosecutor v. Krstić, Brunborg, T. 4067.
[199] Prosecutor v. Krstić, Jose-Pablo Baraybar (hereafter "Baraybar"), T. 3793-3798.
[200] Prosecutor v. Krstić, Baraybar, T. 3799-3804.
[201] Prosecutor v. Krstić, Wright, T. 3669-3670.

> […] I did it on the grounds that the secondary graves, the seven that we did exhume along the three roads that we've already discussed, were the same size and shape. What I did was to average the number of bodies found in those seven graves and extend that average to the 21 places that we had probed and shown to have multiple body parts.[202]

Provided this forensic testimony, the Trial Chamber judgment recognized the 2,028 persons as a conservative estimate of the number of victims exhumed from graves.[203] They then generalized in their summary of the facts provided by forensic evidence that "thousands of Bosnian Muslim men from Srebrenica were killed."[204] Combined with the demographic evidence provided by Brunborg, the Trial Chamber settled on a figure of 7,000 to 8,000 missing persons and stated, "the majority of missing people were, in fact, executed and buried in the mass graves."[205]

The Prosecution argued that this was a significant part of the overall group of the 38,000 to 42,000 Bosnian Muslim men in Srebrenica.[206] The Defense countered that the protected group was Bosnian Muslims and that "the killing of up to 7,500 members of a group" did not make up a significant part of the 1.4 million Bosnian Muslim population.[207] The Defense added that that number of victims, when in comparison to the approximately 40,000 Bosnian Muslim men in Srebrenica, was still not significant.[208] The Trial Chamber did not rule on a quantitative part separate from their decision regarding a qualitative part.

Qualitative. A qualitative interpretation of "in part" considers which segment of the population was targeted. The Prosecution referenced the ICTY Jelisic judgment to support their efforts to define the Bosnian Muslim men of military age from Srebrenica as a protected group:

[202] Prosecutor v. Krstić, Wright, T. 3669.
[203] Krstić Judgment, para. 73.
[204] Krstić Judgment, para. 79.
[205] Krstić Judgment, para. 82, 594.
[206] Krstić Judgment, para. 592.
[207] Krstić Judgment, para. 593.
[208] Krstić Judgment, para. 593.

> The intention demonstrated by the accused to destroy a part of the group would therefore have to affect either a major part of the group or a representative fraction thereof, such as its leaders.[209]

The Prosecution argued that Bosnian Muslim men of military age were targeted due to the impact that the loss of this segment of the population would have on Bosnian Muslims in Srebrenica as a whole. [210] They argued that military age men were providers for the family, and the loss of said providers would disrupt the patriarchal society to an extent that threatened the group as a whole.

The Prosecution used forensic evidence to establish that Bosnian Muslim men of military age were specifically targeted as a group. The Manning Reports and the forensic testimony provided victim demographic information, including age-at-death and sex, for each grave exhumed. After being questioned on the general use of osteological indicators of sex used by forensic anthropologists, including the pelvis, skull and long bones, Baraybar described the standards used to determine sex during the Srebrenica investigations:

> We have taken a very conservative approach. In other words, whenever the pelvic bones were not present, sex was not ascertained.[211]

Forensic anthropologists determined the sex of 1,843 bodies; all but one individual was male.[212] The one female, a full skeleton, was exhumed from Konjevic Polje 1.[213] Her presence led Baraybar to reiterate the conservative approach used when determining sex. He testified that none of the remains classified as undetermined due to fragmentation or other reasons demonstrated female features.[214]

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[209] Krstić Judgment, para. 582; see also ICTY, Prosecutor v. Goran Jelisic, Case IT-95-10-T, Judgment (14 December 1999), para. 81.
[210] Krstić Judgment, para. 592.
[211] Prosecutor v. Krstić, Baraybar, T. 3790.
[212] Krstić Judgment, para. 74.
[213] Manning Report, Annex A, 61.
[214] Prosecutor v. Krstić, Baraybar, T. 3885-3886.

Baraybar, having been involved in the anthropological examination of victims from Srebrenica throughout the investigation, testified on the most represented age-at-death of victims exhumed from 1996 through 1999:

> The majority of the remains in this case, 1.547 are individuals of 25 or more at death. I have created a breakdown of this 25-and-more category using some specific indicators like the pubic bone I mentioned yesterday.
>
> That information still tells us that most of the people are still clustered between the third, fourth and fifth decade, that the majority of the 24-and-more individuals cluster around those ages.[215]

Although the majority of victims were aged 25 years or older, 17.5% of victims aged under 25 years.[216] Additionally, at least one child may have been as young as 8 years old, and a number of victims were over the age of 65 years.[217]

The Trial Chamber cited other sources with similar conclusions regarding a qualitative part of a group. The 1985 Whitaker Report described "in part" to include a "significant section of a group, such as its leadership."[218] The Final Report of the Commission of Experts further defined leadership to include a group's political, administrative, religious, academic, intellectual, and business leaders.[219]

As a second element of the qualitative descriptor of "in part", the Final Report of the Commission of Experts also took into consideration the actions taken towards the remaining segment of the population:

> the attack on the leadership must be viewed *in the context of the fate of what happened to the rest of the group*. If a group suffers extermination of its leadership and in the wake of that loss, a large number of its members are killed or subjected to other heinous acts, for example deportation, the cluster of violations ought to be considered in its entirety in

[215] Prosecutor v. Krstić, Baraybar, T. 3812.
[216] Prosecutor v. Krstić, Prosecutor's Exhibit 276, Brunborg H and Urdal H, The Report on the Number of Missing and Dead from Srebrenica, p. 00926384, Figure 3.
[217] Prosecutor v. Krstić, Christopher Lawrence (hereafter "Lawrence"), T. 3998, 4017.
[218] Krstić Judgment, para. 587.
[219] Krstić Judgment, para. 587; also see UN, Doc S/1994/674, Final Report of the Commission of Experts (27 May 1994), available at <http://www.ess.uwe.ac.uk/comexpert/REPORT_TOC.HTM> (accessed 1 February 2009).

> order to interpret the provisions of the Convention in a spirit consistent with its purpose.[220]

The Trial Chamber found that Bosnian Muslim women, children, and the elderly were deported by force from Potocari.[221] Prior to the deportation, acts were committed to terrorize the population, including selective burning of houses, rape, murder, and verbal demands to leave the area.[222] There was no effort to conceal the crimes, and witnesses testified that the acts clearly sent the message that Bosnian Muslims would not continue to live in Srebrenica.[223]

The Trial Chamber judged genocide could be geographically constrained and were convinced that the combination of the loss of 7,000 – 8,000 men from a patriarchal society, and the removal of all other Bosnian Muslims from Srebrenica, "would have a lasting impact upon the entire group."[224] The Trial Chamber determined that a protected group was targeted in part. The last thing needed to satisfy the *mens rea* of genocide was to establish intent to destroy the group.

Intent to Destroy

The Prosecution presented an interpretation of "an intent to destroy" that included a conscious desire for the acts performed to lead to the destruction of the group or knowledge that the acts were destroying or likely to destroy the group.[225] The Prosecution cited a March 1995 directive from Radovan Karadžić, the President of Republika Srpska, to VRS forces regarding Srebrenica:

> By planned and well-thought out combat operations, create an unbearable situation of total insecurity with no hope of further survival or life for the inhabitants of Srebrenica.[226]

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[220] Krstić Judgment, para. 587.
[221] Krstić Judgment, para. 149.
[222] Krstić Judgment, para. 41-47.
[223] Krstić Judgment, para. 41.
[224] Krstić Judgment, para. 595.
[225] Krstić Judgment, para. 569.
[226] Krstić Judgment, para. 28.

The deportation of women, children, and the elderly synchronized with the murder of all men of military age was described as a concomitant act performed to encumber the community's ability to return to the area.[227] The Prosecution argued that it was impossible for the VRS troops not to predict that the massacre of men would disrupt the cultural and social norms of the community.

The Defense claimed that the crime of genocide requires "a higher form of premeditation" than was ever made prior to the events that unfolded in Srebrenica.[228] The transfer of women, children, and the elderly was presented as proof that there was no intent to destroy the group. Had the VRS wanted to destroy the Bosnian Muslim group they would not have invested the time and effort to safely transfer this portion of the population, defined as those not of a military threat, from Srebrenica.[229] The Defense claimed that the murder of 7,500 men was the result of intent to eliminate any military threat and executed as retaliation against the Bosnia and Herzegovina Army for their refusal to surrender to the VRS.[230]

The Trial Chamber referenced the preparatory work of the Genocide Convention drafters and numerous other sources for their interpretation of "intent to destroy", including ICTR cases, the ILC, and domestic law of certain States.[231] The ILC interpreted intent as more stringent than "a general awareness of the probable consequences," requiring "a particular state of mind" or "specific intent" to the overall consequences.[232] The other referenced sources were consistent with their interpretation of genocide to include a specific intent to destroy the group, in whole or in part, as the goal of committing the acts. The Trial Chamber chose to consider only acts committed with the goal of destroying all or part of a group as potentially an act of genocide.[233] However, the Trial Chamber also asserted that premeditation over a long period of time was not

[227] Krstić Judgment, para. 592.
[228] Krstić Judgment, para. 570.
[229] Krstić Judgment, para. 593.
[230] Krstić Judgment, para. 593.
[231] Krstić Judgment, para. 571.
[232] Krstić Judgment, para. 571.
[233] Krstić Judgment, para. 571.

required and although the original goal of a particular action may not have been to destroy a group it is possible for the goal to change.[234]

Intent is a particular state of mind that can be difficult to prove without a confession. Intent to destroy part of the Bosnian Muslim group was inferred from the evidence indicating the killings were planned based on who was targeted; how, when, and where they were killed; the number of persons killed; and the planning and organization required to carry out such acts.[235] Forensic evidence provided much of this information.

Civilian Victims of No Military Threat. The civilian status of the victims shows intent to destroy the whole group of Bosnian Muslim men, not only those that posed a threat to the military. The excavations and examinations of the victims revealed that they uniformly wore and carried civilian clothing, were not armed with weapons, some were handicapped, and in some instances had received medical attention for injuries just prior to their deaths.

Clothing of the victims was examined at the time of exhumation and again in a morgue setting. Wright testified to the lack of military clothing found on victims:

> Prosecutor: Professor Wright, in your statement about the exhumations in 1998, within the frameworks of your conclusions you state that none of the 857 individuals were wearing military uniforms. Can you tell us -- can you explain to us what you mean by the term "to wear military uniform"? What do you consider that term to mean in your statement?
>
> Wright: By that statement, I mean that I did not see essentially khaki jackets and khaki trousers of the sort that I associate internationally with military wear.[236]

Christopher Lawrence described only one uniform type of clothing observed during autopsy, that of a blue uniform lacking any military insignia.[237] The only piece of clothing with military significance was a singular Yugoslav National Army jacket removed from Cancari Road 3.[238] Baraybar described an abundance of clothing, still folded "as if it was part of somebody's

[234] Krstić Judgment, para. 572.
[235] Krstić Judgment, para. 572.
[236] Prosecutor v. Krstić, Wright, T. 3690-3691.
[237] Prosecutor v. Krstić, Lawrence, T. 3998.
[238] Prosecutor v. Krstić, Lawrence, T. 3999.

luggage" at Nova Kasaba 4.[239] Testimony describing civilian clothing being found loose in graves was also given in regards to Konjevic Polje 1 where a bag filled with clothing was unearthed and at Glogova 02.[240]

Of all the grave sites exhumed, only one weapon was found. At Glogova 2 a Beretta 7.65mm pistol loaded with 6 rounds of ammunition was found in association with a body.[241] The man was wearing civilian clothing – black leather jacket, green tartan shirt, olive-green T-shirt, and brown trousers.[242]

Permanent disabilities and chronic medical conditions were documented during the pathological and/or anthropological examination of the victims. Men were found with severe sclerosis of the spine, old unhealed hip fractures, a grossly deformed ulna, and other conditions that were presumably physically debilitating.[243] John Clark described several of the Kozluk victims' permanent disabilities and medical conditions:

> […] They were not a uniformly fit group of people, and a significant number had physical disabilities or some evidence of chronic disease […] This is a photograph of somebody's elbow joint, upper arm here and forearm here. Now, the elbow joint, as we all know, normally moves. This person is completely rigid. The bones are just joined, fused together, no movement whatsoever. This person would have had a fixed -- fixed elbow joint. Similarly, one man had a completely fused knee joint. The two bones at the knee joint are just stuck together. Whether that's from an old injury or from disease it was difficult to say, but, undoubtedly, he would have walked with a completely straight leg. He wouldn't have been able to bend it. There were other people. Somebody had a glass eye. One man had a big plate inside his skull. He'd obviously had previous surgery. Somebody had evidence of open-heart surgery, coronary artery bypass surgery. Several had old fracture -- bony fractures. One man had an inhaler, Celbutimol [phoen] inhaler for asthma and there were a number of other deformities and illnesses.[244]

[239] Prosecutor v. Krstić, Baraybar, T. 3816-3817.
[240] Prosecutor v. Krstić, Baraybar, T. 3831-3832; 3839.
[241] Manning Report, Annex A, 50.
[242] Prosecutor v. Krstić, Baraybar, T. 3875.
[243] Prosecutor v. Krstić, Lawrence, T. 3988.
[244] Prosecutor v. Krstić, John Clark (hereafter "Clark"), T. 3912-3913.

The Trial Chamber made the conclusion that "severely handicapped" victims were "unlikely to have been combatants."[245]

Medical equipment found in graves and on the bodies of victims indicated some victims were injured and received rudimentary medical attention prior to their deaths. Two stretchers made from tree branches between which a blanket was tied were exhumed in Nova Kasaba as well as a splint made from two tree branches and a bandage fashioned to stabilize a fractured lower leg.[246] Bandages were found on limbs, around hands, and wrapped around shrapnel injuries and non-fatal gunshot wounds.[247] Men had suffered gunshot wounds to the legs, yet had treated and bandaged them prior to death.[248]

The lack of military clothing and weapons together with the prevalence of physical deformities, evidence of chronic disease, and perimortem injuries found on bodies dispersed throughout several graves characterize the group as less than able- bodied and not likely to be part of a militia. The Trial Chamber found that:

> All of the executions systematically targeted Bosnian Muslim men of military age, regardless of whether they were civilians or soldiers.[249]

Witness Testimony of Systematic Massacres and Methodical Executions. A main goal of a forensic investigation is to corroborate or negate witness testimony.[250] Witness testimony, supported by forensic evidence, provided details of when and where the victims were captured, when and where they were killed, how they were killed, and how and where they were buried. Each of the actions taken by the perpetrators that required planning or coordination to conduct the executions or burial of victims contributed to the proving of intent to destroy the group.

Several witnesses testified of highly organized executions. The experiences described by witnesses at several different execution sites involved the capturing of small groups of Bosnian

[245] Krstić Judgment, para. 75.
[246] Prosecutor v. Krstić, Baraybar, T. 3816; 3819.
[247] Prosecutor v. Krstić, Clark, T. 3916; see also Manning Report, 18, 57.
[248] Prosecutor v. Krstić, Clark, T. 3928.
[249] Krstić Judgment, para. 546.
[250] Schmitt S. Mass graves and the collection of forensic evidence: genocide, war crimes, and crimes against humanity. In: Haglund WD, Sorg M, editors. Forensic taphonomy: the postmortem fate of human remains. Boca Raton: CRC Press, 2002;280.

Muslim men, their transportation to detention sites, the consolidation of smaller groups of men into larger buildings, and executions in an organized fashion. Some massacres took place within the detention building where the victims were held, such as the Kravica Warehouse and Pilica Dom Cultural Center. Other executions took place outdoors at a short distance from the detention area.

Witness J and K were survivors of the Kravica Warehouse, having hid under dead bodies and playing dead, respectively, until they could escape. Both men were walking to Tuzla after hearing Srebrenica was captured by the Serbs. Witness J was captured on 13 July 1995 when his group was ambushed while treating the wounded in the forest.[251] He was taken to the Sandici Meadow where thousands of other Bosnian men were being guarded. Witness K surrendered on 13 July 1995 at the road between Bratunac and Konjevic Polje and was taken to the same meadow.[252] Later that afternoon the thousands of men captured in the forest and brought to the meadow were transferred to the Kravica Warehouse. Witness J was marched there while Witness K was transported in a bus.[253] Witness J described the events that occurred minutes after walking into the Kravica Warehouse:

> […] And all of a sudden there was a lot of shooting in the warehouse, and we didn't know where it was coming from. There were rifles, grenades, bursts of gunfire and it was -- it got so dark in the warehouse that we couldn't see anything. People started to scream, to shout, crying for help. And then there would be a lull, and then all of a sudden it would start again. And they kept shooting like that until nightfall in the warehouse.[254]

Witness K was in a different room but recalled the same terror.[255]

An investigation of the interior of the Kravica Warehouse revealed evidence of gunfire and explosions.[256] The concrete walls were impacted and a doorframe was damaged from an inward force. Samples of blood, hair, and tissue were collected from the building and examined by the Netherlands Forensic Science Laboratory for the presence of human DNA; 142 of the 149

[251] Prosecutor v. Krstić, Witness J, T. 2445.
[252] Prosecutor v. Krstić, Witness K, T. 2501-2503.
[253] Prosecutor v. Krstić, Witness J, T. 2460; Witness K, T. 2510.
[254] Prosecutor v. Krstić, Witness J, T. 2463-2464.
[255] Prosecutor v. Krstić, Witness K, T. 2524.
[256] Manning Report, Annex A, 4-7.

samples contained human DNA.[257] The same forensic laboratory examined 23 samples of explosive residue collected from the warehouse; two tested positive for trinitrotoluene, or TNT.[258] Eleven grenade handles were found, as well as numerous shell casings and projectiles.[259]

The Kravica Warehouse victims were buried in the primary Glogova 1 and 2 graves.[260] Ejector marks on shell casings collected from in and around the warehouse were analyzed by the United States Bureau of Alcohol Tobacco and Firearms for comparison to shell cases collected from grave sites. Two shell casings matched a single shell casing from the secondary Zeleni Jadar 5 grave and Zeleni Jadar 5 was linked with the primary Glogova 2 grave by soil and pollen comparative analysis.[261] At Glogova 1, concrete from the walls of the Kravica Warehouse, the missing pieces of the doorframe, and several grenade fragments were excavated from within the grave matrix intermixed with the mass of bodies.[262] The bodies exhumed from Glogova 1 also exhibited severe blast and shrapnel injuries in addition to gunshot wounds.[263] The Trial Chamber determined that the forensic evidence corroborated the survivors' testimonies.[264]

Witness N survived the Orahovac executions and Witness Q survived the Branjevo Farm executions. The beginnings of their stories were very similar to those of Witness J and K reflecting intent through planning of detention areas and consolidation of several groups of detainees. The executions Witness N and Q survived occurred on the 14th and 16th of July, respectively.[265]

Witness N was separated from his wife and children in Potocari on 12 July.[266] He was first detained in a house and was then transported to a warehouse where he was detained for one

[257] Manning Report, 12.
[258] Manning Report, 13.
[259] Manning Report, Annex A, 4-5.
[260] Manning Report, 9; Additional Manning Report, 11.
[261] Manning Report, Annex A, 5, 48.
[262] Additional Manning Report, 11.
[263] Additional Manning Report, 11-13.
[264] Krstić Judgment, para. 208.
[265] Krstić Judgment, para. 220; 233.
[266] Prosecutor v. Krstić, Witness N, T. 2796-2797.

full day as other men continued to arrive.[267] On the night of the 13th, Witness N and the other prisoners were transported to a second detention site, a school gymnasium in Orahovac.[268] Similarly, more men arrived throughout the day.[269] On the night of the 14th, small groups of men were given a drink of water, blindfolded, then transported a short distance in a small truck to a field.[270] Witness N testified to what he witnessed there:

> […] And I was the last one in the truck, so I was taken out first. And they showed me where I was supposed to stand, next to some dead bodies. And everybody was lined up like that, in several rows, with their backs facing them.
>
> The tamic left immediately, and immediately after it had left, we heard automatic rifles being fired. Everybody fell down at that point, and those who were not killed, who were still giving some signs of life, were shot at individually, were killed individually. I didn't dare move. I was just looking downwards towards the ground.
>
> [..] They continued bringing people and killing people and this lasted until dusk. Behind my back there was an excavator who was digging a mass grave.[271]

Forensic evidence verified Witness N's testimony.[272] Aerial photographs of the Orahovac execution site show a disturbance to the ground on 19 July 1995 that was not present on 5 July 1995.[273] The disturbed areas cover the primary graves of Lazete 1 and 2. At Lazete 1, the MNI was 130, 125 of which died of gunshot wounds.[274] One hundred and eighty two men were exhumed from Lazete 2 and the cause of death for 173 men was gunshot wounds.[275] Two hundred and seventy-seven bullets and a representative sample of 1,451 shell casings were collected from the surface and matrix of the two graves.[276] Comparison studies of shell casings, soil and pollen samples, and ligatures and blindfolds support a relationship between the school at

[267] Prosecutor v. Krstić, Witness N, T. 2797-2801.
[268] Prosecutor v. Krstić, Witness N, T. 2809-2813.
[269] Prosecutor v. Krstić, Witness N, T. 2822.
[270] Prosecutor v. Krstić, Witness N, T. 2823-2824.
[271] Prosecutor v. Krstić, Witness N, T. 2824-2825.
[272] Krstić Judgment, para. 222.
[273] Manning Report, Annex A, 22.
[274] Additional Manning Report, 5.
[275] Manning Report, Annex A, 23; Additional Manning Report, 7.
[276] Manning Report, Annex A, 24; Additional Manning Report, 6, 8.

which the Orahovac victims were held, Lazete 1, and the secondary grave of Hodzici 5 and link Lazete 2 and the secondary graves of Hodzici 3 and 4.[277] The majority of men in these secondary graves also died as a result of gunshot wounds and more bullets and shell casings were collected.[278] Witness N testified that men were blindfolded prior to their transport to the execution site.[279] A total of 375 blindfolds were collected from the Lazete 1 and 2 and Hodzici Road 3, 4, and 5 graves.[280]

Witness Q survived the Branjevo Farm executions. He had left Potocari on 12 July with the column of men and was captured in the Nova Kasaba area on the morning of 13 July.[281] The group of men with whom he was captured was taken to a school where other men were being held.[282] Later that afternoon, all of the men were forced to march to a football stadium.[283] There 1,500 to 2,000 Muslim men were being detained.[284] That night the men were put on buses and joined a caravan of vehicles transporting prisoners.[285] In the morning they arrived at the Pilica School where they joined more men.[286] The prisoners spent the nights of 14 and 15 July in the school. Witness Q testified to what he observed on the morning of the 16th:

> And as we were leaving the school building, they told us to line up against a wall, put our hands against our backs, and this is where our hands were tied up.
> Three buses were parked there, and we climbed onto the second bus. […] And once the buses were filled up, they left. They started along the same road we had taken when we came to the school. At one point we turned right and reached a meadow. On that meadow I saw a large number of dead bodies. The buses stopped on a road near the meadow, and I could see a hangar there and people lying about, killed.
>
> When the buses stopped, soldiers started taking out groups of people who were tied up. They were taking them in one column. They had to put their hands behind their backs. Those were groups of ten people which were taken to the area where the dead bodies

[277] Additional Manning Report, 4-8; see also Manning Report, Annex A, 22-24.
[278] Manning Report, 26-34.
[279] Prosecutor v. Krstić, Witness N, T. 2823.
[280] Additional Manning Report, 14.
[281] Prosecutor v. Krstić, Witness Q, T. 3017.
[282] Prosecutor v. Krstić, Witness Q, T. 3018-3019.
[283] Prosecutor v. Krstić, Witness Q, T. 3020-3021.
[284] Prosecutor v. Krstić, Witness Q, T. 3020-3022.
[285] Prosecutor v. Krstić, Witness Q, T. 3025-3029.
[286] Prosecutor v. Krstić, Witness Q, T. 3030-3031.

> were, on the meadow, and this is where they were killed. And then they would shoot at each one of them individually, and this is what I could observe from the bus.[287]

Aerial photographs taken of the Branjevo Farm on 17 July 1995, the day after the executions described by Witness Q, shows bodies lying on the ground, soil marks made by an excavator, and the burial area where the bodies were being buried (Figure 8).[288] The Branjevo Farm grave was linked to the secondary Cancari Road 12 grave through soil and pollen samples and similar blindfolds and ligatures.[289] The MNI for the two graves was 28, and all but four complete to mostly complete bodies were determined to have died due to gunshot wounds.[290] Witness Q testified that the men's hands were tied behind their backs before they were executed.[291] Ninety nine ligatures were collected from the two graves, 88 of which were still binding the victims' arms or wrists.[292]

The forensic testimony corroborated the survivors' testimony of dates, places, use of blindfolds and ligatures, and cause of death.[293] By corroborating the witnesses' testimony with forensic evidence, the witness testimony of how they were captured, who captured them, how the perpetrators acted, who the other victims were, and the events that took place could all be admitted as solid evidence. These three very similar testimonies from three separate execution sites describe actions taken that indicate that there was communication between the perpetrators, an organized plan, coordinated efforts, and time taken to execute the plan. All of these factors contribute to establishing intent to destroy.

The Trial Chamber used the words "systematically massacred" and "careful and methodical mass executions" to describe the death of the 7,000 to 8,000 Bosnian Muslim men.[294]

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[287] Prosecutor v. Krstić, Witness Q, T. 3040-3041.
[288] Prosecutor v. Krstić, Jene-Rene Ruez (hereafter "Ruez"), T. 3486-3487.
[289] Manning Report, 7.
[290] Manning Report, Annex A, 17, 19.
[291] Prosecutor v. Krstić, Witness Q, T. 3040.
[292] Manning Report, 20.
[293] Krstić Judgment, para. 202 (Cerska); 208-210 (Kravica Warehouse); 222-223 (Orahovac); 229-230 (Petkovci Dam); 237-238 (Branjevo Military Farm); 245, 248 (Pilica Dom); 249-251 (Kozluk).
[294] Krstić Judgment, para. 79, 594, 595.

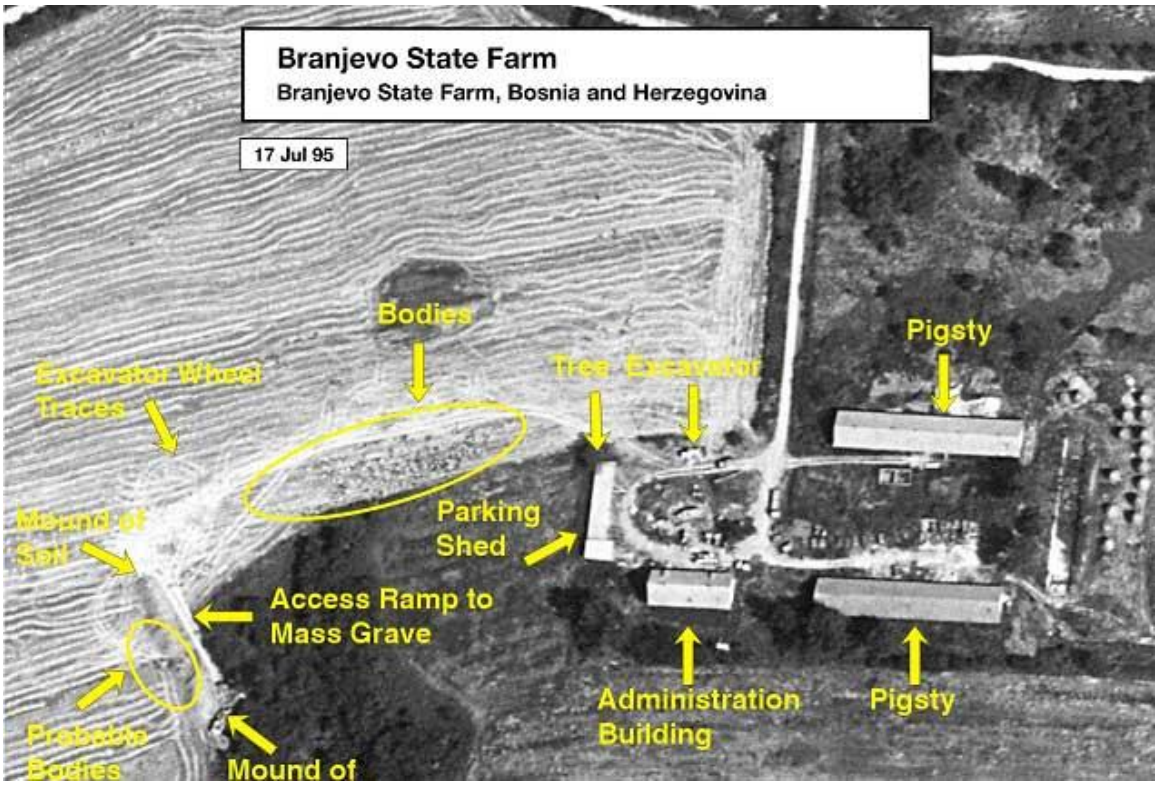

Figure 8. Aerial photograph of Branjevo Farm on 17 July 1995.

Source: ICTY, Krstić Case IT-98-33, Exhibits – OTP, available at <http://www.un.org /icty/cases-e/cis/Krstić/exhibits/7.jpg> (accessed 13 December 2008). Photograph provided courtesy of the ICTY.

Their capture and detention was described as "well organized and comprehensive."[295] The Trial Chamber was satisfied that the testimony of the survivors regarding their experiences was true based on the forensic evidence and aerial photography that corroborated their testimony.[296]

Execution Style Deaths. Forensic evidence was able to demonstrate a systematic execution of victims interred at Glogova 05, a primary, undisturbed sub-grave of Glogova 2, and Glogova L, a grave only spatially related to the other Glogova graves. Consistent placement of gunshot wounds to a particular region of the body was presented as a result of controlled and orderly killing. John Clark described the high velocity rifle injuries to the victims of Glogova 05:

> […] There was one particular pattern that emerged from the graves, and this again was GL-05. This was the grave with the preponderance of young men in it. There was a very typical pattern of injury in these people of a gunshot injury to the back, to the middle of the spine. Sometimes -- in a lot of cases that have the only injury. In other -- some of the victims there were additional shots perhaps to the head, but this was a very repetitive injury and a constant finding of shattered bones in the middle of the spine.[297]

The MNI for Glogova 05 was 90 and 46 of 73 complete bodies had spinal fractures.[298] Grave L held 12 male victims whose wrists were tied behind their backs and then tied with others in pairs. All twelve suffered a single gunshot wound to the back or side of the head.[299]

Prepared Graves. Another indicator of preplanning identified during the forensic archaeological excavation was the preparation of graves prior to the execution of the victims. This was inferred from the bodies' resting position and the presence of bullets embedded in the floor of the grave.

The victims' body positions in Nova Kasaba grave NKS1 and NKS2, exhumed in 1996, suggest they were shot while in the grave.[300] Thirty three males aged from 15 to 50 years were exhumed. All but one died of gunshot wounds; the cause of death for this individual was

[295] Krstić Judgment, para. 85.
[296] Krstić Judgment, para. 4, 79.
[297] Prosecutor v. Krstić, Clark, T. 3934; see also Manning Report, Annex A, 50.
[298] Manning Report, Annex A, 50.
[299] Additional Manning Report, 12.
[300] Manning Report, Annex A, 13.

massive head wounds inflicted by an undetermined instrument.[301] Twenty seven of the men had their hands bound behind their backs with various materials: 25 wire ligatures, 1 rope, and 1 shoelace.[302] Haglund testified how body position can indicate the victims were shot and died in the grave:

> In grave number NSK-2, the grave containing the 19 individuals, some were in kneeling positions, some were in sitting positions with their heads slumped forward, and these were positions that, in my experience, would not be -- we would not encounter by individuals being thrown into a grave. It would be my opinion that they most likely were in those positions in those graves and shot in the grave.[303]

Additional evidence of victims being killed within graves was found at Kozluk, Konjevic Polje 2, and one Nova Kasaba 1999 grave, NK6.[304] At each of these sites, the archaeological excavation of the grave revealed bullets embedded below the surface of the grave floor directly beneath the bodies. Baraybar described the recovery of bullets embedded in the floor of the Nova Kasaba 1999 grave:

> Individual number 2 -- or under, rather, individual number 2, a number of bullets were recovered, and by "bullets" I mean fired rounds, slugs. A total of basically five were recovered from under this individual. […] In all these cases, the bullets were embedded in the soil. They were not lying on the surface. They were at least an inch or less between -- let's say half an inch and an inch embedded in the soil. An interpretation we draw from this is that this individual was most likely shot while lying in the grave.[305]

It can be deduced that if victims were shot while in the grave, the grave was dug expectantly and prior to the executions.

Ligatures and Blindfolds. The excavation of so many ligatures and blindfolds from the graves was particularly damaging to the Defense (Figure 9). Ten sites held 448 blindfolds and thirteen sites held 423 ligatures (Table 2).[306] In total, nine of 14 primary graves held ligatures and/or blindfolds and some were found in graves that related to all eight known execution sites.

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[301] Prosecutor v. Krstić, William Haglund (hereafter "Haglund"), T. 3740.
[302] Manning Report, Annex D, 3.
[303] Prosecutor v. Krstić, Haglund, T. 3740-3741.
[304] Prosecutor v. Krstić, Wright, T. 3679-3682, 3835; Baraybar, T. 3821.
[305] Prosecutor v. Krstić, Baraybar, T. 3821.
[306] Additional Manning Report, 12.

Figure 9. An exhumed body exhibiting a blindfold and ligature.

Source: ICTY, Krstić Case IT-98-33, Exhibits – OTP, available at <http://www.un.org /icty/cases-e/cis/Krstić/exhibits-e.htm> (accessed 1 February 2009). Photograph provided courtesy of the ICTY.

Table 2. MNI and MMNI calculations compared to number of ligatures and blindfolds collected at each grave site. (Adapted from Additional Manning Report, p. 12).

Exhumed Mass Graves	MNI	MMNI	Ligatures	Blindfolds
Primary Graves, nondisturbed				
Cerska	150	150	48	
Konjevic Polje 1	9	9		
Konjevic Polje 2	3	3		
Nova Kasaba 1996	33	33	27	
Nova Kasaba 1999	55	55		
Glogova 05[1]	90	90		
Ravince[2]				
Linked Graves, primary disturbed (PD) and secondary (S)				
Lazete 2 (PD)	164	243	1	107
Lazete 2C (PD)	17		4	40
Hodzici Road 5 (S)	57		1	34
Lazete 1 (PD)	130	250		138
Hodzici Road 3 (S)	45			16
Hodzici Road 4 (S)	82			40
Branjevo Military Farm (PD)	132	283	83	2
Cancari Road 12 (S)	174		16	8
Petkovci Dam (PD)	43	219	1	
Liplje 2 (S)	191		23	
Glogova 2 (PD)	49	187		
Zeleni Jadar 5 (S)	145		2	
Kozluk (PD)	340	506	168	55
Cancari Road 3 (S)	158		37	8
Glogova 1[2] (PD)			12	
Totals		**2028**	**423**	**448**

[1] A subgrave of Glogova 2 that was not disturbed.
[2] Autopsies and anthropological examinations were not completed prior to the Krstić judgment.

Ligatures and blindfolds served many purposes for the Prosecution. They proved valuable in establishing relationships between execution sites, primary graves, and secondary graves. The Trial Chamber described the presence of ligatures and blindfolds as "inconsistent with combat casualties."[307] They also aided in establishing the intent to destroy. These items indicated a clear, controlled overpowering of the victims, and that planning was required to procure ligatures and blindfolds prior to executions. Survivors' testimonies showed the organization of the blindfolding and/or ligaturing of victims prior to their death.

Witness L survived the executions at Orahovac and testified regarding the prisoners being blindfolded prior to their transfer to the field where they were killed and buried:

> After that, at the opening to the left, there were two Serb soldiers standing there and a Serb woman in uniform. They brought a pile of rags with which they tied our eyes. […] There were these pieces of cloth; they were about 60 centimetres long, five or six centimetres wide; they were mostly patterned so you couldn't see through them.[308]

Blindfolds were one source of evidence that linked the execution site of Orahovac and the victims in the primary graves of Lazete 1 and 2, and the secondary graves of Hodzici Road graves 3, 4, and 5.[309] Strips of cloth found outside the gymnasium in which the prisoners were held prior to their execution were described by the Trial Chambers as "indistinguishable" from blindfolds recovered from Lazete 2 and those from Lazete 1 had a "striking similarity" with blindfolds from Lazete 2 and the Hodzici Road graves.[310] The MMNI from the Orahovac related excavations was 493.[311] Three hundred and seventy-five blindfolds were removed from the six linked graves. The witness testimony agreed with the forensic evidence.[312] The presence of any blindfolds or ligatures counters a Defense that the men were combat casualties, and the quantity suggests coordinated planning and preparation for executions.

[307] Krstić Judgment, para. 75.
[308] Prosecutor v. Krstić, Witness L, T. 2684.
[309] Additional Manning Report, 5.
[310] Krstić Judgment, para. 222.
[311] Additional Manning Report, 14.
[312] Krstić Judgment, para. 222.

Concealment of Bodies. The Trial Chamber also considered the concealment of bodies in mass graves and the subsequent movement of bodies to secondary graves as a further indication of intent to destroy the Bosnian Muslim population of Srebrenica.[313] The location of these secondary graves and the physical damage done to the victims' bodies as a consequence of moving them to secondary graves were determined to be indications of intent to destroy the Bosnian Muslims of Srebrenica.[314] These actions were found to prevent any survivors the ability to bury the dead according to religious and ethnic customs, causing distress to the survivors. The forensic investigation contributed to proving there was an effort to conceal the graves by providing evidence of the existence of secondary graves and establishing their relationship to primary execution sites and primary graves associated with the Srebrenica massacres.[315]

Comparative analysis of cloth ligatures and blindfolds linked execution sites to primary and secondary graves.[316] The fabric type, weave, pattern, color, and other distinguishing characteristics were used to match cloths. These results paralleled the results of independent comparative analysis of ejector marks on shell cases collected from execution and grave sites. A third comparative analysis of soil, rock, and pollen samples produced distinctive mineralogical and pollen signatures that linked primary and secondary graves.[317] These results were also consistent with the cloth and ejector mark study results.[318] Taken together the comparative analyses established at least one link between all five primary disturbed graves and one or more of the seven secondary sites examined prior to the forensic experts' testimony.[319] The only result that was not consistent with other established links was a match between cloths collected from the secondary graves Hodzici Road 4 and Liplje 2.[320]

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[313] Krstić Judgment, para. 596.
[314] Krstić Judgment, para. 596.
[315] Krstić Judgment, para. 257.
[316] Manning Report, 15.
[317] Manning Report, 12; Detailed description of methods and results are available from Brown AG, The use of forensic botany and geology in war crimes investigations in NE Bosnia. Forensic Science International 2006;163:204-210.
[318] Prosecutor v. Krstić, Manning, T. 3593-3608.
[319] Manning Report, 12-15.
[320] Manning Report, 15.

Another significant link made between an execution and primary grave site and a secondary grave involved the transfer of broken green glass bottles and labels. Excavation of Cancari Road 3 revealed an abundance of green glass dispersed within the grave and among the bodies.[321] Labels reading "Vitinka" were also found which led the forensic investigation to a bottling factory in Kozluk. There the Kozluk primary disturbed grave was located near a dump site for broken bottles (Figure 10).[322] This artifactual evidence also linked Cancari Road 1, a secondary grave that was probed but not exhumed, to Kozluk.

The location and the damaging nature of the creation of the secondary graves was considered as further evidence of the intent to destroy. Secondary graves were created in very remote areas. Trial Chamber Judge Rodrigues questioned Jene-Rene Ruez on his repetitive reference to graves being in remote places.[323] Ruez answered:

> I said remote places. I could also have said isolated places, and even desolated places, completely destroyed places. The reason why, I believe, this is very important is that this is part of an operation aimed to conceal the crime, and this massive effort of hiding these bodies was certainly much more successful if the bodies were taken in areas where probably no one would have at least resettled for years. At the moment it was done, there was probably an expectation that no one would resettle in these places before a couple of years, and this is, indeed, what happened. The first refugees are coming back in this place, in fact, since last year, and mainly this year. So there was very little risk for the perpetrators to have someone coming across one of these sites, even by accident.[324]

In the process of moving the bodies to these more remote locations, bodies were mutilated and dismembered. Ruez described this process and its impact on the bodies while the Court watched a film showing the exhumation of a secondary grave:

> Since it is a secondary site, there are very few complete bodies in it, due to the way the initial burial was conducted using heavy equipment, then the unburial using again heavy equipment, then the transportation in trucks, the dumping from the trucks, the refilling of the hole with heavy equipment. All this destroys the bodies under. You end up only with a mixture of body parts.[325]

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[321] Manning Report, Annex A, 45.
[322] Prosecutor v. Krstić, Wright, T. 3662-3664; 3677-3679; 3687; see also Manning Report, Annex A, 42.
[323] Prosecutor v. Krstić, Judge Rodrigues, T. 3536-3537.
[324] Prosecutor v. Krstić, Ruez, T. 3537.
[325] Prosecutor v. Krstić, Ruez, T. 3527-3528.

Figure 10. Surface remains at Kozluk with broken green glass.

Source: ICTY, Krstić Case IT-98-33, Exhibits – OTP, available at <http://www.un.org /icty/cases-e/cis/Krstić/exhibits-e.htm> (accessed 1 February 2009). Photograph provided courtesy of the ICTY.

Personal identification of the victims was made exceedingly difficult due to the mutilation of the bodies.[326] Survivors were unable to confirm the loss of their loved ones.[327] The Trial Chamber found that the creation of secondary graves in remote areas showed intent to destroy the Bosnian Muslim group by preventing surviving Bosnian Muslims of Srebrenica the right to bury their fathers, husbands, and brothers according to their religious and ethnic customs.[328] Combined with the destruction of homes of Bosnian Muslims and the mosque in Srebrenica, the distress this placed on the survivors further inhibited their ability to reestablish as a community in Srebrenica.[329]

Intent to destroy was proven by the series of actions taken by Bosnian Serbs at the Srebrenica enclave, all of which required advance planning and coordination to perform. Bosnian Serbs terrorized the population of Potocari. Women, children, and the elderly were transported out of Bosnian Serb held territory. Efforts were made to capture all Bosnian Muslim men in the region regardless of military or civilian status or health. Those that were captured were transported to holding areas and then later consolidated in larger detention centers. In an organized fashion men were blindfolded and ligatured and then systematically executed and buried in graves concurrently being dug. In some cases graves were prepared beforehand and the victims were shot in the grave. The graves were then dug up and the bodies reburied in more remote areas. Forensic evidence was vital to establishing most of these indicators of intent.

The Trial Chamber concluded their examination of intent to destroy:

> The Chamber concludes that the intent to kill all the Bosnian Muslim men of military age in Srebrenica constitutes an intent to destroy in part the Bosnian Muslim group within the meaning of Article 4 and therefore must be qualified as a genocide.[330]

[326] Prosecutor v. Krstić, Manning, T. 3561-3562.
[327] Stover E, Shigekane R. The missing in the aftermath of war: when do the needs of victims' families and international war crimes tribunals clash? International Review of the Red Cross 2002;84(848)854-855.
[328] Krstić Judgment, para. 596.
[329] Krstić Judgment, para. 90-94, 595-596.
[330] Krstić Judgment, para. 598.

The *mens rea* of genocide was established; the Prosecution provided the Evidence to prove that there was an intent to destroy, in whole or in part, a protected group - Bosnian Muslims from Srebrenica. The most difficult part of proving genocide was accomplished.

Proving *Actus Reas*

The following five acts are acts of genocide:

(a) killing members of the group;
(b) causing serious bodily or mental harm to members of the group;
(c) deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;
(d) imposing measures intended to prevent births within the group;
(e) forcibly transferring children of the group to another group.[331]

There was little need to contemplate *actus reas*. Two of the five acts were found to have occurred at Srebrenica and Potocari: members of the group were killed, the evidence having been exhumed from graves, and serious bodily and mental harm was caused, as evidence by testimony of the few survivors of the executions.[332] The Trial Chamber concluded their examination of the crime of genocide:

> […] the Prosecution has proven beyond all reasonable doubt that genocide, crimes against humanity and violations of the laws or customs of war were perpetrated against the Bosnian Muslims, at Srebrenica, in July 1995.[333]

Characteristics of Genocide

Genocide can be committed in any number of ways. The characteristics of the Srebrenica genocide are unique to the circumstances of the conflict in which it occurred, but not entirely. Conflicts that may generate indictments for genocide must share some common features. The

[331] Genocide Convention, Article 2.
[332] Krstić Judgment, para. 543.
[333] Krstić Judgment, para. 599.

forensic evidence used by the Prosecution to prove genocide, affirmed by the Trial Chamber, established a pattern for the collection and presentation of evidence that can be adapted to other situations and cases of genocide. The goals of the forensic investigation remain the same: to provide evidence regarding 1) the identity of the victims, 2) their manner and cause of death, 3) patterns of injury, and 4) time of death.[334] With this type of information, if genocide did occur, the Prosecution has the evidence needed to present a case that fulfills the *mens rea* and *actus reas* of genocide.

[334] Skinner MF. Planning the archaeological recovery of evidence from recent mass graves. Forensic Science international 1987;34:269.

Chapter Five

INDIVIDUAL CRIMINAL RESPONSIBILITY

> On the 15th of July in the morning, the security chief of the Main Staff called you and asked for your help in dealing with 3.500 packages. You knew exactly, you knew exactly, what was meant by "packages," General Krstić: Bosnian Muslims who were to be executed.[335] *(Judge Rodrigues, speaking prior to the judgment of General Krstić in the Trial Chamber)*

Genocide was proven to have taken place but who could be held criminally responsible for the crime? Evidence presented to establish the crime of genocide must be linked to the indicted individual. The Statute of the ICTY regulates individual criminal responsibility in Article 7:

1. A person who planned, instigated, ordered, committed or otherwise aided and abetted in the planning, preparation or execution of a crime referred to in articles 2 to 5 of the present Statute, shall be individually responsible for the crime.

2. The official position of any accused person, whether as Head of State or Government or as a responsible Government official, shall not relieve such person of criminal responsibility nor mitigate punishment.

3. The fact that any of the acts referred to in articles 2 to 5 of the present Statute was committed by a subordinate does not relieve his superior of criminal responsibility if he knew or had reason to know that the subordinate was about to commit such acts or had done so and the superior failed to take the necessary and reasonable measures to prevent such acts or to punish the perpetrators thereof.

4. The fact that an accused person acted pursuant to an order of a Government or of a superior shall not relieve him of criminal responsibility, but may be considered in mitigation of punishment if the International Tribunal determines that justice so requires.[336]

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[335] Prosecutor v. Krstić, Judge Rodrigues, T. 10188.
[336] ICTY Statute, Article 7.

Prosecutor v. Radislav Krstić

The Prosecution alleged Radislav Krstić was criminally responsible pursuant to Article 7(1) and 7(3).[337] Article 7(3), allowing criminal responsibility to be attributed to superiors based on the actions of subordinates, spurred conflicting accounts of Krstić's position within the chain of command of the Drina Corps.

Both the Prosecution and Defense agreed that Krstić held the position of Chief of Staff of the Drina Corps at the beginning of operation Krivaja 95; however, it was the actions following this operation that were determined to be acts of genocide. The Prosecution presented evidence that Krstić was appointed Corps Commander on 13 July, and the Defense contended Krstić did not assume responsibility as the Corps Commander until 20 July.[338] This particular point was very relevant considering there was no clear evidence of Krstić's direct involvement in or presence at any execution.[339] Krstić maintained that he was solely focused on his assigned upcoming operations in Žepa throughout the time frame identified as the end of Krivaja 95 and the Srebrenica massacres and that he had no knowledge of the crimes committed in Srebrenica until the end of August at the earliest.[340]

Written records, eyewitness accounts, and intercepted conversations among high level Drina Corps staff provided by the Prosecution were accepted by the Trial Chamber as evidence establishing that General Krstić was appointed to and recognized as, if not yet officially on paper, the Drina Corps Commander from 13 July 1995.[341] This finding allowed the Prosecution to prove Krstić's individual criminal responsibility by the submission of evidence that linked him and/or subordinate Drina Corps Brigades to the genocide. This included forensic evidence that linked the Drina Corps Brigades with the detention or execution of Bosnian Muslim men or the creation and filling of mass graves.

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[337] Krstić Judgment, para. 600, 605.
[338] Krstić Judgment, para. 311.
[339] Krstić Judgment, para. 378.
[340] Krstić Judgment, para. 307, 309.
[341] Krstić Judgment, para. 331.

Two crimes were considered separately when determining Krstić's criminal responsibility: 1) the forcible transfer of women, children, and the elderly from Potocari during the Krijava 95 operation and 2) the mass execution of military-aged Bosnian Muslim men of Srebrenica.[342]

Krijava 95

The forcible transfer of women, children, and the elderly was considered by the Trial Chamber as crimes against humanity and as a contributing act to the intent to destroy the Bosnian Muslim group in Srebrenica. Krstić accepted the Drina Corps responsibility for the military operation in Srebrenica and was captured on film walking the empty streets with General Mladic after its population was forced to flee.[343] At Potocari he witnessed the mistreatment of the people who fled there looking for safety but found no food or shelter and were exposed to murders, rapes, beatings, and abuses by armed forces.[344] Krstić was responsible for the procurement and organization of buses to remove civilians from Potocari.[345] In accordance with Article 7(1), the Trial Chamber found Krstić criminally responsible for inhumane acts and persecution as a crime against humanity, due to his direct participation in the planning and execution of the crimes committed from 11 to 13 July 1995 at Potocari.[346] Krijava 95 would also contribute to his finding of guilt for the crime of genocide.

Mass Executions and Burials

The Prosecution was unable to physically place Krstić at any of the execution sites.[347] Krstić's liability for the capture, detention, and execution of men from Potocari and from the column of men in the forest was established by chronicling the involvement of subordinate Drina Corps Brigades at each step of the process and his own knowledge and actions taken at that

[342] Krstić Judgment, para. 606.
[343] Krstić Judgment, para. 36, 615.
[344] Krstić Judgment, para. 616.
[345] Krstić Judgment, para. 608.
[346] Krstić Judgment, para. 618.
[347] Krstić Judgment, para. 378.

time.[348] Forensic evidence was introduced to support arguments that General Krstić, by virtue of his position as Drina Corps Commander, must have been aware of the genocide unfolding, the execution of men, their burial, and subsequent reburial based on the locale of the operation, its large scale, and the resources required to perform the operation.

Capture and Detention. Several facts concerning the Drina Corps' involvement were established by the Prosecution through written records, eyewitness accounts, and intercepted conversations, and were accepted by the Trial Chamber as truth. Drina Corps personnel were present during the separation of men from women, children, and the elderly in Potocari, and were aware of their transportation to the Bratunac detention site.[349] At least two Drina Corps Brigades, the Bratunac and Zvornik Brigades, engaged in combat with the column of men fleeing through the surrounding forest.[350] The Drina Corps Command was aware of the capture of thousands of prisoners, their detention at Bratunac, and transport from Bratunac to detention sites.[351] Buses originally procured to transport the women, children, and the elderly out of Potocari were used to transport men to detention and execution sites.[352] The secondary detention sites were located within the zone of responsibility of the Zvornik Brigade who, aware of the impending arrival of thousands of men, had prepared for their arrival by visiting locations that would be used as detention sites.[353]

The Trial Chamber found that the Drina Corps Command, including General Krstić, must have known what was occurring in their zone of responsibility up to 13 July 1995, and at that time a plan existed to execute the thousands of captured military aged Bosnian Muslim men.[354]

Executions and Primary Graves. Forensic evidence contributed to establishing the involvement of the Drina Corps in the mass burial of Bosnian Muslim men. Forensic archaeological evidence indicating the use of heavy construction machinery at primary grave

[348] Krstić Judgment, para. 619-645.
[349] Krstić Judgment, para. 161.
[350] Krstić Judgment, para. 166.
[351] Krstić Judgment, para. 170, 178, 181, 186.
[352] Krstić Judgment, para. 186.
[353] Krstić Judgment, para. 191.
[354] Krstić Judgment, para. 295.

sites, corroborated with records kept by Drina Corps Brigades regarding the date and location of the use of heavy machinery, vehicle transportation records, and fuel logs, linked the Drina Corps Brigades with the creation and filling of primary graves. In a few instances, aerial photographs captured the heavy machinery at the site of primary graves the same day as the executions. Witness testimony also supported the forensic evidence regarding the use of heavy machinery at primary graves.

The excavation of the graves as evidence in their own right provided details regarding the construction of graves and the methods of filling the graves with victims. Forensic archaeological evidence presented to establish the use of heavy machinery at primary graves, specifically a front loader, included 1) entrance ramps in graves, 2) tooth mark impressions from the front loader bucket in grave floors, and 3) tire mark impressions around graves.[355] At several primary graves victims were scooped from the ground surface with machinery and dumped in the graves.[356] This process was illustrated by grassy turf found beneath bodies and intermixed within the body mass of primary graves. The soil was scraped up when the bodies were scooped from the ground before being deposited in graves.

Aerial photographs were presented to support the claim of heavy machinery use at the primary mass grave sites. A picture taken 17 July 1995, the day after the Branjevo Military Farm executions, depicts an ongoing burial complete with victims lying on the ground, an open grave with an access ramp for a front loader, and vehicle traces in the soil.[357] On the same day a bulldozer is photographed near the Glogova 1 primary grave.[358]

Witnesses and survivors of the executions also described the machinery being used to dig graves and fill them with victims, often as executions were taking place. Witness L survived the Orahovac executions and witnessed the use of machinery at the adjoining gravesite before he

[355] Prosecutor v. Krstić, Baraybar, T. 3823, 3842-3842; Wright, T. 3660-3661, 3665-3666.
[356] Prosecutor v. Krstić, Haglund, T. 3757-3758; Baraybar, T. 3833-3834, 3868-3869.
[357] Prosecutor v. Krstić, Ruez, T. 3486-3487.
[358] Additional Manning Report, 11.

escaped the execution field.[359] He described the two types of machines being used to dig graves, an excavator and a front loader, and how each functioned.

The witness testimony and forensic evidence at Orahovac was corroborated by written records documenting the use of the heavy machinery. The Drina Corps Zvornik Brigade kept records of where particular types of equipment were being used and the length of time in use.[360] Fuel dispersal logs recorded the litres of diesel dispensed. Vehicle utilization records recorded where particular cars and trucks were driven. On 14 July 1995, an excavator and an excavator-loader worked at Orahovac for six and five hours, respectively, and 200 litres of diesel fuel was provided. An excavator and a loader were recorded working at Orahovac for the following two days. The Zvornik Brigade was also linked by the use of heavy machinery to the burial of victims from Petkovci Dam and at the Kozluk grave.[361]

The forensic evidence collected from the floor and walls of the mass graves proved much more than the methods of grave construction. It was physical evidence at the scene of the crime that linked the secondary sources of evidence, the witness testimony and written logs, to the crimes. The combination of evidence clearly connected the Drina Corps Brigades with the burial of victims. The Trial Chamber found that the Drina Corps Brigades were directly involved in the transportation, detention, execution, and burial of victims from 14 July to 16 July 1995. [362] Drina Corps resources were essential to the operation, planning, and coordination of resources. Top-level command involvement would have been required to offer such personnel and tangible support. The Trial Chamber concluded Krstić had genocidal intent to kill Bosnian Muslim men from Srebrenica from 13 July based on his "informed participation in the executions through the use of Drina Corps assets."[363]

Disturbed Primary Graves and Secondary Graves. In addition to Krstić's knowledge of the executions and mass burials of victims in July 1995, evidence was presented demonstrating

[359] Prosecutor v. Krstić, Witness L, T. 2699-2702.
[360] Krstić Judgment, para. 224.
[361] Krstić Judgment, para. 623.
[362] Krstić Judgment, para. 624.
[363] Krstić Judgment, para. 633.

Krstić's awareness of the attempt to conceal evidence of the crime by relocating victims into multiple secondary graves.[364] Similar forensic archaeological evidence was supplied to demonstrate that an operation was planned, that the plan required the coordination of machinery and transportation vehicles, and that the logistics involved would require the Drina Corps Command to be aware of the operation prior to the relocation of graves.

Forensic archaeological techniques demonstrated that the removal of bodies from primary graves was performed with backhoes and front loaders.[365] Primary disturbed graves were not completely emptied and what remained within revealed how the graves were disturbed. The Manning Report described the remains at the Petkovci grave:

> This site contained grossly disarticulated body parts throughout the filling of the grave, which appeared to have been caused by the mechanical removal of the bodies during the robbing process that trapped bodies amongst the boulders.[366]

Disturbed primary graves also contained bodies transected along straight margins, a direct result of the removal of bodies by heavy machinery. Haglund described the Lazete 2 primary grave which was disturbed by the use of machinery:

> And what we see here also is that along the margins, between spaces there is no bodies at all. And along these margins, for instance, the lower boundary of "A," we see a relatively straight line. And what we have here is the evidence of bodies having been removed from the grave, removed with a machine, most likely a backhoe, a machine that would reach down into the body mass, encounter it, press them into the ground, transect whatever bodies it happened to encounter, and pull them out of the grave. So in these voids or empty spaces between where the bodies are, bodies have been removed.[367]

Neatly transected bodies were also observed at the primary disturbed Kozluk grave and Glogova 2 subgraves 02 and 06.[368]

Trucks were used to transport the bodies the distance between the primary and secondary grave. The linking of primary graves and secondary graves allowed the distance victims were

[364] Krstić Judgment, para. 415, 476.
[365] Prosecutor v. Krstić, Wright, T. 3683-3684.
[366] Manning Report, Annex A, 36.
[367] Prosecutor v. Krstić, Haglund, T. 3748-3750.
[368] Prosecutor v. Krstić, Manning, T. 3559; Manning Report, Annex A, 49.

transported to be calculated. The furthest distance was between the Branjevo Farm primary grave and the secondary Cancari Road 12 grave – 40 kilometers (Figure 11).[369]

Secondary graves were dug with a front loader, again creating ramps in graves and leaving behind bucket tooth mark impressions on the grave floor.[370] The consistent use of a front loader led to a consistent size and shape of the secondary graves – approximately 13 meters long by 3 meters wide by 1.5 to 2 meters deep. Wright testified that Zeleni Jadar was the only secondary grave *not* dug by a front loader.[371]

Aerial photographs of Glogova 1 dated 20 October 1995 depict an excavator at the site near a deep trench. Photographs of Glogova 2 dated 30 October 1995 depict a front loader in a grave, indicating active digging into the grave or refilling the hole after bodies were removed.[372] A backhoe and front loader were also present at the Branjevo Military Farm on 27 September 1995.[373]

The Trial Chamber found that there was only scant evidence that the Drina Corps was directly involved in the disturbing of primary graves and the relocation of their contents to multiple secondary graves.[374] However, the forensic evidence contributed to proving that there was an operation performed within the Drina Corps zone of responsibility that required the organization of machinery and transportation and advance logistical planning. The Trial Chamber found that Krstić could not have been unaware of this operation occurring within the Drina Corps zone of responsibility.[375]

[369] Krstić Judgment, para. 260; see also Prosecutor v. Krstić, Ruez, T. 3536.
[370] Prosecutor v. Krstić, Wright, T. 3660.
[371] Prosecutor v. Krstić, Wright, T. 3661.
[372] Prosecutor v. Krstić, Ruez, T. 3472-3474; see also Additional Manning Report, 11.
[373] Prosecutor v. Krstić, Ruez, T. 3488-3489.
[374] Krstić Judgment, para. 415.
[375] Krstić Judgment, para. 414-415.

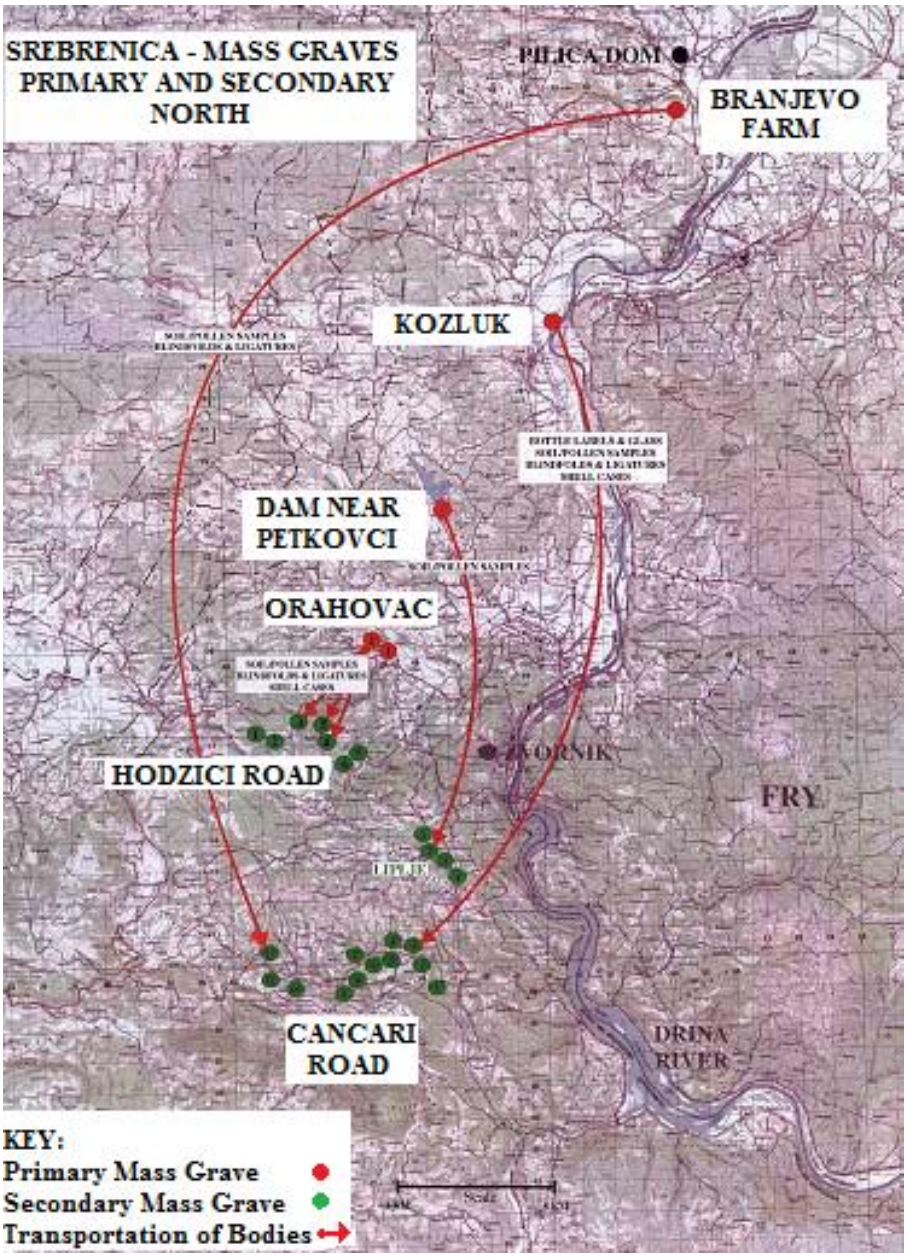

Figure 11. The movement of remains from primary to secondary mass graves.

Source: ICTY, Krstić Case IT-98-33, Exhibits – OTP, available at <http://www.un.org /icty/cases-e/cis/Krstić/exhibits-e.htm> (accessed 1 February 2009). Map provided courtesy of the ICTY and amended only for clarity of the text.

Judgment

General Krstić was the first person tried by the ICTY to be found guilty of genocide. The Trial Chamber found that the evidence presented by the Prosecution fulfilled both Article 7(1) and Article 7(3) of the ICTY Statute:

> 7(1) A person who planned, instigated, ordered, committed or otherwise aided and abetted in the planning, preparation or execution of a crime referred to in articles 2 to 5 of the present Statute, shall be individually responsible for the crime.
>
> 7(3) The fact that any of the acts referred to in articles 2 to 5 of the present Statute was committed by a subordinate does not relieve his superior of criminal responsibility if he knew or had reason to know that the subordinate was about to commit such acts or had done so and the superior failed to take the necessary and reasonable measures to prevent such acts or to punish the perpetrators thereof.[376]

Krstić was sentenced to 46 years in prison for genocide; persecution for murders, cruel and inhumane treatment, terrorizing the civilian population, forcible transfer, and destruction of personal property of Bosnian Muslim civilians; and murder as a violation of the Laws and Customs of War.[377]

The Appeals Chamber

In the Appeals Chamber Krstić argued against two of the Trial Chamber's interpretations of the *mens rea* of genocide.[378] The first was that the intended targeted group for destruction was too narrowly defined as Bosnian Muslim men of military age from Srebrenica.[379] The Appeals Chamber corrected the Defense's interpretation of the Trial Chamber's judgment – Bosnian Muslims of Srebrenica were the group considered for Krstić's intent to destroy.[380] It was the murder of all of the Bosnian Muslim military aged men that led the Trial Chamber to find there

[376] Krstić Judgment, para. 652.
[377] Krstić Judgment, para. 727.
[378] ICTY, Krstić Case IT-19-33, Appeals Chamber Judgment (19 April 2004), para. 5.
[379] ICTY, Krstić Case IT-19-33, Appeals Chamber Judgment (19 April 2004), para 18.
[380] ICTY, Krstić Case IT-19-33, Appeals Chamber Judgment (19 April 2004), para 19.

was intent to destroy the whole group of Bosnian Muslims in Srebrenica. The second argument set forth by the Defense was that the displacement of Bosnian Muslims from Srebrenica did not qualify as physical or biological destruction of the group as regulated by the Genocide Convention.[381] The Appeals Chamber upheld the Trial Chambers determination of a physical and biological genocide based on the murder of men and the long term effects their deaths and the removal of the rest of the population had on the ability of Bosnian Muslims to ever reestablish as a community in Srebrenica.[382] These arguments were dismissed.[383]

The Appeal Chamber did disagree with some factual findings made by the Trial Chamber, but none involved forensic evidence. Krstić's charge of genocide was reduced to aiding and abetting genocide and his sentence reduced to 35 years.[384] This ruling did not change the fact that the Krstić case upheld that genocide occurred in Srebrenica. The forensic evidence used to establish the case set a precedent for following trials regarding Srebrenica in July 1995. Genocide had occurred; therefore the Prosecution could focus more on individual responsibility in future cases.

Prosecutor v. Blagojević and Jokić

The next case to consider the guilt of Drina Corps leaders at Srebrenica was the joint trial held for Vidoje Blagojević and Dragon Jokić. Blagojević was the Commander of the Brantunac Brigade of the VRS. He was indicted for genocide, or in the alternative complicity in genocide, as well as a host of other crimes. Blagojević was found guilty of complicity to commit genocide by aiding and abetting genocide; aiding and abetting murder; persecutions on political, racial and religious grounds; and the inhumane act of forcible transfer. Jokić was the Chief of Engineering of the Zvornik Brigade. He was never indicted for any form of genocide and was convicted of

[381] ICTY, Krstić Case IT-19-33, Appeals Chamber Judgment (19 April 2004), para. 24.
[382] ICTY, Krstić Case IT-19-33, Appeals Chamber Judgment (19 April 2004), para. 27-29.
[383] ICTY, Krstić Case IT-19-33, Appeals Chamber Judgment (19 April 2004), para. 23, 38.
[384] ICTY, Krstić Case IT-19-33, Appeals Chamber Judgment (19 April 2004), para. 275.

aiding and abetting extermination and persecution on political, racial, and religious grounds, and aiding and abetting murder.

Rules of Procedure and Evidence

Blagojević was indicted for very similar crimes as was Krstić. The events in question overlapped; however, no forensic expert testified in the trial. The ICTY *Rules of Procedure and Evidence* provide two rules, Rule 92 *bis* and Rule 94 *bis*, that allow for evidence provided by the expert witness to be submitted without requiring the expert to testify. Rule 92 *bis* allows the Trial Chamber to admit written reports prepared by the expert witness:

> (A) A Trial Chamber may admit, in whole or in part, the evidence of a witness in the form of a written statement in lieu of oral testimony which goes to proof of a matter other than the acts and conduct of the accused as charged in the indictment.

Rule 92 *bis* also regulates the admission of experts' testimony from prior trials:

> (D) A Chamber may admit a transcript of evidence given by a witness in proceedings before the Tribunal which goes to proof of a matter other than the acts and conduct of the accused.

Rule 94 *bis* states that an expert witness may be relieved of testifying in person if the statement of the expert witness is accepted by the opposing party. Only when the opposing party wishes to cross-examine the witness or challenge the qualifications of the expert or their statement are experts called to testify in person:

> (A) The full statement of any expert witness to be called by a party shall be disclosed within the time-limit prescribed by the Trial Chamber or by the pre-trial Judge.
>
> (B) Within thirty days of disclosure of the statement of the expert witness, or such other time prescribed by the Trial Chamber or pre-trial Judge, the opposing party shall file a notice indicating whether:
>
> (i) it accepts the expert witness statement; or
> (ii) it wishes to cross-examine the expert witness; and
> (iii) it challenges the qualifications of the witness as an expert or the relevance of all or parts of the report and, if so, which parts.

(C) If the opposing party accepts the statement of the expert witness, the statement may be admitted into evidence by the Trial Chamber without calling the witness to testify in person.[385]

Rule 92 *bis* (D) and 94 *bis* were applied in *Prosecutor v. Blagojević and Jokić*:

> The Accused do not object to the admission of the statements and transcript testimony of John Clark, William Haglund, Christopher Lawrence, Richard Wright and José Pablo Baraybar submitted pursuant to 94 *bis* and 92 *bis* (D). This expert evidence deals with exhumations of mass graves and forensic examination to determine the gender, age and cause of death of the exhumed people from these mass graves. The Trial Chamber is satisfied of the relevance and probative value of these reports and transcripts to these proceedings. The Trial Chamber is further satisfied that none of the information contained in the statements or transcripts dealing with forensic evidence relates to the acts and conduct of the accused as charged in the Indictment. It further finds that the transcript testimonies presented to the Trial Chamber pursuant to 92 *bis* (D) provides together with the reports submitted under Rule 94 *bis* a complete picture of the expert evidence.[386]

The forensic reports and transcript testimony of Haglund, Wright, Baraybar, Lawrence, and Clark from the Krstić trial were admitted as evidence in lieu of their testimony during the trial.[387] The expert reports submitted by contracted experts providing forensic evidence on excavations, exhumations, and the collection and examination of blood, textile, and soil samples from execution and grave sites were admitted under Rule 94 *bis*. The Manning Report and Additional Manning Report were also admitted under Rule 94 *bis*, as well as a third Manning Report that included the autopsy results of Glogova 1 and Ravince 1 and results from exhumations at Zeleni Jadar 6, Glogova 2 subgraves 7 and 9, and Ravince 2.[388] The expert

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[385] Krstić Judgment, para. 82.
[386] ICTY, Prosecutor v. Blagojević and Jokić, Case IT-02-60, Decision on Prosecution's Motions for Admission of Expert Statements (7 November 2003), para 35, available from <http://www.icty.org/x/cases/blagojevic_jokic/tdec/en/031107.htm> (accessed 1 February 2009).
[387] ICTY, Prosecutor v. Blagojević and Jokić, Case IT-02-60, Decision on Prosecution's Motions for Admission of Expert Statements (7 November 2003), para. 45.
[388] ICTY, Prosecutor v. Blagojević and Jokić, Case IT-02-60, Decision on Prosecution's Motions for Admission of Expert Statements (7 November 2003), para. 38-39; Manning D. Srebrenica Investigation: Summary of Forensic Evidence – Execution Points and Mass Graves 2001. ICTY Evidence Report, Unpublished document Property of the United Nations, ICTY (24 August 2003).

report and transcript testimony of demographer Helge Brunborg was also admitted under Rule 94 *bis* and 92 *bis* (D), but unlike the other experts, the Trial Chamber granted the Defense's request to cross-examine Brunborg on an updated report.[389] The Trial Chamber acknowledged the admission of these reports and testimony from the Krstić trial in the Judgment and described how they were evaluated for their evidentiary value. The materials were assessed on:

> the professional competence of the expert, the methodologies used by the expert and the credibility of the findings made in light of these factors and other evidence accepted by the Trial Chamber.[390]

Forensic Testimony

The forensic evidence itself was accepted by the Defense unchallenged: the numbers associated with age-at-death and sex, cause of death, the types of artifacts found, any identifications made, and the links made between execution sites, primary, and secondary graves. Although none of the forensic experts testified, Jene-Rene Ruez, Chief Investigator for the ICTY, and Dean Manning, Investigator for the Office of the Prosecution, did testify to forensic evidence.

Ruez testified to how execution sites and graves were located based upon aerial photos, witness interviews, and the movement of the victims from capture site, through detention site, to the mass grave. Manning testified in summary form on the entire forensic investigation, based upon his direct experience with the exhumations and morgue investigations, and his review of the expert reports produced by the forensic anthropologists, archaeologists, pathologists, and those submitted regarding ballistics, soil and pollen, ligatures, and blindfolds. Manning described the role of the various experts involved in the investigation, the value of the aerial photographs, the difference between primary and secondary graves, how the archaeologists determined whether a primary grave had been robbed, and the process of exhumation. Manning then summarized the methods used and provided the results for MNI, sex and age-at-death

[389] ICTY, Prosecutor v. Blagojević and Jokić, Case IT-02-60, Decision on Prosecution's Motions for Admission of Expert Statements (7 November 2003), para. 37.
[390] ICTY, Prosecutor v. Blagojević and Jokić, Case IT-02-60, Judgment (17 January 2005), para 27.

estimation, and cause of death which included an explanation regarding how cause of death was assigned to body parts. Wright's estimate of the number of victims contained in the probed graves was repeated. The various materials that established links between primary and secondary graves were described. The number of blindfolds and ligatures found at which particular sites was detailed. Exhibits were shown depicting identification found on bodies and unique artifacts that led to identifications.

The Defense objected several times to Manning's summary of the experts' reports. Their annoyance was evident as they repeatedly indicated that they did not challenge the facts submitted pursuant to Rule 92 *bis* and Rule 94 *bis* and requested the Prosecution to cease the review of the forensic evidence of mass graves:

> If I may interrupt. This material came in through 92 bis. Now, the reason it came in is because we didn't challenge or we weren't challenging at the time. However, now it appears they're trying to give some validation to that report through this gentleman, who I assumed was coming here to testify about the burial process and what he did. Now he's being used as a summary witness to resummarise the entire Prosecution's case. I do object to him commenting about the reports unless he generated those particular reports, otherwise we can read the reports, the Court can draw its own conclusions from the reports. There is no need to waste time with this gentleman going over material that was introduced through 92 bis at the behest of the Prosecution. If they wanted to do a long, delayed process of bringing in all the individuals and getting all those reports in through the individuals, they could have brought them. Instead, they chose another way. Now they're trying to revisit all those reports and all those experts through this gentleman. And if they didn't want to go through the front door, Your Honour, they shouldn't be trying to get through the back door or through the basement window at this point.[391]

The Defense spent more than half of their cross-examination of Manning asking questions about the procurement and interpretation of aerial photographs, and the bulk of the remainder on Manning's investigation of persons and documents not related to the forensic evidence collected at the execution and mass grave sites. Very few questions relating to the forensic evidence were asked, none of which challenged the evidence, but rather were asked for clarification purposes only. There was no cross-examination of the methods used to develop the MNI, age-at-death or

[391] Prosecutor v. Blagojević and Jokić, Defense, T. 7206-7207.

sex estimates, or cause of death. The Defense was resigned to accept the forensic evidence presented in the Krstić case, and it was accepted as fact by the Trial Chamber as evidence of genocide.

Judgment

On 17 January 2005, Blagojević was found guilty of complicity in genocide by aiding and abetting genocide. The Trial Chamber summarized the findings confirming that genocide occurred in Srebrenica, much of which was based upon forensic evidence. The acts perpetrated by Blagojević and/or members of the Brantunac Brigade that contributed to a guilty charge were detailed: assisting in separating men from the rest of the population in Potocari, guarding the detained men in Brantunac, and searching the forests for Bosnian Muslim men attempting to flee. The Appeals Chamber overturned Blagojević's conviction related to genocide. It was found that Blagojević did not have the necessary awareness of other actions taking place against Bosnian Muslims to establish his knowledge of any genocidal intent on his part or that of anyone with higher authority.[392]

Jokić's conviction for aiding and abetting extermination and murder were based on his provision of resources, heavy digging equipment, and personnel to dig mass graves for victims at Orahovac, the Branjevo Military Farm, and Kozluk.[393] Forensic evidence contributed to establishing the days these graves were dug and the type of machinery used. This evidence corroborated other evidence that linked Jokić to the crime.

Forensic evidence provided evidence that genocide was committed and it contributed to assigning criminal responsibility to Krstić. The same forensic evidence admitted and testified to in the Krstić case was admitted under Rule 92 *bis* (D) and 94 *bis* in the Blagojević and Jokić case. Chapter Seven through Twelve discuss the ICTY's third case regarding the Srebrenica genocide. The forensic evidence is the same, with the exception of some DNA results, but the

[392] ICTY, Case Information Sheet, Blagojević and Jokić (IT-02-60), available at <http://www.icty.org /x/cases/blagojevic_jokic/cis/en/cis_blagojevic_jokic.pdf> (accessed 1 February 2009).
[393] ICTY, Case Information Sheet, Blagojević and Jokić (IT-02-60).

Defense challenges the quality of the investigation and its resultant evidence. The forensic experts testify again, and defend the methods, standard operating procedures, and their own ethics and professionalism in order to demonstrate that the investigation was systematic and the evidence is scientific. To date, this third trial has not concluded; the judgment of this Trial Chamber will determine if the forensic evidence will continue to attest to genocide and if it has provided evidence to assign criminal responsibility to several more individuals.

Chapter Six

EXPERT TESTIMONY: INTERPRETING FORENSIC EVIDENCE

> Well, I just would like again to point out that -- I have investigated many suicides. I have never seen an individual with their hands bound behind their back shoot themselves multiple times. Many of these people have multiple injuries which are totally inconsistent with the circumstances of suicide.[394] *(William Haglund, responding to the Defense's cross-examination)*

An "expert" originally defined by the Trial Chamber for *Prosecutor v. Stanislav Galic* in 1999 and repeatedly referenced by other ICTY Trial Chambers is:

> A person whom by virtue of some specialised knowledge, skill or training can assist the trier of fact to understand or determine an issue in dispute meaning an issue or allegation upon which the Trial Chamber must make a determination or finding.[395]

The forensic expert interprets evidence for the Court based on his or her professional experience with the subject matter. The forensic expert must form their opinion based on the evidence only. What the forensic expert is asked to interpret reveals salient points for establishing that a crime was committed. The type of forensic evidence the expert relies upon to make their interpretation defines what forensic evidence is the most useful to describe relevant characteristics of the crime. How the forensic expert provides his opinion expresses personal style.

Throughout the forensic experts' testimony in *Prosecutor v. Radislav Krstić*, the Prosecution, Defense, and the Trial Chamber asked the experts to make several different interpretations of the forensic evidence. The interpretations asked of the forensic experts were centered on three main topics: 1) the ability to differentiate combat from execution deaths, 2) the location of death, and 3) the level of organization required to create and fill mass graves. All

[394] Prosecutor v. Krstić, Haglund, T. 3769.
[395] ICTY, Prosecutor v. Stanislav Galic, Case IT-98-29-T, Decision Concerning the Expert Witnesses Ewa Tabeau and Richard Philipps (3 July 2002).

three questions are relevant to the determination of intent to destroy, what is arguably the most difficult part of genocide to prove.

The Prosecution needed to highlight evidence of executions as compared to combat activities, establish the men were killed at the execution sites – rather than during combat in the woods, and emphasize the high level of organization required to create and fill the mass graves. The Defense sought to introduce scenarios other than a well organized execution of overpowered men that the forensic experts could not exclude from the realm of possibility. The Trial Chamber focused on establishing what the forensic evidence could contribute towards the determination of the level of organization required to create the mass graves. The questions asked of the forensic experts by the Prosecution, Defense, and Trial Chamber demonstrates what each of these actors expects the forensic investigation to contribute to the trial.

Victims of Combat or Execution?

Haglund, Baraybar, Lawrence, and Clark all testified on their interpretation of the mass grave victims as victims of an execution versus victims of combat. The Defense asked each forensic expert essentially the same question: could they exclude the possibility of combat and if so, what factors supported this opinion? More specifically, the forensic experts were asked to interpret their findings of gunshot wounds to the back and bullets embedded in the grave floor. The forensic experts were asked to consider several different scenarios: 1) all of the men in a mass grave were killed in combat, 2) combat deaths and execution victims within one grave, or 3) some mass graves being a result of execution but others the result of combat.

None of the forensic experts ruled out the possibility that the victims may have been engaged in combat but clearly expressed their expert opinion, based on forensic evidence, that the victims were executed. Their styles differed in how they answered the question. Each forensic expert also provided slightly different types of forensic evidence to support their opinion. The following testimonies are grouped according to a particular style of response given by the forensic expert when interpreting the forensic evidence.

Emphasis on the Context

Haglund testified on injuries sustained and the cause of death to support his opinion that the victims were executed. The Defense asked if he could be certain which injuries could be attributed to combat and which to executions.[396] Haglund did not directly answer the question but explained his interpretation of the victims' manner of death by considering the whole context of the mass graves:

> I think one has to look at a mass grave as a contextual situation, and when I look at a grave, for instance Nova Kasaba grave number 4, and I see 19 individuals in that grave, and I see that they're all shot, and I see that 13 of those individuals with their hands bound behind their backs, it defies reason to me that they would have been combat soldiers. And it's similar in the other graves.[397]

The Defense persisted with the same line of questioning:

> On the basis of which indicators has it been established that it was an execution, a murder, in the case of all of the bodies? Could causes of death also include suicide or combat?[398]

Haglund's response again does not address the question of combat; he generalizes the context of the graves to emphasize his expert opinion that the victims were not involved in combat at the time of their deaths. After affirming that he has investigated many suicides, Haglund assures the Court that he has "never seen an individual with their hands bound behind their back shoot themselves multiple times" and that many of the victims "have multiple injuries which are totally inconsistent with the circumstances of suicide."[399] The answer was effective, as the Defense did not question him further on the topic and never mentions suicide as a manner of death again.

Outlining the Facts

[396] Prosecutor v. Krstić, Defense, T. 3764-3765.
[397] Prosecutor v. Krstić, Haglund, T. 3765.
[398] Prosecutor v. Krstić, Defense, T. 3768.
[399] Prosecutor v. Krstić, Haglund, T. 3769.

Baraybar and Clark were also asked questions regarding evidence that may indicate the deaths were related to combat or an execution, but their style of testimony differed from Haglund's. Each acknowledged the combat scenario but then described the forensic evidence they used to make their interpretation of the bodies as victims of executions.

The Defense asked Baraybar if he could exclude the possibility that the bodies interred at Nova Kasaba 4 could have been combat victims from the same road where the majority of Bosnian Muslim men were allegedly captured and then buried at a later date.[400] Baraybar replied, "I cannot exclude the possibility…" and followed with three reasons why he did not believe the bodies were engaged in combat: 1) the documents found in the grave identified the people as those missing between the 11th and 18th of July, 2) it was unlikely that persons carrying stretchers were engaged in combat, and 3) it was unlikely that the victim with a gunshot wound to the leg and wearing a splint was engaged in combat.[401] The Prosecution reversed the question in their redirect, and asked Baraybar if he could exclude the possibility that the persons in the grave were executed. Again, Baraybar replied, "No, I can't."[402]

The Prosecution preemptively asked Clark to provide an explanation of why he believed the bodies in the mass graves were not victims of combat. Clark first admitted that although "There was certainly nothing to suggest that these were combat casualties," it was not "something that I could refute entirely."[403] He then described the forensic evidence that convinced him to interpret the bodies as victims of executions: 1) the use of blindfolds and ligatures, 2) widespread bullet wounds and a lack of shrapnel or bomb induced injuries, 3) low average number of wounds per person, 4) the majority of shots were directed from the back, 5) 10% of the victims were shot with a single gunshot to the head, and 6) the lack of survivors from any combat activities.[404] Clark supported the second, third, and sixth point by referencing

[400] Prosecutor v. Krstić, Defense, T. 3858.
[401] Prosecutor v. Krstić, Baraybar, T. 3858-3859.
[402] Prosecutor v. Krstić, Baraybar, T. 3881-3882.
[403] Prosecutor v. Krstić, Clark, T. 3939-3940.
[404] Prosecutor v. Krstić, Clark, T. 3940-3942.

studies on combat that demonstrate the forensic evidence from these graves was not consistent with other known combat scenarios.[405]

The Defense limited the graves in consideration for holding casualties of combat in their cross-examination of Clark:

> […]If we exclude Nova Kasaba grave site, Konjevic Polje, and perhaps a part of the grave site in Glogova, is there a greater probability that the persons buried in those graves did not meet their death as a consequence of mass executions?[406]

These graves were singled out by the Defense due to the lack of blindfolds, ligatures, and handicapped individuals in the graves. Clark replied:

> I think that is fair to say, […] but still doesn't take away the fact that there were no injuries from other military weapons.[407]

He then reiterated the other forensic evidence that did not support a combat scenario.

Judge Riad summarized his understanding of Clark's testimony and asked him to repeat again his opinion on the matter.[408] Clark began by stating that he could not entirely exclude combat but ended the long line of questioning by affirming that at each grave there were "pointers" that the victims were executed.[409]

Baraybar and Clark acknowledged arguments of both the Prosecution and the Defense. They did not over interpret the evidence or make statements they could not support with forensic evidence. Both experts supported their opinion that the execution scenario was more likely than the combat scenario by providing specific evidence for their opinion, including references to previous research on the subject. The expert witness must be knowledgeable on topics relating to their own expertise. For modern human rights violations, it is imperative to understand

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[405] For research on wounded-to-killed ratios in various conflicts, see Coupland R, Meddings D. Mortality associated with use of weapons in armed conflicts, wartime atrocities, and civilian mass shootings. British Medical Journal 1999;319:407-410; for research on gunshot wound to other types of wounds ratios in modern war, see Coupland R, Samnegaard H. Effect of type and transfer of conventional weapons on civilian injuries: retrospective analysis of prospective data from Red Cross hospitals. British Medical Journal 1999;319:410-412.
[406] Prosecutor v. Krstić, Defense, T. 3957-3958.
[407] Prosecutor v. Krstić, Clark, T. 3958.
[408] Prosecutor v. Krstić, Judge Riad, T. 3964-3965.
[409] Prosecutor v. Krstić, Clark, T. 3965-3967.

military strategy, weaponry, ballistics, and ammunition in order to interpret gunshot wounds and determine manner of death.[410] The ability to specifically reference research and publications that support expert opinion assists in providing a legally sound forensic testimony.

Staying Within Your Expertise

Forensic experts must not make any interpretations that they are unable to support with forensic evidence or professional experience. It is both acceptable and required of expert witnesses to decline to answer questions that extend beyond their expertise.

The Defense singled out a specific observation offered by the forensic experts as support for the victims being executed – that being shot in the back is evidence of an execution, not a combat wound. The Defense asked Lawrence where most injuries would be located after an encirclement conflict. Lawrence replied, "I think they could be anywhere around the body."[411] Judge Riad persisted with the scenario of encirclement, but Lawrence resisted making any interpretation that he could not support with professional experience or forensic evidence.[412] He stated, "I do not claim to be a military expert," and explained why he could not provide an expert opinion:

> Again, I was not as successful as Dr. Clark in determining the direction of all of -- from which these all [bullets] came, so I don't think I can make a strong conclusion as to the direction, and hence I can't tell which -- can't really answer that question from a pathological point of view.[413]

Again, Judge Rodrigues asked about an encirclement scenario to which Lawrence responded:

> I'm not familiar with the customs in this court, but I think in Australian courts I would tell you when I think I'm being dragged out of my area of expertise, and I think I'm being dragged out of my area of expertise here.[414]

[410] Komar, Buikstra, Forensic anthropology: contemporary theory and practice, 174.
[411] Prosecutor v. Krstić, Lawrence, T. 4024-4025.
[412] Prosecutor v. Krstić, Judge Riad, T. 4029.
[413] Prosecutor v. Krstić, Lawrence, T. 4029-4030.
[414] Prosecutor v. Krstić, Lawrence, T. 4032.

Lawrence refused to answer a question that he was unable to support, despite the Trial Chamber's persistence. In several other instances the forensic experts refrained from answering questions that were outside their area of expertise:

> Haglund: I think if you're referring to fleshed remains, I would like to defer to the medical experts, the physicians, the pathologists who deal with the fleshed remains, and that's their area of expertise. If you want to talk about bones that are skeletalised and lying in soil, then I'm happy to discourse on those, but I'd like to stay within my area of expertise.[415]
>
> Lawrence: That's a question you should probably put to the anthropologists, because they are the ones who formally did the – [identification].[416]
>
> Wright: The shell cases were found on the surface on which the bodies lay, amongst the bodies, and on top of the bodies. But I cannot -- not having any expertise in ballistics, I cannot comment on the significance of that except to say where I found them.[417]

By refusing to stray from their field of expertise and always providing an explanation for their inability or unwillingness to answer a particular question, the forensic experts maintained neutrality and professionalism.

Acknowledging Limitations

Evidence supporting that the bodies were shot inside the grave was very damaging to the Defense's combat scenario. The Defense questioned Baraybar extensively on embedded bullets and created a culturally-specific scenario for Baraybar to consider. The Defense began by asking how deep the bullets were found and how deep a bullet can penetrate the ground after passing through a body.[418] Baraybar testified that bullets were embedded one half inch to one inch below the bodies, but he had no reference for how deep a bullet could penetrate the ground after

[415] Prosecutor v. Krstić, Haglund, T. 3768.
[416] Prosecutor v. Krstić, Lawrence, T. 4029.
[417] Prosecutor v. Krstić, Wright, T. 3702.
[418] Prosecutor v. Krstić, Defense, T. 3861-3862.

passing through a body.[419] After further questioning, Baraybar limited his interpretation by stating:

> Again, if somebody has bullets under the body embedded in the ground, I am only saying that the person may have been shot while in the grave. I am not saying whether the person has been killed while in the grave, nor whether the person has been killed elsewhere and then transported to the grave. That is something I cannot extract, assess, nor answer based on the evidence I have recovered.
>
> […] And the second element is that through all those sediments, there are bullets, and on some occasions I stated in the report -- not in this specific case, I believe -- there has been an association between injuries recorded by the pathologist and the position of the bullets. So I'm leaving all this here very purposely vague in order not to over-interpret my findings.[420]

The Defense then described a scenario that they claimed was recorded on many wartime occasions, one in which a round of bullets was fired into a grave after it was filled with dead people.[421] Baraybar was asked if this scenario could be excluded. He answered:

> The answer would be, no, I am not acquainted with that information you have produced. However, in my opinion again, I would say that if somebody opens a burst of fire against a body lying on a grave, it is because that person suspects that the individual may still be alive.[422]

Judge Wald asked Baraybar to clarify his opinion.[423] In response, Baraybar provided specific forensic evidence to support his opinion that the victims received their fatal bullet wounds while in the grave:

> Your Honour, one of the individuals in grave 2 in the site of Konjevic Polje 2, KP-02, may answer this question. This body happened to have three 7.62-millimetre bullets embedded in the grave floor under the body. One was below the waist, at the chest level, and the right shoulder […] the second body in the same grave has also a bullet under the chest. I wrote in my report here that according to the pathologist's report, the cause of death of both individuals was multiple gunshot wounds. […] in both cases the location of the bullets matched the injuries recorded during the post-mortem examination. So up to

[419] Prosecutor v. Krstić, Baraybar, T. 3861-3862.
[420] Prosecutor v. Krstić, Baraybar, T. 3868-3869.
[421] Prosecutor v. Krstić, Defense, T. 3870.
[422] Prosecutor v. Krstić, Baraybar, T. 3870.
[423] Prosecutor v. Krstić, Judge Wald, T. 3887.

there, I can say that in this specific case, I have a link, an independent link between the bullets being found under the bodies and the pathologist's examination.[424]

The extensive questioning on this single point exemplifies its importance for determining if the events that occurred in Srebrenica constituted genocide. The interpretation of embedded bullets in soil beneath victims was not strong enough to support either scenario – executions in the grave or being shot when already dead. Consequently, the issue of whether or not men were shot in the graves was not featured in the Trial Chamber's judgment. Research on the penetration depth of various ballistics after passing through a body could have assisted Baraybar in his interpretation.

Despite the forensic experts not being able to exclude a combat scenario, the Trial Chamber was convinced that the majority of victims were executed. The Trial Chamber recognized the value of the testimony in their judgment by reiterating the forensic evidence that attested to executions and confirming that graves were filled with execution victims, particularly for the grave sites witnesses testified regarding: Cerska Valley, Kravica Warehouse, Orahovac, Branjevo Farm, Petkovci Dam, and Kozluk.[425]

Organization of Mass Graves

The Trial Chamber was especially interested in the level of organization required to create and fill the mass graves. A high level of organization would suggest preplanning and involvement by high ranking individuals within the military structure. Many of the interpretations made by the forensic experts regarding this question were not based primarily on specific forensic evidence collected at the mass graves but rather on knowledge gained by experience with mass graves. The organization involved in such an operation will always be of interest when genocide is in question; organization requires planning, lends support to intent to

[424] Prosecutor v. Krstić, Baraybar, T. 3887-3888.
[425] Krstić Judgment, para. 77.

destroy, and the more organization required, the more people that can be held criminally responsible.

The Trial Chamber questioned the forensic experts on the level of organization as reflected in the use of machinery to dig and excavate graves, the size of graves, the movement of remains from primary to secondary sites, and any pattern detected among the grave sites. The following testimony is grouped according to the types of evidence to which the forensic experts referenced when interpreting the organization of the operation.

Use of Machinery

Judge Rodrigues asked both Wright and Baraybar questions regarding the organization required to dig mass graves. Wright testified that a mass grave dug by hand required less organization than a grave dug using machinery.[426] Judge Rodrigues asked Baraybar if the use of machinery could be associated with "the need to be quick, and organizational needs and requirements."[427] Baraybar affirmed that the use of machinery requires logistics, is used to do the job quickly, and has to be organized so the right place is dug.[428]

Size of Graves

Judge Wald asked Haglund to interpret why some primary graves held few bodies, while others held hundreds.[429] Haglund prefaced his response by referencing his professional experience as a Chief Medical Investigator to support his opinion. He replied:

> I think my experience with homicides, basically, is oftentimes, although there may be some systematic approach to some killings, some are more opportunistic and you have a smaller group rather than a larger group. It's as simple as that.[430]

This answer neither supported nor refuted organized executions.

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[426] Prosecutor v. Krstić, Wright, T. 3720.
[427] Prosecutor v. Krstić, Judge Rodrigues, T. 3892.
[428] Prosecutor v. Krstić, Baraybar, T. 3892-3893.
[429] Prosecutor v. Krstić, Judge Wald, T. 3774.
[430] Prosecutor v. Krstić, Haglund, T. 3774-3775.

Creating Secondary Graves

The Trial Chamber was also interested in the organization required to remove bodies from primary graves and reinter them in secondary graves. Judge Wald asked Ruez questions regarding the length of time required to create the secondary graves and the number of trucks required to perform the operation.[431] Ruez answered that the secondary graves were pre-dug, that it took a minimum of two nights to complete the operation, and that several trucks must have been involved to move the remains as far as 40 kilometers.[432] Wright then testified that bodies were driven from primary to secondary sites by truck, based on the distance between related sites, and that this had an effect on the amount of organization required.[433] Judge Rodrigues asked Wright to compare the levels of organization required between creating and filling primary graves and creating and filling secondary graves.

Wright's expert opinion was that collecting hundreds of people in one area and then executing them would require "much more organization" than moving the bodies to a secondary grave.[434] However, Wright also included that the creation of secondary graves and their filling was performed over a short amount of time which corresponded with a much greater amount of organization.[435] His testimony emphasized a high level of organization required to produce both primary and secondary mass graves.

An Overall Pattern

Throughout their testimony, the forensic experts had primarily answered questions by providing evidence from individual grave sites. Judge Wald asked Clark to give his opinion regarding patterns seen across all the grave sites:

> […] would you say that your observations of the patterns of injury were more consistent with all of those burials being under a unified plan or part of a general motus operandi, or would they be just as consistent with a hypothesis that you could have had four or five

[431] Prosecutor v. Krstić, Judge Wald, T. 3534-3535.
[432] Prosecutor v. Krstić, Ruez, T. 3534-3535.
[433] Prosecutor v. Krstić, Wright, T. 3720.
[434] Prosecutor v. Krstić, Wright, T. 3720.
[435] Prosecutor v. Krstić, Wright, T. 3721.

> spontaneous killings, of executions, unconnected with each other, which resulted in the bodies that went into the different graves?[436]

Clark described the different patterns identified between the graves, such as the placement of bullets and the number of bullets per victims, but when pressed by Judge Wald to answer whether a "general pattern" or "command operation" could be deduced from any pattern, Clark summarized the context of all the graves:

> Well, in the sense that we have what appeared to be deliberately targeted injuries in each of these grave sites, yes, there is an overall pattern of execution-type injuries.[437]

Little forensic evidence collected from the Srebrenica graves and no reference to any other research was provided to support interpretations of the organization required to create the primary and secondary mass graves. The forensic expert's testimony was accepted based upon their established expertise. The Trial Chamber accepted the forensic experts' interpretations of the mass graves as holding victims of organized executions and reflected this acceptance in their descriptions of the executions within the judgment with the expressions: "systematically massacred,"[438] "well-established pattern,"[439] and "careful and methodical."[440]

The forensic experts' interpretations addressed key elements that must be established to fulfill the *mens rea* of genocide, especially intent to destroy. These elements are common to many scenarios in which genocide takes place, and overlap considerably with other war crimes, crimes against humanity, and human rights violations. Forensic experts should anticipate having to make these interpretations, and the procedures and methods required to provide interpretations based on evidence should be incorporated into the investigation protocol prior to the collection of any evidence.

Expert testimony is a skill required of a professional forensic expert. Although personal style can be reflected in how answers are given, the forensic expert must follow certain rules

[436] Prosecutor v. Krstić, Judge Wald, T. 3968-3969.
[437] Prosecutor v. Krstić, Clark, T. 3970.
[438] Krstić Judgment, para. 594, 595.
[439] Krstić Judgment, para. 68.
[440] Krstić Judgment, para. 79.

while interpreting evidence. Their primary role is to assist all members of the court, lawyers, judges and, if applicable, jurors, in understanding the science and technical aspect of their discipline so the resultant evidence can be evaluated properly by all those concerned.[441] Expert witnesses must remain neutral by entertaining all possible scenarios, staying within their expertise, supporting interpretations with fact or established professional experience, and providing reasonable explanation for refusing to answer a question.

[441] Komar, Buikstra, Forensic anthropology: contemporary theory and practice, 55.

Chapter Seven

FORENSIC METHODS ON TRIAL

> An expert witness is expected to give his or her expert opinion in full transparency of the established or assumed facts he or she relies upon and of the methods used when applying his or her knowledge, experience or skills to form his or her expert opinion.[442] *(Prosecutor v. Stanislav Galic, Decision Concerning the Expert Witnesses Ewa Tabeau and Richard Philipps, 3 July 2002)*

An expert witness is differentiated from a fact witness in that his qualifications allow for the giving of opinions and drawing of conclusions based on "established or assumed facts" and "the methods used" by the expert.[443] The methods, and therefore the resulting evidence, are evaluated based on several factors outlined in the Court's Rules of Procedure and Evidence. Discussed further in Chapter Eight, these factors require the forensic expert to demonstrate the methods' relevancy to the matter at hand and applicability to the population, and meet several other set standards to demonstrate the method's scientific basis.

In the Krstić trial the Defense briefly questioned the forensic experts' methods in their cross-examination. In the next trial concerning an indictment for genocide at Srebrenica, *Prosecutor v. Blagojević and Jokić*, the Defense, seemingly satisfied with the forensic evidence produced for the Krstić trial or unable to contest it, chose to give up their right to cross-examine the forensic experts. It was only during the third ICTY trial in which Defendants faced charges of genocide at Srebrenica, *Prosecutor v. Popović et al*., that the Defense reassessed the forensic evidence and took a proactive stance against the forensic methods and evidentiary results. The forensic evidence available at the time of the Popović trial was essentially unchanged since the Krstić trial as a result of the ICTY halting excavations for prosecutorial purposes in 2001. Very

[442] ICTY, Prosecutor v. Stanislav Galic, Case IT-98-29-T, Decision Concerning the Expert Witnesses Ewa Tabeau and Richard Philipps (3 July 2002).
[443] ICTY, Prosecutor v. Stanislav Galic, Case IT-98-29-T, Decision Concerning the Expert Witnesses Ewa Tabeau and Richard Philipps (3 July 2002).

few additional graves were excavated by the ICTY and the International Commission on Missing Persons (ICMP). The forensic experts were extensively questioned on the forensic methods used throughout the investigation. The evolution of the Defense's ability and/or willingness to question the forensic methods indicates a more educated Defense, one that understands the forensic evidence well enough to challenge it.

The forensic methods used in the investigation were discussed by the forensic experts, including how the method was performed, their relevancy and accuracy, and the results. This testimony, along with the Defense's cross-examination and criticisms of the methods used in the investigation, reveal some potential methodological problems faced in the mortuary and in the field.

Prosecutor v. Radislav Krstić

Trial Dates: March 13, 2000 - August 2, 2001

In the Krstić trial, the forensic experts discussed the methods used to estimate age-at-death and sex, calculate MNI, and determine cause of death. Age-at-death and sex estimation and calculating MNI was performed solely by forensic anthropologists; cause of death was determined by a combined effort between pathologists and anthropologists.

The Defense submitted two documents regarding the forensic evidence. Both were prepared by Dr. Zoran Stankovic, the head of the Institute for Forensic Medicine of the Medical Military Academy in Belgrade and a listed expert of forensic medicine by the United Nations.[444] Stankovic's first report, entitled "Forensic Opinion" (Stankovic Report), addressed the expert reports submitted for the 17 mass graves about which the forensic experts testified during the trial.[445] The document outlines several types of errors that the experts should supplement,

[444] UN, Economic and Social Council, E/CN.4/1994/24, Question of the Human Rights of all Persons Subjected to any Form of Detention or Imprisonment (7 February 1994).
[445] Stankovic Z. Forensic Opinion. ICTY Evidence Report, Unpublished document Property of the United Nations, ICTY, 2000 (hereafter "Stankovic Report").

resolve, or remove before the Court should accept the reports.[446] Criticisms included methodological and standardization issues as well as generalities, missing and deficient information, and narrow interpretations. Stankovic's second report, also entitled "Forensic Opinion" (Additional Stankovic Report), addressed the forensic evidence submitted and summarized by the Additional Manning Report and the testimony of the forensic experts.[447] This document repeats several points made in the 2000 report and adds additional criticisms. Combined, these reports consist of 17 pages of text.

The Stankovic Reports outline the Defense's perceived weaknesses of the forensic methodology and the basis of their cross-examination. Both reports criticized the methods used to estimate age-at-death and sex, the method used to determine cause of death, and the impact this method had on reported percentages of victims with gunshot wounds. The Defense cross-examined the forensic experts on each of these points, excluding sex estimation. Additionally, both Stankovic and the Defense cited the low number of personal identifications as an indicator of questionable methodology.

Age-at-Death Estimation

Stankovic requested that all estimated ages-at-death be disregarded by the Court based on:

> […] the large discrepancy in estimates, the unclear and non-argumented application of the methodology adopted for determining the age of persons at death.[448]

The large discrepancy in estimates referred to by Stankovic was in response to Baraybar's description and use of four distinguishable age groups (8 – 12 years, 13 – 17 years, 15 – 24 years, 25 years and older), while reporting an individual's age range that spanned more than one age group.[449] A second criticism involved the reporting of individual's age ranges as wide as 30

[446] Stankovic Report, 4.
[447] Stankovic Z. Forensic Opinion. ICTY Evidence Report, Unpublished document Property of the United Nations, ICTY, 2001 (hereafter "Additional Stankovic Report").
[448] Stankovic Report, 8.
[449] Stankovic Report, 8-9.

to 40 years. The other methodological criticism was based directly upon one method used to estimate age-at-death; Stankovic's opinion was that the standard used to estimate age-at-death was based on a non-representative sample with an insufficient sample size of 52 persons.[450] For these reasons, as well as other standardization problems, Stankovic called for the re-assessment of the age-at-death of the bodies.

Baraybar spent a significant portion of his testimony describing how age-at-death estimation is performed by forensic anthropologists. The Prosecution asked Baraybar to introduce the two methods used to estimate age-at-death in the investigation – the Suchey-Brooks and Iscan-Loth methods which rely upon morphological changes to the pubic symphysis and the sternal end of the fourth rib, respectively. Baraybar emphasized the applicability of the methods to the victim population:

> We have chosen two robust techniques derived from a forensic population and specifically tested in a Bosnian forensic population. […] Both techniques were derived originally in a North American forensic population and subsequently, between '98 and '99, were tested and so-called calibrated, I would say, in a forensic Bosnian population from Tuzla.[451]

Baraybar further stated that the Bosnian modified methods were presented at an international meeting in 1999 by Simmons and Associates.[452]

The Defense further pursued the topic. Baraybar explained that the age ranges associated with the Suchey-Brooks and Iscan-Loth methods, not the morphological indicators, were "calibrated" for the Bosnian population. An example was provided: the pubic symphysis morphology that would indicate an age between 15 and 23 years for an American male would translate to between 13 and 25 years for a Bosnian male.[453] When questioned on the reference sample size used to calibrate the Suchey-Brooks method, Baraybar indicated that the male

[450] Stankovic Report, 9.
[451] Prosecutor v. Krstić, Baraybar, T. 3790-3791.
[452] Prosecutor v. Krstić, Baraybar, T. 3850; Simmons T. (1999) Revising age estimates standards from a Bosnian forensic population: clavicle, ribs, and pubic symphysis. Proceedings of the American Association of Physical Anthropologists (April 1999); Columbus, Ohio: American Association of Physical Anthropology, 1999.
[453] Prosecutor v. Krstić, Baraybar, T. 3851-3852.

sample size was 242 and the female sample size was 52. He compared this to the original sample size for the method which was 739, but also included that the original Iscan-Loth method had a sample size of only 118 compared to 233 for the Bosnian calibrated method. Baraybar defended the method and its sample size:

> From a scientific point of view, I think that it is quite sound evidence that this technique is reliable, the sample taken is quite, quite reliable.[454]

Sex Estimation

Stankovic had only one criticism of the method used to estimate sex. Sex was determined by pubic bone morphology only. If the pelvis was not represented, the sex of the individual was not determined. This resulted in 212 cases of indeterminate sex. Stankovic questioned why other bones that could have provided information for sex determination were not utilized.[455] The Prosecution had Baraybar explain sex estimation, which he did for the pelvis, skull, and long bones.[456] Baraybar described the approach of requiring the pelvis for a sex determination as a "very conservative approach."[457] The Defense did not question this method or its sole use for sex estimation during their cross-examination.

Minimum Number of Individuals

Baraybar presented several exhibits to explain the method for calculating MNI based on counting the most represented bone. The fragmented bodies required the examination of bone fragments to count the most represented identifiable portion of bone separated into three distinguishable age groups.[458] The dispersal of the fragmented bodies into multiple secondary graves added an extra step to the process, namely the consolidation of the bone inventories of related primary and secondary graves to produce the most accurate MMNI, or merged minimum

[454] Prosecutor v. Krstić, Baraybar, T. 3853-3854.
[455] Stankovic Report, 10.
[456] Prosecutor v. Krstić, Baraybar, T. 3788-3789.
[457] Prosecutor v. Krstić, Baraybar, T. 3790.
[458] Prosecutor v. Krstić, Baraybar, T. 3793-3798.

number of individuals.[459] No objection was made in Stankovic's Reports or during the Defense's cross-examination of this method.

Cause of Death

Medically licensed pathologists are the only experts legally qualified to determine cause of death. Clark and Lawrence testified extensively on cause of death, and both remarked that the forensic anthropologist played an essential supportive role by identifying bony injuries on the skeletonized remains.[460] The anthropologist has considerably more experience with bone trauma, while the pathologist's experience lies in soft tissue injury. The pathologist can determine what soft tissue surrounding the bony injury was affected and if the wound was fatal. Consultation between the forensic anthropologist and pathologist occurred prior to the cause of death determination.[461]

The Defense had several objections related to the determination of cause of death. Stankovic criticized Clark's generalization that all gunshot wounds occurred during life and the lack of evidence collected to support close range gunshot wounds.[462] He also rejected the methodology of determining a cause of death for body parts based on the finding of more than one cause of death per person.[463] Each of these points was discussed in the trial, either after prompting by the Prosecution or in the Defense's cross-examination.

> In his submitted report of forensic evidence Clark generalized that:
>
> any injuries suggestive of gunshot damage were taken to have occurred in life and usually to have been necessarily or potentially fatal.[464]

Stankovic claimed that this generalization was unacceptable based upon the expert's role of determining antemortem injuries and cause of death. Clark addressed this statement in response

[459] Prosecutor v. Krstić, Baraybar, T. 3798-3804.
[460] Prosecutor v. Krstić, Clark, T. 3904; Lawrence, T. 3994-3995.
[461] Prosecutor v. Krstić, Clark, T. 3944.
[462] Stankovic Report, 5, 6.
[463] Stankovic Report, 7.
[464] Stankovic Report, 5.

to the Prosecution's asking if there were any limitations to the pathological evidence.[465] After noting that the bodies were near or completely skeletonized, thereby eliminating evidence on soft tissue, Clark admitted that the conclusion that all of the gunshot wounds happened in life could not be made.[466] However, due to the large number of gunshot injuries, Clark explained that it was much more probable that the victims were killed by gunshot wounds rather than having been killed by some other undetected cause and then shot after death. Furthermore, Clark described how gunshot wounds were categorized as such – only with clear evidence of an entrance and exit wound, bullet fragments, or a bullet within the tissue of the body.[467] The Defense did not cross-examine Clark on this assumption, perhaps not wanting to hear a restatement of the previous day's opinion made by Baraybar that opening fire on a person can be explained by the gunman's perception that the targeted individual is alive.[468]

The Defense did ask if cause of death should be determined when parts of the body were missing.[469] Clark responded by explaining the methodology used to determine if a cause of death could be ascertained:

> If there is a part on the body -- even though large parts are missing, if there's an obviously fatal injury in that body, I think it would be quite justified in saying that was the cause of death. For instance, if all we had was the upper half of a body with the skull and the trunk, but both legs were missing, if there's a gunshot wound in the skull, that's necessarily and inevitably fatal. So it doesn't matter that the rest of the body is missing. That is the fatal injury.
>
> The reverse does not apply, however. If all we found was a gunshot injury to the leg and the skull was missing, we would not accept that as the cause of death. But bullet wounds to certain parts of the body, I think one can assume that that's going to be a fatal injury.[470]

Clark also remarked that pathologists did not consider all gunshot wounds to be fatal – only those to the head, chest, trunk, or pelvis were considered fatal.[471]

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[465] Prosecutor v. Krstić, Clark, T. 3905-3906.
[466] Prosecutor v. Krstić, Clark, T. 3907.
[467] Prosecutor v. Krstić, Clark, T. 3908-3909.
[468] Prosecutor v. Krstić, Baraybar, T. 3870.
[469] Prosecutor v. Krstić, Defense, T. 3947.
[470] Prosecutor v. Krstić, Clark, T. 3947-3948.

Stankovic rejected the methodology of determining a cause of death for each body bag holding disarticulated remains, calling the method "unacceptable and illogic" due to the assignment of several causes of death to a disarticulated person who is represented in more than one body bag.[472] Stankovic repeated this criticism in his 2001 report and calculated a surplus of 1,172 causes of death compared to the MMNI.[473] Lawrence explained the reasoning behind this method in his testimony regarding the Cancari Road 3 secondary grave.[474] The MNI was 160 individuals collected in 383 body bags. Lawrence calculated the number of body bags that held body parts with gunshot injuries that would cause death, probably cause death, and possibly cause death: 103, 13, and 15, respectively. Additionally, the main point of his testimony, to demonstrate that the majority of victims were killed by gunfire, was supported with 29 of 35 complete bodies having a cause of death by gunshot wounds. The Defense made no cross-examination of this method.

The forensic experts' assessment that some graves held victims with a pattern of gunshot wounds to the head or spine was interpreted by Stankovic to indicate that the gunshot wounds were inflicted within close proximity of the victim.[475] With this line of logic, Stankovic found the lack of evidence regarding close proximity gunshot wounds to be contradictory. During cross-examination, Clark attested that there was no evidence of close range gunshots found on the bodies to confirm close-range fire; however, Clark stated that this evidence is mainly found on the skin, which was absent, and therefore precludes the determination of distance of fire.[476]

Lack of Positive Identifications

Stankovic portrayed the small number of identifications made by the ICTY forensic experts as a reflection of the methodology used in the investigation.[477] He cited his own personal

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[471] Prosecutor v. Krstić, Clark, T. 3950.
[472] Stankovic Report, 4, 7.
[473] Additional Stankovic Report, 6.
[474] Prosecutor v. Krstić, Lawrence, T. 4000-4002.
[475] Stankovic Report, 6.
[476] Prosecutor v. Krstić, Clark, T. 3953-3954.
[477] Stankovic Report, 5; Additional Stankovic Report, 5.

experience with identifying persons from mass graves at 80% compared to the 5% identified by the ICTY experts. The Defense cross-examined Haglund on this point, asking for the reason behind the small number of identifications.[478] Haglund countered with the scientific rigor maintained for positive identification, as well as several factors that hindered the identification process – a lack of fingerprints, dental information, or hospital records, and only anecdotal information supplied by family members to identify 7,000 men scattered randomly through multiple graves. The process of contacting the families, creating databases of information, and matching that information to one body disallowed science-based positive identifications.[479] However, the DNA identification program, at that time in its infancy, was referenced as an effort being made to positively identify more victims.[480]

Forensic Archaeology

Forensic anthropology and pathology methods were not the only criticized methods. Stankovic rejected in each of his reports Wright's estimation of the number of victims contained in the probed, but at that time unexcavated graves.[481] The Stankovic Report reduced this estimate to an assumption and claimed an absence of available scientific methodology to make such an estimate. The Prosecution had Wright describe the method used and comment on its reliability:

> I did it on the grounds that the secondary graves, the seven that we did exhume along the three roads that we've already discussed, were the same size and shape. What I did was to average the number of bodies found in those seven graves and extend that average to the 21 places that we had probed and shown to have multiple body parts.
>
> […] It's a common archaeological practice to expand one's estimates to unexcavated places from excavated places. Whether or not my estimate is correct could be established

[478] Prosecutor v. Krstić, Defense, T. 3763.
[479] Prosecutor v. Krstić, Haglund, T. 3763-3764.
[480] For more information on the DNA identification program in the former Yugoslavia see Huffine E, Crews J, Davoren J. Developing role of forensics in deterring violence and genocide. Croatian Medical Journal 2007;48:431-436; Huffine E, Crews J, Kennedy B, Bomberger K, Zinbo A. Mass identification of persons missing from the break-up of the former Yugoslavia: structure, function and role of the International Commission on Missing Persons. Croatian Medical Journal 2001;42(3):271-275.
[481] Stankovic Report, 4; Additional Stankovic Report, 3.

> by the total exhumation of the graves. But it's, I think, a conservative approach to take the average and then extend it to the other graves. The real number might be less, it might be more.[482]

Wright estimated an additional 2,571 bodies were contained in the 21 probed graves. The Additional Stankovic Report included numerical evidence to support the criticism that an estimate of unexcavated graves cannot be made based on excavated graves.[483] Five of the graves had since been excavated and the number of victims exhumed was slightly less than what would be expected based on Wright's estimate:

> […] despite the fact that in the meantime the graves Lazete 1, Lazete 2, Kravice, Glogova 1 and Ravince were exhumed with 478 bodies in total![484]

No mention of this method was made by the Defense during cross-examination. The Trial Chamber acknowledged both the estimate made by the Prosecution and Stankovic's dissent in the footnotes of the judgment. However, the Trial Chamber asserted that the evidence "strongly suggests" that the majority of the 7,000 people missing from Srebrenica were executed and buried in mass graves.[485]

A pattern emerged in the presentation of methodology in the transcripts. A method was introduced by the Prosecution, and the forensic expert described how the method was performed and the results of its implementation. On several occasions, the word "conservative" was used to describe methods that produced numerical estimates.[486] The expert witnesses responded to cross-examination regarding the methods by explaining limitations alongside strengths. The experts often closed their statements with an affirmation of the applicability and reliability of the method. The Trial Chamber's judgment revealed that no methodological problems made any impact on their judgment regarding the number of victims, the identity of the victims, or their cause of death.

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[482] Prosecutor v. Krstić, Wright, 3669-3670.
[483] Additional Stankovic Report, 6.
[484] Additional Stankovic Report, 6.
[485] Krstić Judgment, para. 82.
[486] Prosecutor v. Krstić, Baraybar, T. 3790, 3794, 3796, 3811; Manning, T. 3564, 3570-3571, 3575; Wright, T. 3670.

Prosecutor v. Popović et al.

July 14, 2006 – current

The Popović et al. trial included seven defendants: Vujadin Popović, Ljubiša Beara, Drago Nikolić, Ljubomir Borovčanin, Radivoje Miletić, Milan Gvero, and Vinko Pandurević.[487] All seven were indicted for murder, persecutions, forcible transfer, and deportation. Popović, Beara, Nikolić, and Pandurević were also indicted for genocide, conspiracy to commit genocide, and extermination. Popović was a Lieutenant Colonel and Chief of Security for the Drina Corps, and Beara was a Colonel and Chief of Security of the Main Staff of the VRS. Pandurević was a Lieutenant Colonel and Commander of the Zvornik Brigade, and Nikolić was a 2nd Lieutenant and Chief of Security of the Zvornik Brigade. Borovčanin, Commander of the MUP Special Police and under the command of the VRS from 11 July through 18 July 1995, was indicted for aiding and abetting genocide and extermination. Miletić and Gvero were not indicted for any form of genocide.

The Defense teams chose to reexamine the original forensic experts who testified in the Krstić trial, namely Haglund, Wright, Baraybar, Lawrence, and Clark. One additional forensic anthropologist testified, Fredy Peccerelli, Deputy Senior Director of the Archaeology Team in 2000. The same two investigators who testified in the Krstić and Blagojević and Jokić trials, Manning and Ruez, also summary testified to the investigation of mass graves. Manning submitted a fourth report detailing the results of the work of the OTP investigations, the ICMP, and the Bosnia and Herzegovina government, which included identifications made by DNA analysis (Fourth Manning Report).[488] The Defense fought to expose weaknesses in the forensic methods and cast doubt on the evidentiary strength assigned to the evidence in the Krstić case.

[487] ICTY, Case Information Sheet, Popović et al. (IT-05-88), available at <http://www.icty.org/x/cases/Popović/cis/en/cis_Popović_al_en.pdf> (accessed 1 May 2009).
[488] Manning D. Srebrenica Investigation: Summary of Forensic Evidence – Exhumation of Mass Graves Srebrenica – November 2007. ICTY Evidence Report, Unpublished document Property of the United Nations, ICTY (27 November 2007) (hereafter "Fourth Manning Report").

The Defense team was much more aggressive in their cross-examination than in the Krstić trial. Five years had passed since the first testimony of the forensic experts in *Prosecutor v. Radislav Krstić*. A major factor in the Popović trial involving the forensic evidence that differed from that of the Krstić trial was the availability of published research performed on the applicability and reliability of the methods employed in the forensic investigation. The forensic experts were questioned regarding the methodology used to estimate age-at-death and sex and calculate MNI. The methodology used to determine cause of death was not examined, but rather the interpretations of the results produced by these methods received significant attention. The archaeological aspect of the investigation also garnered much more attention and scrutiny than the negligible amount applied in the Krstić case.

Age-at-Death Estimation

The Prosecution asked Baraybar very few questions. He explained MNI, during which he delved into how age-at-death estimation is performed by forensic anthropologists.[489] Baraybar's explanation was more detailed than any previous descriptions of the method – epiphyses were described and the varying rates of fusion among bones and between males and females.[490] The ability to more accurately age persons under the early 20's than those 25 years and older was explained. Baraybar was then offered to the Defense for cross-examination.

The Defense confirmed Baraybar's testimony that the methods used to determine age-at-death were morphological changes in the pubic symphysis and the sternal end of the fourth rib.[491] The Defense then referred to an article published in 2007 by *Forensic Science International* that found only 67% accuracy for the combination of age-at-death estimation methods used in the

[489] Prosecutor v. Popović et al., Baraybar, T. 8797-8807.
[490] Prosecutor v. Popović et al., Baraybar, T. 8804-8805.
[491] Prosecutor v. Popović et al., Baraybar, T. 8839.

Srebrenica investigation.[492] Baraybar attempted to explain these findings and its relevancy to the accuracy of the Srebrenica evidence:

> Well, if you read carefully the article I presented to you, primarily the accuracy is referred to the precision that they used in determining the age intervals. And what they said is that when they use for example a plus, minus 2.5 years, of a specific estimate, they were having a lower, I mean an accuracy that when using a broader range. So that is one thing.
>
> The second thing is that the application of a specific technique to a specific population will also reflect the age distribution of the population that you are working with. If I may explain yet a bit more.[493]

The Defense stopped Baraybar from explaining any further. The article referred to, "Identification of Victims from Two Mass-Graves in Serbia: A Critical Evaluation of Classical Markers of Identity," states that there was a 67% accuracy in age-at-death estimation found when pubic symphyseal morphology, sternal rib ends, dental status, suture closure, and "other macroscopic age indicators" were used.[494] However, the article clearly states another level of accuracy for the age group of most interest to the question of genocide – the age group that differentiates those too young to fight versus those who were old enough to be affiliated with a military. The accuracy for persons aged 30 years and younger with an interval of ±2.5 years was 80.95%. Additionally, the accuracy of these methods improved to 92.83% for all age groups with an interval of ± 5 years. Baraybar did not testify to these findings that are more applicable to the research results provided by the forensic experts.

The Defense was also interested in the continuing research on age-at-death estimation methods for Bosnian, Croatian, and Serbian populations. Baraybar explained the purpose of this research:

> So we knew that all we had at the time, and for years, was what was there, you know, set up in North America, whatever. But there was something needed actually for the types of

[492] Prosecutor v. Popović et al., Defense, T. 8840; see Djurić M, Dunjic D, Djonić D, Skinner M. Identification of victims from two mass-graves in Serbia: a critical evaluation of classical markers of identity. Forensic Science International 2007;172:127-128.
[493] Prosecutor v. Popović et al., Baraybar, T. 8840.
[494] Djurić et al., Identification of victims from two mass-graves in Serbia, 127-128.

> populations we were working with. So these new standards hopefully will assist in the age determination of, I mean, thousands of our victims of the war, yes.[495]

Baraybar referred to a series of papers under peer review that would later be published in the *Journal of Forensic Sciences* in May 2008.[496] One article, "Analysis of Age-at-Death Estimation Through the Use of Pubic Symphyseal Data," co-authored by Baraybar, provides age-at-death estimates for the Balkan population for each phase of the Suchey-Brooks method for males, females, and for pubic bones of an undetermined sex.[497] The article has the stated purpose of providing scientific research that can be used to demonstrate the admissibility of methods used by the OTP in the forensic investigation of crimes for the ICTY. It directly addresses the Defense's question of whether the American standard used to determine age-at-death for the Bosnian population prior to 1999 was suitable, or accurate.

Sex Estimation

Baraybar faced a similar dilemma during cross-examination regarding sex estimation. Referencing the same article by Djurić et al., the Defense cited the results of sex estimation using the skull – 70% accuracy, and then asserted that the accuracy of sex estimation using long bones is "a less certain system of analysis."[498] Baraybar affirmed this assertion, but added that this method was not consistently relied upon:

> Well, depending on what did you have. If you have, I mean, a complete body, you would go first for the pelvis. And then you would have a look at the skull as well. Long bones would not be necessary for that matter. If you had a body part that did not have the pelvis but only long bones, you would be pretty much left with whatever you could do with the long bones. So you could measure certain parts of those bones and apply certain formula that exist or simply you couldn't. And if you couldn't, you would be -- this individual

[495] Prosecutor v. Popović et al., Baraybar, T. 8852.
[496] Prosecutor v. Popović et al., Baraybar, T. 8851.
[497] Kimmerle E, Konigsberg L, Jantz R, Baraybar JP. Analysis of age-at-death estimation through the use of pubic symphyseal data. Journal of Forensic Science 2008;53(3).
[498] Prosecutor v. Popović et al., Baraybar, T. 8835-8836; see Djurić et al., Identification of victims from two mass-graves in Serbia, 127.

> would be classified as undetermined. […] We have used the pelvis first, skull later, and long bones as a last resort, if there is nothing else to determine sex.[499]

This testimony regarding the use of the skull and long bone to assist in determining sex contradicts the testimony given by Baraybar during the Krstić trial in which he testified that sex was determined by the pelvis only. This fact was not raised in the testimony.

Minimum Number of Individuals

The cross-examination by the Defense regarding age-at-death and sex estimation appeared aimed at minimizing the credibility of the MMNI. Both the age-at-death and sex estimation questions presented to Baraybar were within the context of explaining how MNI was calculated, and its reliance upon the age-at-death and sex was stressed.

The Defense asked Baraybar if age-at-death determination, which requires sex estimation to be accurate, was critical for determining MMNI.[500] Baraybar affirmed but maintained that the Defense's concern regarding the aging of bodies and body parts, specifically that two of the age groups overlap (13-17 years and 15-24 years), did not have any effect on MNI.[501] He explained the process that prohibits the same person from being counted twice:

> […] You use first the most common bone you have in the assemblage, okay. That is your first -- I mean assumption. You're going to take the left proximal femur, fine. Within the left proximal femur, the easiest group you will get to, say, rid of would be the adults, okay, the non-fusing, non-growing, nothing. I mean, you know these people are full adult bones with nothing missing. That is what you have. So you've got 25 cases.
>
> Then comes the more -- the finer, I mean, things. In other words, any bone, any single bone be the same type of bone or another bone that show an express juvenile trait that cannot be covered by the bones you have already counted, is one to be added. But there is no double counting there. It is not possible to double count. How would you? I mean, I still -- I mean, maybe it's me who doesn't understand, but it is not possible.[502]

[499] Prosecutor v. Popović et al., Baraybar, T. 8836.
[500] Prosecutor v. Popović et al., Defense, T. 8866.
[501] Prosecutor v. Popović et al., Baraybar, T. 8866-8870.
[502] Prosecutor v. Popović et al., Baraybar, T. 8870.

The discussion on MMNI continued; the Defense interjected that the age categories used by Haglund were different from those used by Baraybar.[503] Baraybar attempted to explain how these age groupings have no effect on the summarization of the age groups used to determine MMNI, but the Defense clearly was not willing to accept or unable to comprehend the method.[504] The cross-examination of Baraybar concluded with the Defense repeating that the age-at-death determinations and groupings are important for the calculation of MMNI.[505] Baraybar was unable to respond.

Forensic Archaeology

Wright's estimation of the number of victims contained in the 21 unexcavated graves was again put under cross-examination. The 2,571 additional bodies were extrapolated from the averages of other secondary mass graves. The Defense dug deeper into the method used to determine that these graves were secondary graves holding multiple persons.

The Defense confirmed with Wright that the graves were only assumed to be secondary rather than primary graves. Wright explained the basis for the assumption:

> They're assumed to be secondary graves bases of the aerial imagery. They appeared at the same time as the one we exhumed.[506]

The Defense then asked about the method used to determine whether the graves held multiple bodies. Wright described a system of first establishing grave boundaries by scraping the surface of the ground to reveal soil color differences and then digging a trench until the remains of at least two individuals were exposed.[507] The Defense had Wright confirm that using this method, he cannot be confident that there were any more than two persons in each grave.[508]

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[503] Prosecutor v. Popović et al., Defense, T. 8876-8878.
[504] Prosecutor v. Popović et al., Baraybar, T. 8878-8879
[505] Prosecutor v. Popović et al., Defense, T. 8884.
[506] Prosecutor v. Popović et al., Wright, T. 7461.
[507] Prosecutor v. Popović et al., Wright, T. 7462-7464.
[508] Prosecutor v. Popović et al., Wright, T. 7464.

The Defense then summarized this part of their argument by asking Wright if he would agree that several assumptions were made to calculate the 2,571 additional persons figure.[509] Wright could only agree and repeat the basis for the assumptions:

> The fundamental assumption is that on average those 21 graves on average will reflect the average for the other - [Defense: Seven?] - graves that we dug, yes."[510]

Wright supplemented his assumptions with information gathered from the ICMP.[511] The ICMP had been given responsibility over the excavation of all secondary graves, and some had been exhumed since 2001. Wright could not provide the number of bodies exhumed as requested by the Defense but claimed that he asked to be notified of any graves that were empty. He was notified only that the graves were of "fair, average qualities" by the ICMP.[512]

The evolution of the Defense's ability to ask more technical questions regarding the forensic methods shows a clear trajectory for the level of standards to which future forensic investigations will be held. Forensic experts of all disciplines must work together to develop more accurate and reliable methods; the strictest requirements made by courts regarding evidence should be considered minimum guidelines for the development of methods. Chapter Eight discusses legal requirements that may be met to ensure forensic methods are admitted in court as scientific and how forensic methods can be improved to further solidify their standing and increase their contribution to a forensic investigation.

[509] Prosecutor v. Popović et al., Defense, T. 7468.
[510] Prosecutor v. Popović et al., Wright, T. 7469.
[511] Prosecutor v. Popović et al., Wright, T. 7471.
[512] Prosecutor v. Popović et al., Wright, T. 7471.

Chapter Eight

FORENSIC METHODS FOR COURTS

> Whenever you work in a specific place in a country in a region, you will use whatever you have at hand. But you know that the best thing you can have is to have standards that reflect that specific population you are working with.[513] *(Jose-Pablo Baraybar, Prosecutor v. Popović et al.)*

Forensic investigation of human rights violations, crimes against humanity, and war crimes will presumably continue on larger scales. The methods used by forensic anthropologists and archaeologists will be scrutinized and challenged in international courts. In response, forensic anthropology must address these challenges prior to an investigation and in anticipation of the defense of methods, their applicability, and reliability in court.

The ICTY trials demonstrate that the Defense will attempt to reduce the methods to less than scientific processes. These attempts will likely never cease due to the great contribution these disciplines can make to the judicial process. The evidence produced is that of the physical crime and describes the victim group. The lessons learned from the ICTY trial, as well as the ICTR and other international and national trials, must be considered, research must be performed, and the new or improved methods readied for application to future forensic investigations. To protect the evidence of heinous crimes, advance preparation is necessary to bring all aspects of international forensic investigations up to legal standards.

Legal Standards for Expert Testimony and Scientific Evidence

The forensic methods used in a criminal investigation must meet the standards set for evidence established by a particular court. One difficulty in doing so is a lack of clearly defined standards in international criminal law. The ICTY Rules of Procedure and Evidence offer very

[513] Prosecutor v. Popović et al., Baraybar, T. 8852.

general guidelines for the admission of evidence. Rule 89, General Provisions, states "A Chamber may admit any relevant evidence which it deems to have probative value" and "A Chamber may exclude evidence if its probative value is substantially outweighed by the need to ensure a fair trial."[514] The ICC Rules of Procedure and Evidence are similar. Rule 63(2) states:

> A Chamber shall have the authority, in accordance with the discretion described in article 64, paragraph 9, to assess freely all evidence submitted in order to determine its relevance or admissibility in accordance with article 69.[515]

No rules define how the Trial Chamber may evaluate evidence for its relevancy or admissibility.

The ICC Rome Statute regulates a hierarchical body of laws that take precedence in the Court. The Trial Chamber is to apply the ICC Statute and Rules of Procedure and Evidence first, then applicable treaties, principles and rules of international law, and lastly general principles of law derived from national laws which are not inconsistent with the prior three sources.[516] National laws of the United States provide conservative rules for the admissibility of evidence in courts and therefore may serve as guidelines for ensuring that forensic methods and their evidentiary product will be admissible in an international court.

Historical Context of United States Expert Witness Law

The Court of Appeals of District of Columbia in the case *Frye v. United States* (1923) provided early regulation of expert testimony. The Court ruled that the systolic blood pressure deception test, in which the blood pressure rises in persons who are being deceptive and remains static if the person is telling the truth, was not admissible by expert testimony because the test had not gained "general acceptance in the particular field in which it belongs."[517] This legal

[514] ICC, ICC-ASP/1/3, Rules of Procedure and Evidence (3-10 September 2002), Rule 89, available at <http://www.iccnow.org/documents/RulesofProcedureEvidence_English.pdf > (accessed 1 February 2009).
[515] ICC, ICC-ASP/1/3, Rules of Procedure and Evidence (3-10 September 2002), Rule 63(2).
[516] Rome Statute, Article 21.
[517] Court of Appeals of District of Columbia, Frye v. United States, 54 App. D. C. 46, 293 F. 1013 No. 3968 (3 December 1923), available at <http://www.daubertontheweb.com/frye_opinion.htm> (accessed 1 February 2009).

judgment was maintained until 1993 when the *Daubert v. Merrell Dow Pharmaceuticals, Inc*. judgment decided that the Federal Rules of Evidence adopted in 1975 supplanted Frye.[518]

Rule 702 of the Federal Rules of Evidence requires that testimony be based upon sufficient facts or data, the product of reliable principles and methods, and that the expert witness must have performed a reliable application of the methodology to the facts of the case.[519] The trial judge determines if the methods are scientific and properly applied and whether the evidence can assist the tier of fact. The Daubert case also provided measures by which trial judges can determine if these requirements were met.

The Plaintiffs in the Daubert Case, parents of children born with birth defects, had scientific experts testify that Bendectin, a prescription anti-nausea drug ingested by the mother while pregnant, caused the birth defects in her children.[520] The evidence submitted included statistical recalculations of epidemiologic data. The evidence was dismissed because the recalculated results had not been published or subjected to peer review. The Daubert judgment further clarified standards for scientific evidence. Scientific validity may be based on:

(1) whether the theory or technique in question can be (and has been) tested,
(2) whether it has been subjected to peer review and publication,
(3) its known or potential error rate, and
(4) the existence and maintenance of standards controlling its operation, and
(5) whether it has attracted widespread acceptance within a relevant scientific community.[521]

Although the Daubert standards are not specified within international law, it is only prudent to meet these standards for all scientific evidence. By conforming to the most conservative rules, forensic methods are ensured to be acceptable in all courts. Forensic methods must be relevant to the matter in question, applicable to the population, and meet each of the above principles to ensure that the resultant evidence is admissible and can withstand rigorous cross-examination.

[518] Supreme Court of the United States, Daubert v. Merrell Dow Pharmaceuticals (92-102), 509 U.S. 579 (1993), available at <http://supct.law.cornell.edu/supct/html/92-102.ZO.html> (accessed 1 February 2009).
[519] Capron A. Facts, values, and expert testimony. The Hastings Center Report Sept-Oct 1993;23(5):26.
[520] Capron, Facts, values, and expert testimony, 26.
[521] Supreme Court of the United States, Daubert v. Merrell Dow Pharmaceuticals (92-102), 509 U.S. 579 (1993).

Forensic Anthropology Methodology

The applicability and reliability of the forensic methods used in the ICTY investigations have been reviewed, tested, and the results published in several peer-reviewed journals, including the *Journal of Forensic Science, Forensic Science International,* the *International Journal of Legal Medicine,* and the *Croatian Medical Journal*. Suggestions have been made to make methods more applicable to the Balkan population. This research was not readily available for the Krstić case, but several articles had been published prior to the Popović trial. The Defense used these articles in an attempt to discredit the forensic methods applied to the investigation. The Prosecution was not oblivious to this tactic and had, in anticipation of a more critical and educated cross-examination of the forensic methods, began engaging in research to ensure that the forensic evidence presented in court was legally sound.[522]

A joint research project was formed between the OTP of the ICTY and the University of Tennessee's Forensic Anthropology Center (ICTY-UT research project).[523] There were two primary purposes for the research. The first was to determine if the biological variation between American and East European populations is significant and if so, to recalibrate the parameters for age-at-death, sex, and stature estimation.[524] This research would address the admissibility of new methods designed for a Balkan population and any revised parameters for methods previously applied. The second was to apply Bayesian statistics to the methods in order to assign a quantifiable reliability to the methods. The results were published in the May 2008 *Journal of Forensic Science* as a *Symposium on International Human Identification.* The 10 papers report the results of research on the forensic anthropology methods of estimating age-at-death, sex, and stature. By performing this research and publishing the results, the OTP ensured that the

[522] Ubelaker D. Issues in the global applications of methodology in forensic anthropology. Journal of Forensic Science 2008;53(3):606.
[523] Kimmerle E, Jantz R, Konigsberg L, Baraybar JP. Skeletal estimation and identification in American and East European populations. Journal of Forensic Science 2008;53(3):526.
[524] Kimmerle E, Jantz R. Variation as evidence: introduction to a symposium on international human identification. Journal of Forensic Sciences 2008;53(3):521-523.

forensic evidence met legal standards, could be admitted into ICTY cases, and that the forensic experts had adequate confidence to successfully defend the methods.

Applicability

The fundamental study of biological anthropology involves the analysis of human variation. Interpopulation variation has stimulated forensic anthropology to devise different standards for different populations. Methods for estimating age-at-death, sex, and stature have traditionally been defined for the population for which the standard was developed. For a forensic anthropology method to be applicable, the population from which the method was derived must have characteristics similar to the study population.

Age-at-Death Estimation. The most significant methodological problem that emerged from the ICTY trials was the use of age-at-death methods designed for an American population applied to a Balkan population. Sex estimation was generally accepted as accurate, race estimation was not questioned, and stature estimation was not addressed in the ICTY trials. Age-at-death played a very prominent role in the trials due to the implications that age placed on the genocide indictment. For genocide, the age-at-death of the victims has categorical implications and may be used by either the Prosecution to deny or the Defense to support a common defense – that the bodies are victims of war. Being too young or too old contradicts this combat victim scenario.

The applicability of the methods used to determine the age-at-death of victims in the mass graves was questioned in both trials. The testimony of two forensic experts might be construed as in conflict. First, in Krstić, Baraybar described the modification of age ranges associated with the six stages of the Suchey-Brooks method and explained that the age ranges were altered to more accurately age the Bosnian population.[525] A change in parameters during any investigation may suggest that the original method was not applicable to the population, and the Defense capitalized on this point. In the Popović trial the Defense asked Wright if "There are

[525] Prosecutor v. Krstić, Baraybar, T. 3851-3852.

racial variations to bone growth and age-induced change?"[526] The Defense was not expecting his answer, that in the post-crania "there's not much different between people all over the world."[527] These are seemingly contradictory opinions on the issue of interpopulation variation. The answer to Wright's question from the Defense was a primary objective of the ICTY-UT research project.

A necessary question for all forensic anthropological methods is whether interpopulation variation is significant enough to require the method to be calibrated to each population. The ICTY-UT research project studied interpopulation differences for the use of American standards in the estimation of age-at-death for the Bosnian population. A proportional odds probit regression analysis was performed to compare the association between each morphological stage of the Suchey-Brooks method to age for the two populations.[528] An improvement chi-square test calculated deviance to determine whether the two samples contained the same proportion of pubic symphyseal phases conditional on age. No significant association was found between pubic morphology and age in a population, thereby demonstrating no significant difference in the method's reliability between the two populations. The method produced equally reliable results for both populations.

The applicability of a method should be defined by its accuracy. The accuracy of the protocol for age-at-death estimation used in the former Yugoslavia, which included the Suchey-Brooks pubic symphysis and Iscan-Loth fourth sternal rib morphology stage methods, and the Lamendin dental technique, was assessed by comparing age-at-death estimates to known ages of 730 positively-identified Kosovians.[529] The known age fell within the estimated age range for 75.9% of cases. It was found that persons under the age of 18 years were frequently under-aged; those between 18 and 50 years over-aged; and those over 50 years under-aged. Therefore,

[526] Prosecutor v. Popović et al., Defense, T. 7505.
[527] Prosecutor v. Popović et al., Wright, T. 7505.
[528] Kimmerle et al., Analysis of age-at-death estimation through the use of pubic symphyseal data, 562.
[529] Kimmerle E, Jantz R, Konigsberg L, Baraybar JP. Skeletal estimation and identification in American and East European populations. Journal of Forensic Science 2008;53(3):527-528.

although the American standard is producing fairly accurate results, a population specific modification to the method could improve the results.[530]

Several other studies have tested the applicability of North American standards for age-at-death estimation in Balkan populations. A study comparing relative-reported age-at-death against forensic anthropology reports for 63 positively identified Bosnian men from Srebrenica was correct only 42.4% of the time.[531] Another study found 82.98% accuracy for males and 75% accuracy for females when applying the Suchey-Brooks method to 85 pubic bones collected from the University of Belgrade.[532] These results were published, and in each article the inaccuracy of the method was attributed in part to the use of North American standards on the Bosnian population. The authors called for the establishment of population specific standards. These published results can fuel a Defense; the forensic experts must be knowledgeable regarding the samples and methods used to produce these results in order to respond appropriately.

Sex Estimation. Sex estimation methods applied to Balkan populations using American standards is quite accurate. A study of 262 pelvic bones and 180 skulls resulted in 100% accuracy using the pelvic bones and 70.56% accuracy using the skull only.[533] The ICTY-UT research project found 95.2% accuracy for Kosovo individuals when utilizing pelvis and skull morphology; using only the pelvis, the accuracy for classifying males was 98.1% and females 91% accurate.[534] These results support the ICTY's investigation protocol which utilizes the pelvis as the main determinant of sex.

[530] Kimmerle et al., Skeletal estimation and identification in American and East European populations, 530.
[531] Komar D. Lessons from Srebrenica: the contributions and limitations of physical anthropology in identifying victims of war crimes. Journal of Forensic Science 2003;48(4):714.
[532] Djurić M, Djonić D, Nikolić S, Popović D, Marinković J. Evaluation of the Suchey-Brooks method for aging skeletons in the Balkans. Journal of Forensic Science 2007;52(1):21-23.
[533] Djurić M, Rakočevic Z, Djonić D. The reliability of sex determination of skeletons from forensic context in the Balkans. Forensic Science International 2005;147:160-161.
[534] Kimmerle et al., Skeletal estimation and identification in American and East European populations, 529.

Reliability

The reliability of a method is the factor by which applicability is measured. After confirming a method is applicable, the reliability of the method must be demonstrated as adequate. In the Popović trial, the Defense twice quoted an article published in *Forensic Science International* on the reliability of forensic methods used in the ICTY investigation. The purpose of the research was to evaluate the accuracy of the methodology used to estimate age-at-death, sex, and stature for positively identified Serbian mass grave victims.[535] Each individual in the sample was evaluated anthropologically for these three markers of identity and were later positively identified by DNA. The Defense cited that sex estimation was correct only 70% of the time and that the methods used to estimate age-at-death were only 67% accurate.[536] Baraybar began to explain why these results were not comparable to the investigation's accuracy due to the narrow age range. In both cases Baraybar was allowed to briefly answer but was stopped short by the Defense.[537] Baraybar did not defend the reliability of the methods used by error rates nor did he cite studies that were comparable to the Srebrenica forensic investigation. This may have had far more impact on the defense of the evidence than the explanation of why those particular published methods and results were not applicable.

There are several ways for forensic anthropologists to produce a more reliable method for a population which addresses the legal need for a known error rate. A reference sample can be prepared if there are skeletal remains of individuals within the population with known age-at-death and sex. Improvements can be made to an established forensic method by adapting its individual components or phases to the population in question. The statistical models traditionally used in forensic anthropology methods can be improved with more advanced statistical models. A known error rate also needs to consider inter-observer error since most forensic anthropology methods are based upon morphology and subsequently produce subjective results.

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[535] Djurić M, Dunjic D, Djonić D, Skinner M. Identification of victims from two mass-graves in Serbia: a critical evaluation of classical markers of identity. Forensic Science International 2007;172:126.
[536] Prosecutor v. Popović et al., Defense, T. 8835; 8840.
[537] Prosecutor v. Popović et al., Baraybar, T. 8835-8840.

Reference Samples. The forensic methods designed for White and Black Americans were made possible due to extensive research using osteological collections and metric databanks. A reliable method requires a large sample size, something that is not always available for the population under investigation. Reference samples for Balkan populations were only developed after crimes were committed, and the size remains small in comparison to those available for Americans. Developing a reference sample for a population following genocide is difficult because of the need to acquire a large sample comprised of individuals of known age-at-death and sex. Antemortem data is often woefully inaccurate, and positive identifications can take a considerable amount of time to confirm. The reference samples that do exist for the Balkan population are a result of the extensive use of DNA to aid in positive identifications well after the anthropologic examination of victims. The lack of reference populations from various regions of the world can be and should be addressed prior to their need. An international forensic databank, similar to the metric forensic databank organized by UT, should be instituted and biometric data collected on all populations.[538]

Adapting Current Methods. In addition to reporting whether the North American standards were applicable to the Balkan population, many of the early publications on the applicability of methods included adaptations to increase reliability for the Balkan population. This type of study examines interpopulation variations and proposes adjustments to the existing methods after testing individual components for independent reliability. An example from the ICTR demonstrates a situation in which the American standard for sex estimation, based on skull morphology, was consistently inaccurate when applied to the Rwandan population. [539] Rwandan male skulls had marked frontal eminences, a trait often observed in American female skulls. The American population-specific trait was disregarded, and other morphological indicators were considered the most reliable. The design of these studies may be applied to any method and population to determine interpopulation variability and adjust the method as necessary.

[538] Kimmerle, Jantz, Variation as evidence: introduction to a symposium on international human identification, 522.
[539] Ferllini, The role of forensic anthropology in human rights issues, 296.

The Suchey-Brooks method was subjected to such a study for the Balkan population.[540] The method's use of age related changes of the pubic symphyseal surface was deconstructed into 10 surface features: changing relief of the symphyseal surface, dorsal margin, ventral beveling, lower extremity, ossification nodule, upper extremity, ventral rampart, dorsal plateau, lipping of the margin, and symphyseal rim. Each morphological feature was scored based on its degree of expression (from 1 to 4) for 85 pairs of pubic bones collected at autopsy from the University of Belgrade. A stepwise linear discriminant analysis was performed to determine which morphological features most contributed to accurate age-at-death estimation. The most accurate features included the relief of the symphyseal surface, lipping of the margin, symphyseal rim, and dorsal margin. These features should be given more weight when morphological features appear to span more than one phase. The individual analysis of each feature also allowed for modification of the method based upon morphological changes that occurred at a different rate in the tested population than the reference sample. Four recommendations were made to incorporate different rates of change in the Serbian population.[541] For example, the research showed that the appearance of an oval contour on the symphyseal rim indicates phase V (41 – 55 years old) while complete formation indicates an age over 55 years.[542] This confirms the results of other studies that the Suchey-Brooks method under-ages Eastern Europeans under 50 years old.

The same method of analysis has been performed for sex estimation. Both cranial (n=180) and pelvic bone (n=262) morphological features were scored on a five point scale for 262 males exhumed from mass graves near Belgrade. Sex was known from well preserved soft tissue. The seven features scored for the pelvis include: robustness of the pelvic bones; presence of the preauricular sulcus; presence of the ischiopubic ramus; shape of the subpubic angle; shape of the ventral arc; shape of the great sciatic notch; and shape of the composite arch. Nine features were scored on the crania: size of the mastoid process; size of the occipital

[540] Djurić et al., Evaluation of the Suchey-Brooks method for aging skeletons in the Balkans, 21-23.
[541] Djurić et al., Evaluation of the Suchey-Brooks method for aging skeletons in the Balkans, 22.
[542] Djurić et al., Evaluation of the Suchey-Brooks method for aging skeletons in the Balkans, 21-22.

protuberance; nuchal cresting; sharpness of the supraorbital margin; supercilliary arch form; prominence of the supramastoid ridge; robustness of the mandible; size of the mental eminence; and size of the frontal tuber. The most reliable pelvic features, correctly sexing 98% of cases, were subpubic angle, ventral arc, and composite arc. The least reliable was the shape of the great sciatic notch at 79.15% accuracy. For the skull, the most reliable trait was the robustness of the mandible with 100% accuracy; the least accurate was the sharpness of the supraorbital margins with 28.75% accuracy.[543] Any morphological based method can be subjected to such analysis in an effort to adapt the method to a different population.

Statistical Methods. The traditional method of reporting reliability used in forensic anthropology, including means, standard deviations, confidence intervals, and percentile ranges, can be improved upon with advanced statistical methods. A main purpose of the ICTY-UT research project was to apply Bayesian methods to forensic methods in an effort to produce a quantifiable reliability to the methods.[544] A Bayesian method addresses the lack of a specific reference population and assesses statistical significance for the method. When applied to staged forensic methods, such as the Suchey-Brooks method, a Bayesian approach utilizing transition analysis results in more accurate error estimation by avoiding the assumption of a Gaussian distribution in the known reference sample and accounting for variation in rates of transition between stages.[545] The use of a likelihood ratio has the additional benefit of being expressed graphically, a useful property in courtroom presentation when illustrating reliability.

Inter-observer Variation. A method's error rate must take into consideration inter-observer error. Many forensic anthropology methods are based upon observed morphological changes, including the Suchey-Brooks, Iscan-Loth, and Lamendin dental technique age-at-death estimation methods and cranial and pelvic morphology-based sex estimation methods. These observations are subjective, requiring repeatability testing and inter-observer variation studies to

[543] Djurić et al., The reliability of sex determination of skeletons from forensic context in the Balkans, 160-161.
[544] Kimmerle, Jantz, Variation as evidence: introduction to a symposium on international human identification, 522.
[545] Konigsberg L, Herrmann N, Wescott D, Kimmerle E. Estimation and evidence in forensic anthropology: age at death. Journal of Forensic Science 2008;53(3):541-557.

confirm the method's reliability. These studies can reveal technical problems and prompt revision of the method's phase descriptions.

A study of inter-observer error was performed as part of the ICTY-UT research project. Five aging methods were tested: Todd and Suchey-Brooks pubic symphysis methods, Iscan-Loth's sternal rib end method, and the Lamendin and Smith dental wear method.[546] The sample was of Kosovo skeletal material (pubic symphysis n = 296; sternal rib ends n = 622; single-rooted teeth n = 412). The four author's observations for the five methods were statistically different. The experience of the observer is the most obvious variable to consider, but each of the authors had considerable practical experience with the methods. Closer examination of the observer variation revealed two patterns in the variation – a one stage difference among observers and more disagreement for middle phases than the younger and older phases.[547]

Inter-observer studies may reveal technical problems with a method and can prompt adjustments to address reliability issues. The ICTY-UT research project indicates that morphological phase-based methods that attempt to describe morphological traits which span more than one phase fail by these overlapping assignments.[548] The morphology from one phase to the next are seemingly the most difficult to consistently limit to one phase. Several approaches may be taken to address this problem. The first, transition analysis, is directed at examining the change from one phase to another. The second is to distinguish traits that are the most prevalent as absent or present within a stage and weigh them more heavily than those that span more than one phase. Lastly, more distinct phase descriptions of the relevant morphology and illustrations of the variation within a phase may supplement current method descriptions. Decision-making trees, in which the absence or presence of one trait leads to increasingly

[546] Kimmerle E, Prince D, Berg G. Inter-observer variation in methodologies involving the pubic symphysis, sternal ribs, and teeth. Journal of Forensic Science 2008;53(3):594-600.
[547] Kimmerle, Prince, Berg, Inter-observer variation in methodologies involving the pubic symphysis, sternal ribs, and teeth, 599.
[548] Kimmerle, Prince, Berg, Inter-observer variation in methodologies involving the pubic symphysis, sternal ribs, and teeth, 598.

significant determinants, may also provide more consistent scoring of phases between observers.[549]

An inter-observer study based on Balkan skeletal material took the second approach to addressing variation by singling out the more salient morphological traits for pelvic and cranial sex estimation. Agreement between an experienced forensic anthropologist and a less experienced graduate student was determined for individual traits.[550] Overall, agreement for the pelvis was 71.8% and for the skull 90.35%. Each morphological variable was scored to determine those traits that were the most and least reliable, or the traits most consistently observed by both examiners. These traits can then be given more emphasis, such as the robustness of the mandible, mental eminence, and supramastoid ridge, all of which showed the greatest agreement; or given less emphasis, such as the ventral arc and composite of the pelvis, which showed the least agreement between observers.

There are several approaches which may be undertaken for repeatability and inter-observer tests. The most valuable provide a source of measured differences and address the issue through practical solutions aimed at improving the method. Studies commonly single out specific morphological traits or single methods for age-at-death or sex estimation for the ease of computing statistical differences and pinpointing the morphology responsible for the variation. However, the use of a single trait or method is not a practical application of the practice of age-at-death and sex estimation by forensic anthropologists. In practice, multiple methods are used in conjunction to make an assessment based upon all available skeletal material. A multifactor based decision will always result in a more reliable estimate.

The OTP of the ICTY enacted the steps necessary to protect the admissibility of the forensic evidence collected from the investigations by entering into research with UT to determine the applicability and reliability of the forensic methods employed throughout the

[549] Kimmerle, Prince, Berg, Inter-observer variation in methodologies involving the pubic symphysis, sternal ribs, and teeth, 598; for an example of decision-making "trees" regarding the Suchey-Brooks method and aging older adult East European women see Berg GE. Pubic bone age estimation in adult women. Journal of Forensic Science 2008;53(3):574.
[550] Djurić et al., The reliability of sex determination of skeletons from forensic context in the Balkans, 160-161.

investigation. This joint enterprise fulfills the legal standards as set in the Daubert case, namely a tested method, subjected to peer review and publication, with a known error rate, deliberate standards for its use, and the chance to gain widespread acceptance within the forensic anthropology community. As legal standards become more defined in international law, forensic anthropology must meet and exceed these standards.

Law is invigorating forensic anthropology, forcing the discipline to develop applied methodologies to solve a case. The research produced for the Balkan population, in direct response to the forensic experts' need to respond to questioning regarding their methods, is a trend that will likely be repeated for other criminal investigations.[551] Population variation will always prompt questions of applicability and reliability. As each investigation spurs directed scrutiny towards methodology and the redevelopment of methodology, more will be documented regarding population variation and the applicability of forensic methods across varied populations. Forensic anthropological research should be less concerned with seeking human variation than with describing how this affects the science of the discipline.[552] Larger reference samples from more ethnic populations of the world are required. Advanced statistical methods, including Bayesian analysis and transition analysis, for age-at-death, sex, and stature estimation will produce greater accuracy than traditional statistical methods. This increased accuracy serves to bolster the credibility of the forensic evidence as well as contribute to the humanitarian effort of personal identification.

[551] Ubelaker, Issues in the global applications of methodology in forensic anthropology, 606.
[552] Komar, Buikstra, Forensic anthropology: contemporary theory and practice, 152.

Chapter Nine

STANDARD OPERATING PROCEDURES ON TRIAL

> Your Honours, a protocol was established by the -- normally the chief archaeologist. They changed over some time, but a written protocol was established. It was normally included in their report in relation to the exhumation, and it was a protocol known to the team and to the investigators. A similar protocol was established at the mortuary complex.[553] *(Dean Manning, Prosecutor v. Popović et al.)*

Standard operating procedures (SOPs) provide the framework for performing a systematic, comprehensive forensic investigation. SOPs regulate the consistent performance of all procedures, methods applied, and the way in which evidence is recorded and the associated data and reports are produced. Each step of the investigation should be purposefully taken according to established SOPs. SOPs include the minimum acceptable standards of practice, defined as the lowest standard that must be met or else the integrity of the investigation would be compromised. Several functions of the investigation are supported by maintaining SOPs that include minimum standards.

Functions of SOPs

SOPs are designed to meet or exceed the level of scientific rigor required by the judicial system. Maintaining SOPs at all stages of the investigation ensures that evidence is collected and handled in a way that produces legally admissible evidence. It is the responsibility of the experts to ensure that the work they produce is acceptable for the specific court system(s) involved. Applicable domestic law and the rules of evidence for any involved international court must be understood and incorporated into the SOPs.[554]

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[553] Prosecutor v. Popović et al., Manning, T. 18908.
[554] The Missing, 14.

For forensic investigations taking place in war torn or impoverished areas, where any number and combination of constraints can threaten the quality of the investigation, SOPs provide a set of minimum guidelines. A lack of financial or tangible resources, personnel, time, and/or space cannot be used as an excuse to circumvent a SOP. The Srebrenica investigation was affected by the lack of aforementioned resources.[555] The forensic experts were responsible for explaining if and how SOPs were maintained despite these constraints.

Forensic experts can rely upon SOPs when they are pressured by political agendas or other agencies to neglect some aspects of the investigation, such as positive identification, or perform their duties in some other less scientific or methodological fashion in order to produce results more quickly. This very situation occurred during the Srebrenica investigation. The time pressure put upon the forensic experts was examined by an independent Oversight Committee, an expert panel brought together by the OTP to subjectively review the investigation following a series of allegations made against the quality of work being performed:

> There were concerns regarding international politics imposing a great deal of pressure on the teams to complete the exhumations quite rapidly. Even so, there was little or no evidence that the pace of the examinations adversely affected the overall scientific quality. Along with the pathologists the most experienced archaeologist stated the recovery of bodies had been done adequately under difficult circumstances.[556]

The larger the investigation, the greater the need to maintain well established, rigorous SOPs to mitigate problems. Factors that make SOPs more vital to maintain the integrity of the investigation include: a large number of experts, a prolonged investigation, a large number of graves to be excavated or number of victims to be exhumed, and the physical expanse of the crime scene. The Srebrenica investigation was characterized by each of these complicating factors that risked diminishing the quality of the investigation.

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[555] Prosecutor v. Popović et al., Wright, T. 7468; Klonowski, E. Forensic anthropology in Bosnia and Herzegovina: theory and practice amidst politics and egos. In: Ferllini R, editor. Forensic archaeology and human rights violations. Springfield, IL: Charles C Thomas Publisher, LTD, 2007;158.
[556] Prosecutor v. Popović et al., Defense, T. 8821.

The numerous Srebrenica mass graves were located great distances apart. At times, excavations took place concurrently at multiple grave sites. The Defense quoted the Oversight Committee's comment regarding the practice of excavating two graves simultaneously:

> "Having two sites open at the same time caused severe logistic problems in transportation and equipment." It says, "Dr. Haglund often spent hours driving between the sites. That impeded his ability to routinely supervise the work being done."[557]

SOPs ensure that the same procedures are performed irrespective of who is in charge at the scene. Haglund defended the procedures put in place in order to maintain the quality and legality of the investigation despite his intermittent absence. At all times, either Haglund or Baraybar was at a site and in charge of directing the excavation.[558]

The investigation required many experts of different specialties, culled from several different nations, to work collaboratively. In an international project that involves personnel from varied backgrounds, experience, education and culture, SOPs allow the team of experts to work harmoniously under one set of expectations.[559] The Srebrenica investigation stretched over many years, resulting in changing chiefs of excavation and pathology as well as other experts and supporting personnel. Manning explained that the three chiefs of exhumation involved in the investigation at various times each had different procedures, but all were based upon "accepted standards of exhumation and examination of graves."[560] As experts enter the investigation, the SOPs define their role and respective job.

The application of SOPs throughout an entire multiple site investigation allows for comparability between sites and the ability to combine evidence from several sites. The capability to produce an overview of the evidence collected throughout the entire investigation is specifically relevant to describing crimes, such as genocide. The Manning reports served to summarize the Srebrenica investigation, and experts testified to summary results of the forensic

[557] Prosecutor v. Popović et al., Defense, T. 8950.
[558] Prosecutor v. Popović et al., Haglund, T. 8950-8956.
[559] Rainio J, Lalu K, Sajantila A. International forensic investigations: legal framework, organization, and performance. In: Ferllini R, editor. Forensic archaeology and human rights violations. Springfield, IL: Charles C Thomas Publisher, LTD, 2007;67.
[560] Prosecutor v. Popović et al., Manning, T. 18909.

evidence to characterize the victims as a group. Genocide is a crime against a group of people; the evidence must define the group as a whole and describe the crimes committed against the said group. Many of the Defense's criticisms of the forensic experts' reports centered on the process of combining the evidence collected from individual graves. These criticisms raised issues regarding the compatibility of the methods and procedures performed at each individual site.

Standardization problems occurred during the Srebrenica investigation. These problems were reflected in the expert reports and the forensic experts' testimony. Standardization problems were addressed by the Defense in both the Krstić and Popović trials. In Krstić, SOP issues were focused on the way in which methods were applied, terminology was used, evidence was documented, and final reports were produced. In Popović, the Defense expanded its inquiry to SOPs that regulate procedures performed prior to the mortuary analysis and issuing of reports including procedures at the grave site, the dissemination of SOPs to each contributing member of the investigation, the use of standardized forms, and the maintenance of an unbroken chain of custody.

Forensic Methods

Several forensic experts rotated through the roles of Chief of Exhumation and Chief of Pathology from 1996 to 2001. The Defense tested the investigation's SOPs regarding the application of forensic methods by asking each expert the same questions regarding the mortuary analysis of the human remains. If SOPs were in place, the forensic experts should have given similar answers when explaining the method used and how they were applied. However, this was not the case. In many instances, it was very apparent that various methods were applied. Consequently, the Defense revealed a lack of SOPs that were clearly definable by each expert witness. These differences had the potential of depicting the investigation as unmethodical, or unscientific, and therefore inaccurate.

The methods used to calculate MNI, estimate age-at-death, and determine cause of death received the most attention from the Defense. The two issues discussed most frequently were 1) the Chiefs' differing accounts of the individual methods used in the mortuary analysis and 2) the summarization process applied to the evidence collected from each mass grave which was used to describe the crimes committed on the group.

Minimum Number of Individuals

Standardization issues regarding MNI were discussed in both the Krstić and Popović trials. In the Krstić trial, the Defense asked Baraybar to explain how he calculated MNI and then read Haglund's description of how MNI is calculated from his report on the exhumations at the Branjevo Military Farm.[561] Whereas Baraybar included age-at-death into his calculation of MNI, Haglund made no reference to age. Baraybar admitted the methods were different.[562] Haglund's method potentially underestimates MNI. Although this may have affected the MNI at individual sites, Baraybar's calculations of MMNI would not be affected. Baraybar explained that his calculation of MMNI was based on raw data only and did not rely on the other expert's MNI calculations.[563]

Subsequently, in the Popović trial, the Defense specifically asked Manning if three different methods were used to calculate the MMNI for the whole investigation – Haglund's, Baraybar's, and the ICMP's DNA calculations.[564] Manning testified that the earlier reported MMNI was based solely upon Baraybar's work, and the newest figure was based solely upon DNA results provided by the ICMP. The ICMP's MMNI was submitted to the court in the Fourth Manning Report. Four thousand two hundred and sixty three individuals were identified by DNA analysis, and an additional 758 unique DNA records of individuals not yet identified or matched to a missing person combined to establish a MMNI of 5,021 victims.[565]

[561] Prosecutor v. Krstić, Defense, T. 8876-8877.
[562] Prosecutor v. Krstić, Baraybar, T. 8878.
[563] Prosecutor v. Krstić, Baraybar, T. 8878-8879.
[564] Prosecutor v. Popović et al., Defense, T. 19139.
[565] Fourth Manning Report, 2.

Explaining how the MMNI calculation was performed was difficult enough for the Defense to comprehend without the added factor of multiple seemingly incompatible methods of determining MNI. The ICMP's MMNI based upon DNA is a much more scientifically reliable number, and it was appropriate to exchange it for the anthropological-borne calculation once it became available. However, in most cases, the anthropological calculation will be prepared first due to the expensive and time consuming nature of DNA analysis. One of the main objectives of the total investigation was to estimate the number of victims or the quantifiable part of the group targeted.[566] The method for determining MNI, from recording bone inventories to calculating MMNI based upon age-at-death and sex, should have been standardized with a SOP from the very beginning of the investigation.

Age-at-Death Estimation

Two standardization issues related to estimating age-at-death were discussed in both the Krstić and Popović trials. First, the experts' use of different age ranges was criticized in both Stankovic Reports submitted for the Krstić trial, but no forensic expert was cross-examined on the matter during the trial. In the Popović trial, the Defense addressed this discrepancy and what impact it might have on the performance of other methods, including the calculation of MNI. Second, the switch to the calibrated Suchey-Brooks aging method for the Balkan population was discussed in the Krstić trial, but its significance was not considered until the Popović case.

Inconsistent Age Groups. Baraybar and Haglund used different age ranges to describe the victim population. For example, the youngest age range used by Baraybar was 8 – 12 years while Haglund's youngest was 11 – 15 years.[567] Baraybar grouped all persons aged over 25 years into one group while Haglund used the age ranges of 25 – 35 years, 35 – 45 years, and 45 years and older. Stankovic questioned the methods used to make age-at-death estimates considering the different age ranges used by the experts.[568]

[566] Prosecutor v. Popović et al., Manning, T. 18905-18906.
[567] Stankovic Report, 8-9; Additional Stankovic Report, 3.
[568] Stankovic Report, 9.

The Defense did not explore the significance of a lack of standard age ranges until the Popović trial. The Defense informed Baraybar that his age groups differed from Haglund's and that this was unsystematic. Following a lengthy discussion back and forth about assigning age ranges, Baraybar confirmed that his age groupings were "more generous", as described by the Defense, than Haglund's.[569] The age range differences were discussed again, and at that time Baraybar hypothesized that Haglund may have been able to assign narrower age ranges because the bodies under evaluation were more complete.[570] This is a legitimate argument for assigning comparatively more narrow age ranges. The SOPs should reflect the methods' ability to be performed consistently but be flexible enough to generate appropriately wide age ranges that may differ depending on the particular circumstances.

Introduction of a Balkan Calibrated Methodology. The second standardization question regarding age-at-death estimation involved the introduction of the calibrated Suchey-Brooks pubic symphysis aging method for the Balkan population in 1999. In the Krstić trial, Judge Rodrigues asked Baraybar if the same method was used for aging individuals throughout the investigation. Baraybar explained that the observations made did not change; only the age ranges associated with the observations changed.[571] The exchange consisted of one question and one answer. The issue received much more attention from the Defense in the Popović case.

Through a lengthy series of questions and answers, Baraybar explained that the calibration only altered the age ranges associated with each particular phase, not the morphological indicators observed to assign age ranges.[572] Baraybar admitted that prior to 1999 it was highly likely that there was an error in the construction of age ranges corresponding to the Suchey-Brooks phases. Baraybar also provided that the Balkan standard demonstrates older age ranges associated with the phases than the American standards.[573] However, he stressed that this error would be a systematic one, one that consistently under- or over-ages the population.

[569] Prosecutor v. Popović et al., Baraybar, T. 8857.
[570] Prosecutor v. Popović et al., Baraybar, T. 8880-8881.
[571] Prosecutor v. Krstić, Baraybar, T. 3890.
[572] Prosecutor v. Popović et al., Baraybar, T. 8850-8851.
[573] Prosecutor v. Popović et al., Baraybar, T. 8851.

The Defense clearly did not understand this point; the question was repeated:

> It would be systematic if you carried on using the same test. But you changed it in 1999, didn't you?[574]

Baraybar repeated his explanation, noting that it was the third time he was describing how the method was calibrated. The exchange ultimately ended in ambiguity. However, the whole exchange was to the benefit of the Defense and demonstrated their ability to interject another aura of discrepancy concerning the SOPs used in the investigation.

Cause of Death

There were several SOP discrepancies regarding the determination of cause of death. The first was a self-admitted difference in standards between pathologists when assigning a cause of death due to gunshot wound when the only injury visible on the body was to a limb. The second and third problems were intricately tied together. The definition of a "body" and a "body part" differed among experts. Finally, cause of death was not consistently assigned to all body parts. Together, these three SOP problems resulted in the counts associated with cause of death being based upon variable standards.

Limb Injuries. The pathologists' differences in opinion regarding the assignment of cause of death due to gunshot wound when the solitary injury was to a limb was introduced by the Prosecution in Krstić, cross-examined by the Defense, and clarified again by a Judge. Clark listed this injury scenario among several other limitations in determining cause of death for skeletonized remains.[575] Clark responded to the Defense's cross-examination with an example to illustrate the differences in opinion between pathologists:

> This was mostly for people who had been shot perhaps in the legs. Some people felt that a gunshot injury to, say the thigh, would necessarily have caused damage to blood vessels and could well have been fatal. Others were a little more cautious and said, "Well, that's not" -- they weren't entirely happy with that, and we just had to go along with that.[576]

[574] Prosecutor v. Popović et al., Defense, T. 8851.
[575] Prosecutor v. Krstić, Clark, T. 3909-3910.
[576] Prosecutor v. Krstić, Clark, T. 3950.

Clark also remarked that this situation was rare, and only injuries to the limbs incited debate among pathologists.

Judge Riad asked Lawrence to explain a comment he made during his cross-examination regarding assigning a cause of death: "I think I am a little less conservative than Dr. Clark".[577] Lawrence referenced the same example of a gunshot wound to the thigh and explained his opinion that a gunshot wound to the leg, left untreated, would be fatal.[578] Being less conservative meant that he labeled gunshot wounds as a cause of death more liberally than Clark when only limbs were injured. He also attributed the difference in standards to the variability inherent to the physical condition of the bodies being examined; Clark had more complete bodies, whereas Lawrence examined more body parts.

Bodies v. Body Parts. The Srebrenica graves, especially the disturbed primary graves and secondary graves, were filled with transected bodies and body parts. The Krstić case introduced what constituted a "body part" and the difference between pathologists and anthropologists when assigning a mostly complete body the term "body" or "body part", and how body parts were or were not incorporated into figures concerning cause of death. Only in Popović did the Defense link the two standardization issues together; the consequence of having different definitions of a body part was a possible inflation in the number of reported cause of deaths by gunshot wounds. Clark testified that in modern war conflicts shrapnel injuries are far more common than gunshot wounds, making this point particularly contentious.[579]

The Defense found differences in standardization regarding body parts between the anthropologists and the pathologists, and also between the pathologists themselves. In the Krstić case, Haglund explained what constituted a body part whilst describing the bodies excavated from the Branjevo Military Farm:

> To give you an idea of what we were labelling as body parts, ten individuals were individuals that were missing their heads; five body part units were just upper

[577] Prosecutor v. Krstić, Judge Riad, T. 4026, referencing Lawrence, T. 4021.
[578] Prosecutor v. Krstić, Lawrence, T. 4027.
[579] Prosecutor v. Popović et al., Clark, T. 7360.

> extremities; sixteen were individuals who were transected at the torso, and so on; and then there were individual bones and bone fragments.[580]

In the Krstić case, the Defense elicited the difference in standards regarding the labeling of bodies and body parts between anthropologists and pathologists by pointing out a discrepancy in the reported number of exhumed bodies versus the number of bodies examined in the morgue for the 1999 Kozluk grave.[581] Wright was the Chief of Exhumations and reported 291 bodies were exhumed. Clark was the Chief Pathologist and reported 292 bodies were examined. Clark attributed the difference to the environment in which the two experts had to determine if a set of remains was a body or a body part.[582] He explained the anthropologist graveside may have labeled remains as a body part, but once the remains were cleaned and laid out in the morgue the pathologists could change its designation to a body after showing that it had "all the significant parts present."

In the Popović trial, the Defense asked Baraybar for the definition of a complete body and specifically asked him to define it "in accordance with the protocols that you used."[583] Baraybar first confirmed what the Defense was clearly aiming to establish – that there had been "a lot of debate over that."[584] He provided examples of debated body parts and his personal interpretation of a complete body:

> At some point in time there was some internal discussion, […] whether a body would be, for example, if you found a leg with a pelvis and half of the torso, would that be a body or would it be a body part, or a body part would be only an arm or a leg or a hand.
>
> My interpretation of complete bodies was primarily, I mean, something as recognisable of the body as possible. Meaning at least 75 or 80 per cent of what a body is made of would be present.[585]

[580] Prosecutor v. Krstić, Haglund, T. 3752.
[581] Prosecutor v. Krstić, Defense, T. 3952.
[582] Prosecutor v. Krstić, Clark, T. 3952-3953.
[583] Prosecutor v. Popović et al., Defense, T. 8813.
[584] Prosecutor v. Popović et al., Baraybar, T. 8813.
[585] Prosecutor v. Popović et al., Baraybar, T. 8813.

The Defense asked if Haglund had the same interpretation and Baraybar replied, "I do not actually know…It was simply a – an assumed – I mean thing."[586] Making assumptions is always a bad policy in a scientific and legal investigation. The same question was asked regarding Wright, and Baraybar again described a debate scenario between what was or was not a body or body part.[587] Finally, the Defense asked if from 1996 to 2001 the term "body part" was different according to different people. Baraybar replied, "I couldn't tell you."[588] The Defense made it clear there was no standard for defining a body part among everyone involved in the investigation.

Summarizing Causes of Death. A related standardization problem was whether body parts were included in the experts' reported sums for causes of death. The high number of victims with a cause of death by gunshot injuries was purported by the forensic experts as one indication that the injuries were a result of executions.[589] The Defense was eager to expose that this number was inflated due to the variable standards. The Defense wanted to minimize this number and maximize causes of death by blast and shrapnel injuries, causes of death attributed to combat by the forensic experts.

In the Krstić trial, the Prosecution asked each expert to explain how the numerical summaries of cause of death were calculated for each grave. Clark considered only complete bodies in his percentages of victims from each grave with a cause of death by gunshot wound.[590] Using an example at the Kozluk grave, 233 body parts were ignored for calculating cause of death. Lawrence explained that his cause of death figures were calculated by assigning each body bag, regardless of its contents, a cause of death, and that a separate number was calculated for cause of death assigned to full bodies.[591] The precise effect this calculation had on cause of

[586] Prosecutor v. Popović et al., Baraybar, T. 8813-8814.
[587] Prosecutor v. Popović et al., Baraybar, T. 8814.
[588] Prosecutor v. Popović et al., Baraybar, T. 8814-8815.
[589] Prosecutor v. Krstić, Clark, T. 3939-3942; Prosecutor v. Popović et al., Clark, T. 7360, Lawrence, T. 7542-7543.
[590] Prosecutor v. Krstić, Clark, T. 3912.
[591] Prosecutor v. Krstić, Lawrence, T. 4011-4012.

death by gunshot wounds for all the victims exhumed in the investigation, presented by Manning as 1,424 individuals, was not discussed. [592]

In the Popović trial, Clark and Lawrence described their methods again.[593] Lawrence also explained why he calculated two different numbers:

> The reason I have included both information on the whole bodies and the body parts is, I think, in particularly some of the more disrupted graves such as Liplje, it -- it would be hard to get any useful information. I also needed to indicate, I think, how many gun-shot wounds we had. But I agree, it -- it is very difficult unless you can completely reunite all of the body parts to interpret exactly what the results on the body parts means in terms of an actual cause of death.[594]

This was the information the Defense was seeking. Bodies were transected and body parts were assigned a cause of death, therefore the number of individuals reported to have died of gunshot wounds may have been over-inflated based on the fact that one body may have been assigned multiple causes of death. In combination with the cross-examination of Clark, in which he testified that some limbs may have been lost due to blast injuries, the Defense had made its best attempt at establishing that gunshot injuries may have been overestimated and shrapnel and blast injuries underestimated. [595]

Terminology and Format of Expert Reports

Stankovic made two criticisms regarding the forensic experts' reports in the Stankovic Report. He specifically pointed out the use of different terminology among pathologists and generally criticized the formatting of all the reports.[596] Both issues were addressed by the Prosecution in their examination-in-chief, but neither issue was addressed by the Defense in their cross-examination.

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[592] Manning Report, 3.
[593] Prosecutor v. Popović et al., Clark, T. 7350.
[594] Prosecutor v. Popović et al., Lawrence, T. 7533.
[595] Prosecutor v. Popović et al., Lawrence, T. 7391.
[596] Stankovic Report, 5, 12; Additional Stankovic Report, 7.

Terminology

The Stankovic Report described the pathologists' use of different terms to describe autopsy results as not acceptable.[597] It rejected Clark's reasoning for the differences as the "descriptive style and the form of words" used by pathologists of different medico-legal backgrounds. Stankovic requested "an explanation of the various medico-legal backgrounds of the engaged experts" and insinuated that these differences may have adversely affected the investigation by asking "how it reflected on the forensic examination of the human remains."

The use of different terminology by the pathologists was discussed during Lawrence's examination-in-chief.[598] His explanation was similar to Clark's written justification:

> I was dealing with a number of people from different jurisdictions. A lot of my training is American based, and I tend to use the term "undetermined." A lot of the British pathologists use the term "unascertained," "unascertainable," or "not ascertained." For veracity, I have written down what the pathologist who handled the case called it, not what I would call it.[599]

A difference in terminology explained as a personal choice of words hints at an unsystematic mortuary analysis. The continued use of the terms by Lawrence to maintain the integrity of the report is commendable and avoids further criticism, but predetermined standards for common medico-legal terms should have been instituted.

Formatting

> Both Stankovic Reports made a sweeping criticism of all the forensic experts' reports:
>
> [The documentation] is too extensive, non-systematical and, therefore, difficult for analysis and for drawing individual and general conclusions.[600]

The Stankovic Report and Additional Stankovic Report provided Stankovic's opinion of how the reports should have been written: the investigator responsible for each grave should have incorporated all of the forensic evidence from that grave into one report, and all of the reports

[597] Stankovic Report, 5.
[598] Prosecutor v. Krstić, Lawrence, T. 4015.
[599] Prosecutor v. Krstić, Lawrence, T. 4015.
[600] Stankovic Report, 12.

should have followed a certain order according to a work methodology established by the Hague Tribunal.[601]

The Prosecution was aware of the difficulties in composing a clear overview of all the sites investigated. In the Krstić trial, Manning confirmed that the expert reports were voluminous and consisted of thousands of pages in several volumes.[602] The Manning Reports were introduced as a summarization of the findings and included conclusions of the experts. These reports present key information for each grave, but its lack of detail prohibits critical evaluation of the investigation's SOPs for methods, standards, and other procedures.

A more consistent format for the case reports would have assisted both the Defense and likely the Prosecution, as comparison between the experts' methods and standards would have been more easily executed with standardized reports. A standard methodology for reports also ensures that no valuable evidence is overlooked from any of the graves or execution sites.

Standard Operating Procedures: Additional Criticisms

The standard procedures performed to locate graves, the excavation of remains and artifacts, their transfer to the morgue, and all subsequent examinations performed on the bodies and artifacts were detailed throughout the Krstić and Popović trials by the respective Chiefs of Exhumation or Pathology. The forensic experts touted the standards used in the Krstić case, and the Defense made few inquiries on the standards implemented. The use of specific standards was certainly questioned more frequently in the Popović case, and the forensic experts were forced to reveal standardization problems.

Standards in the Krstić Case

Several forensic experts commented generally on the standards maintained throughout the investigation. The impetus for the remarks stemmed from questioning regarding the effect

[601] Stankovic Report, 12; Additional Stankovic Report, 7.
[602] Prosecutor v. Krstić, Manning, T. 3548.

numerous experts working together had on the overall investigation. The experts celebrated the diversity of the personnel and presented the international team as a positive feature of the investigation:

> Clark: It worked very well. Obviously, everyone had their own medical-legal backgrounds and were used to carrying out examinations in different ways. But we had a fairly common standard, and everything did work very well.[603]

> Haglund: […] The individuals are briefed on what those protocols are. They are made to adhere to international standards and sometimes above those international standards. The people come and they work as a team, and they work very hard and they do the best job they can, and I think the results are very credible.[604]

Specific standards were not discussed in depth during the Krstić trial, and the Defense did not question any standards outside of those described above – the forensic methods applied in the mortuary and the style of report writing.

Reflected in the minimal amount of attention the Trial Chamber gave the Stankovic Reports and the Defense's cross-examination arguments in the judgment, the judges were apparently not particularly swayed by the Defense's criticism of the forensic investigation. The Trial Chamber Judgment summed up Stankovic's report in two sentences.[605] The argument that some graves held victims of combat, and the criticisms made regarding the methodology of determining cause of death, were acknowledged. The Trial Chamber accepted that there was ongoing combat in the vicinity of some graves, and the evidence of execution at graves devoid of blindfolds and ligatures was "less compelling". Finally, the Trial Chamber commented on the overall tone of the Stankovic Report and quoted Stankovic's summation of the forensic experts and the investigation:

> The Defence expert, Dr. Stankovic did not however, fundamentally challenge the substantive findings of the Prosecution experts and accepted that the exhumations were conducted by experts with "substantial professional experience and adequate technical, scientific and moral integrity."[606]

[603] Prosecutor v. Krstić, Clark, T. 3902.
[604] Prosecutor v. Krstić, Haglund, T. 3778.
[605] Krstić Judgment, para. 76.
[606] Krstić Judgment, para. 76.

The Trial Chamber made no further reference to a lack of standards, nor any criticisms of the investigation's integrity or quality, in their summarization of the forensic evidence in the Judgment.[607]

Standards in the Popović Case

The specific SOPs followed in the exhumation and mortuary analysis was in much greater focus on the part of the Defense in the Popović trial. The experts were asked to describe the SOPs of the investigation, and the Defense was particularly interested in any changes to the procedures that occurred during the investigation. Two additional witnesses testified in Popović that did not testify during the Krstić case, Stephanie Frease and Fredy Peccerelli, both of whom were cross-examined regarding SOPs. The results of the Oversight Committee were extensively utilized by the Defense to implicate a lack of standards. The most discussed SOPs, besides those that changed within the investigation, were those of chain of custody and the use of standardized forms. Both are forms of documentation: one protects the legality of the physical evidence and the other the quality of the product of that evidence. Any fault in either would have a negative impact on the evidentiary value of the forensic evidence and the experts' testimony.

Changes in SOPs. Baraybar was asked about "protocols and procedures" in the mortuary and whether they were "constant throughout the period of 1996 to 2001 or could they change?"[608] Baraybar was very candid in his answer that certain procedures changed and agreed with the Defense that they were "less than perfect" in 1996.[609] He explained that changes occurred every season and procedures that could be improved upon were adjusted. Baraybar blamed some changes on early limitations in their work and the conditions under which they were working – lack of water, improvised tables, and problematic electricity.[610] These are some of the potential problems the minimum standards as outlined in SOPs should be designed for and

[607] Krstić Judgment, para. 71-79.
[608] Prosecutor v. Popović et al., Defense, T. 8816.
[609] Prosecutor v. Popović et al., Baraybar, T. 8816.
[610] Prosecutor v. Popović et al., Baraybar, T. 8826.

protected against. The expert can then present the SOPs to defend the quality of the work despite any changes during the investigation due to uncontrollable constraints.

Manning also prefaced his description of the SOPs performed during the exhumation of victims with the observation that the protocol "varied slightly over the years."[611] Manning agreed with Baraybar that "better", "more efficient ways", and "improvements in technique" stimulated changes in the protocol.[612]

Disseminating SOPs. SOPs are irrelevant if they are not known by all members of the team and consistently applied. When experts and supporting staff rotate in and out of an investigation, it is necessary to provide consistent SOPs that regulate their participation. A complaint regarding the dissemination of SOPs was made to the Oversight Committee and read by the Defense for Haglund:

> It says, "There were no systematic briefings at the sites upon arrival. No one seems to have been given any standard plan of operation."[613]

Haglund provided many reasons as to why this statement was, admittedly, true:

> Essentially there was systematic briefings for the majority of people at the beginning of the project, but as the project went on it became impossible to indoctrinate everybody about the project as they came in, because they come in at different times, different places et cetera. And again, the initial individuals, the initial individuals which were the bulk of them, did get a standard plan of operation where they were going to be. I don't know what that really refers to, but where they were going to be, what work was expected of them, and how we were going to go about it.[614]

The influence that a small number of individuals working without clear SOPs had on the quality of the investigation could have been negligible or disastrous. In either case, testifying that everyone was not aware of the SOPs reflects negatively on the overall quality of the investigation.

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[611] Prosecutor v. Popović et al., Manning, T. 18908.
[612] Prosecutor v. Popović et al., Manning, T. 18909.
[613] Prosecutor v. Krstić, Defense, T. 8946.
[614] Prosecutor v. Popović et al., Haglund, T. 8948.

Forms. Haglund described a scenario in which it was difficult to continuously update everyone on the investigation's procedures. A mitigation tool used to ensure that the same procedures are performed irrespective of who is involved is the use of standardized forms. Standardized forms are used to record every aspect of the investigation. Excavation forms allow for the precise reconstruction of a grave after the destructive act of excavation is performed. Chain of custody forms record the movement of evidence from its initial discovery to its submission as evidence in court. Mortuary forms record the results of analyses. Forms ensure that every requisite procedure is performed and all results are properly documented in a standardized fashion.

Baraybar described the purpose of using forms in the mortuary:

> Primarily try to give some consistency to the analysis that will be undertaken. In some occasions we had a lot of people, I mean over a dozen experts working simultaneously in different autopsy tables and the way they were recording things has to be protocolised, the types of forms that we use has to be protocolised as well. We try to be as consistent as possible in -- in recording things. Also because, based on that information, we will be able later to calculate things like the minimum number of individuals, for example. So primarily that, trying to ensure consistency and continuity, if you wish.[615]

Haglund was confronted with a complaint made by an anthropologist to the Oversight Committee: forms were not always used during the investigation under his command.[616] Haglund did not specifically address this complaint in his response, and the Defense did not press for an explanation.

Large scale forensic investigations are no longer novelties, and standard recording forms are available for each step of a forensic investigation. All published results are a product of data drawn from documentation, or forms. If forms are not detailed enough, filled in correctly, filled in by the wrong expert, or not completed at all, then the product of the investigation, the evidence that was collected, analyzed, summarized, and presented in court could be dismissed as inaccurate, unscientific, not comparable, and lacking the scientific rigor required to be admissible as evidence. Lastly, the forms themselves are also evidence and must be submitted to

[615] Prosecutor v. Popović et al., Baraybar, T. 8595-8596.
[616] Prosecutor v. Popović et al., Defense, T. 8921.

the courts as such. Any omission on the forms needs to be explained to protect the work from accusations of missing data, incomplete analyses, or omission of procedures. Any changes to the SOPs also need to be written and explained.

Chain of Custody. One specific form requires special mention due to its necessity in the maintenance of evidence legality. A chain of custody form must document the movement or transfer of all collected evidence, whether human remains or artifacts, from original discovery to analysis and final disposition.[617] All generated evidence, such as drawings, photographs, and log books, also must be documented with an unbroken chain of custody. Without chain of custody, the Defense can claim the evidence is contaminated and it will lose its evidentiary significance. Any disregard for chain of custody undermines the legality of the investigation. Consequently, the Defense was very interested in the SOPs regarding chain of custody.

Frease was asked to testify for Popović regarding her role in documenting chain of custody at exhumation sites.[618] Her involvement with the cataloging of evidence was limited to surface finds collected during initial site visits to identify the location of the mass graves. Despite this limited exposure to the investigation, her lack of qualifications displayed a disregard in respect to chain of custody for the initial evidence collected. Frease had no experience inventorying evidence or maintaining chain of custody prior to her employment with the OTP.[619] Two recommendations made by the Oversight Committee were quoted for her to comment on:

> Develop a standard operating procedure for the collection and handling of evidence.
>
> Develop a double 'up down' chain of custody system and form.[620]

Frease not only claimed that she was never informed of these recommendations, but she admitted she couldn't explain an 'up down' chain of custody system.[621] This process dictates that the

[617] Melbye J, Jimenez S. Chain of custody from the field to the courtroom. In: Haglund WD, Sorg S, editors. Forensic taphonomy: the postmortem fate of human remains. Boca Raton: CRC Press, 2002;65; see also Galloway A, Birkby W, Kahana T, Fulginiti L. Physical anthropology and the law: legal responsibilities of forensic anthropologists. Yearbook of Physical Anthropology 1990;33:43.
[618] Prosecutor v. Popović et al., Frease, T. 7883-7884.
[619] Prosecutor v. Popović et al., Frease, T. 7880.
[620] Prosecutor v. Popović et al., Defense, T. 7885.
[621] Prosecutor v. Popović et al., Frease, T. 7885.

person transferring and the person taking possession of the evidence sign the chain of custody form. Frease's testimony was to the detriment of the OTP's standards for chain of custody and therefore the legality of the investigation.

Manning was also confronted with the Oversight Committee's report in regards to chain of custody. The Defense exposed allegations that were made regarding methods of collection, chain of custody, loss of chain of custody of bones, and the related activity of coordinating operations between anthropology and pathology during the 1996 exhumation season.[622] Manning, having not been involved in the investigation of mass graves at the time the complaints were made, only confirmed that a review of the materials produced on the mass graves revealed no significant problems beyond some misnumbering, mislabeling, and general errors that are not uncommon in such a large investigation.[623]

The Defense made advances in their ability to question the quality of the investigation from the Krstić to Popović trial. Defense teams will likely become more educated regarding forensic methods, demand much higher standards, and question the legitimacy of the forensic investigation more critically in the future. Many more forensic investigations of mass graves have been performed following the Srebrenica investigations. Experienced experts can design SOPs that function well for the excavation and analysis of mass graves and human remains to produce evidence for judicial purposes and collect information for the humanitarian purpose of victim identification. These SOPs must be developed and instituted as a standard for all investigations of mass graves.

[622] Prosecutor v. Popović et al., Defense, T. 19076.
[623] Prosecutor v. Popović et al., Manning, T. 19078.

Chapter Ten

STANDARDIZING OPERATING PROCEDURES

> We have prepared this text as a move towards what will be a long and iterative process – the establishment of internationally accepted protocols and standard operating procedures for the scientific investigation of mass graves, similar crime scenes, and mass fatality incidents. They are intended for other practitioners to use as they see fit, within an ever-changing political, economic, legal, and humanitarian context. [624] *(The Scientific Investigation of Mass Graves)*

An increase in large scale criminal forensic investigations conducted for judicial purposes has stimulated the need for procedural standardization. From site assessment to the excavation of graves through the analysis of human remains and artifact evidence, the SOPs used in an investigation ensure the legality and scientific reliability of the collected evidence. Standards must be rigorous, clearly defined, and continuously maintained.[625] A main tenet of archaeology is relevant to every investigational procedure: excavation is a destructive process and history can only be unearthed once. The ability to examine evidence is also often only afforded once; therefore the SOPs should guide collection of the maximum amount of evidence in this initial opportunity.

SOPs must serve more than the judicial purpose of the investigation. They must also incorporate the procedures required to fulfill the humanitarian needs of the community surrounding the investigated crime. Although a crime may be investigated for the primary purpose of collecting evidence, humanitarian needs must be concurrently met. Personal identification efforts must be undertaken and histories reconstructed to bring justice to those affected. All investigations, whether for judicial, humanitarian, or both purposes, benefit from SOPs.

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[624] Cox M, Flavel A, Hanson I. Introduction and context. In: Cox M, Flavel A, Hason I, Laver J, Wessling R, editors. The scientific investigation of mass graves. Cambridge: University Press, 2008;26.
[625] Cox, Flavel, Hanson, Introduction and context, 1.

The problems that occur when SOPs are not initially instituted or maintained throughout the entirety of the investigation were detailed in trials regarding the Srebrenica investigation. Much was learned from this largest forensic investigation of mass graves to date. The need for SOPs in the forensic investigation of mass graves was demonstrated. The International Committee of the Red Cross's 2002 "The Missing" workshops focused heavily on SOPs. Although SOPs have been generated for mass grave investigations, it may be beneficial for a particular set to be recognized as an international standard that may be referenced in courts.

Early Established Bodies of SOPs

The UN Manual on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions (The Manual) is a set of SOPs for the legal investigation of executions, disinterment of human remains, and autopsy and/or analysis of skeletal remains.[626] The Manual provides guidelines for protecting the legality of evidence while maximizing the amount of evidence collected. Specific procedures are outlined in the protocol for the analysis of skeletal remains: the application of radiography; forensic anthropologic analysis for individualization, trauma, and cause of death; the retaining of skeletal samples; and photography of the remains. The included model protocols for autopsy, disinterment, and analysis of skeletal remains are complimentary protocols designed to be applied to the range of decomposition that may be observed. The Manual includes as a distinct SOP that any significant deviation from the SOPs ought to be explained by the investigator in a final report.[627]

A second well established body of standards is the Disaster Victim Identification (DVI) guide first published by Interpol in 1984 and under continuous revision to incorporate emerging

[626] UN, Doc E/ST/CSDHA/.12 -1991, UN Manual on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions.
[627] UN, Doc E/ST/CSDHA/.12 -1991, UN Manual on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions, Model Autopsy Protocol A(f).

methods and technologies.[628] The purpose of the guide is to establish compatible procedures in disaster situations that can be applied across international boundaries. Its focus is on the standardized collection of antemortem data, the recovery and examination of human remains to produce postmortem data, and the use of comparison matching systems for the two sets of data. The DVI guide provides protocols for victim recovery, morgue procedures, and the comparison of ante- and postmortem data. It is much less specific in its guidelines for the collection of postmortem data than the UN Manual; it outlines the use of external and internal examinations, dental examinations, and genetic identifications.

Interpol has recently adopted the role of addressing the investigation and prosecution of genocide, war crimes, and crimes against humanity.[629] Through a series of international meetings, the needs of member States were identified and included an increased use of Interpol databases, the development of a best practice manual, and a list of relevant contacts in member countries. An agreement was made to cooperate with the ICC and make Interpol databases available to the court.

Both of these well established protocols provide good general outlines for the main phases of an investigation involving unidentified persons, but retain many deficiencies. Neither was designed for application to the investigation of mass graves or a criminal investigation that incorporates multiple events across time and space. These protocols do not describe the specific forensic methods that ought to be applied to human remains, nor the minimum requirements for establishing personal identification. Legal issues relevant to a criminal investigation are also not discussed, such as forms, chain of custody, and final report writing. Minimum standards are not provided. The forensic disciplines that contribute to a criminal investigation must develop standards for their respective profession, and through interdisciplinary collaboration, each discipline's contribution should be incorporated into a comprehensive, internationally recognized set of SOPs with best practices and minimum standards.

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[628] Interpol, Interpol Disaster Victim Identification Guide (22 June 2007), available at <http://www.interpol.int/Public/DisasterVictim/guide/default.asp> (accessed 1 February 2009).
[629] Interpol, Genocide, War Crimes, and Crimes Against Humanity (7 October 2008), available at <http://www.interpol.int/ Public/CrimesAgainstHumanity/default.asp> (accessed 1 February 2009).

New SOPs for Criminal and Humanitarian Investigations of Mass Graves

The ICRC has played a very active role in defining the best practices for responding to unidentified human remains. In 2002, a series of six workshops were conducted among governmental and non-governmental entities involved in the investigation of missing persons from armed conflicts and other types of violence.[630] The purpose of the workshops was to develop operational practices to prevent and respond to missing persons. One workshop dealt specifically with the role of forensic sciences and the management of human remains and information on the dead. In December 2003, the recommendations and best practices developed in this and five other workshops were adopted by the ICRC and Red Crescent.[631]

A main goal of the management workshop was the development of minimum standards of practice for forensic experts under various constraints.[632] The need for standardized forms to record antemortem data and the required autopsy and/or skeletal analysis results, the postmortem data, was also emphasized. Both the Minnesota Protocol and the Interpol DVI autopsy protocol were considered for their advantages and disadvantages in detailing SOPs and recording data.[633] A merging of these two protocols was recommended. A third concern was to ensure that remains were subjected to only a single examination by which all of the forensic evidence relevant to the criminal investigation and the information needed to identify the person was collected.[634] Other topics included the development of guidelines for exhumation, means of personal identification including the use of DNA analysis, and the ancillary involvement of families in the exhumation and identification process.[635]

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[630] The Missing, 7.
[631] ICRC, International Conference of Governmental and Non-Governmental Experts, Observations and Recommendations (21 February 2003), available at <http://www.icrc.org/Web/eng/siteeng0.nsf/htmlall/881CB6F1912554CDC1256CD40041F954/$File/TheMissing_Conf_022003_EN_1AND82.pdf> (accessed 1 February 2009).
[632] The Missing, 9-10.
[633] The Missing, 20-22.
[634] The Missing, 21.
[635] The Missing, 9.

The recommendations made in The Missing workshops have been incorporated into a set of SOPs developed by a forensic group with extensive experience in forensic investigations. A 2008 publication, *The Scientific Investigation of Mass Graves*, provides protocols and SOPs for a complete forensic investigation of mass graves that fulfills both judicial and humanitarian needs of the affected community. This volume defines protocols for a forensic investigation of mass graves and the necessary minimum procedures. SOPs then detail how to perform each protocol. A chapter is devoted to SOPs for each of the following topics: health and safety; scene of crime examination; search, location, excavation and recovery of remains; mortuary procedures including pathology, radiology, and anatomical pathology technologist; mortuary procedures including skeletal analysis for demographic assessment; mortuary procedures for determining identity; and supporting forensic sciences – entomology, environmental (soil, palynology and mineralogy), DNA analysis, and forensic odontology; and antemortem data collection. Its purposeful design for use in criminal investigations of mass graves was prompted by some of the editors' and authors' experiences in the ICTY as forensic anthropologists, archaeologists, pathologists, crime scene investigators, forensic photographers, and radiographers. Many of the editors of this volume are also affiliated with Inforce, an independent NGO with the purpose of providing forensic expertise in the process of locating, recovering, and identifying victims of human rights violations. The NGO has the specific purpose of adopting protocols and SOPs for forensic investigations.[636]

There are two unique characteristics of this volume that set it apart from other texts on the investigation of mass graves. The first is the inclusion of specific forensic methods in the SOPs. Methods are detailed for determining demographic information, including ancestry, sex, and age-at-death estimation, and methods designed for individualization, including stature, skeletal pathology and trauma, dentition, handedness, and sampling for DNA analysis. Similarly, SOPs for the excavation of the mass graves, analysis of fleshed remains, and the collection of antemortem data are as detailed.

[636] Inforce, Inforce Protocols & SOPs, available at < http://www.inforce.org.uk/page/protocols_sops/> (accessed 1 February 2009).

The second unique trait is the provided forms, logs, and registers that support the SOPs. The 223 pages of forms are provided in PDF and Word format on CD-Rom. Personal experience using the forms at an Inforce Mass Graves Excavation and Mass Fatality Incident Mortuary Workshop allows for personal comment regarding their ease of use and functional style. The forms balance detail with the necessary flexibility under varying circumstances, are for the majority self-explanatory, and comprehensively document all investigative procedures.

The anthropology recording forms are very detailed, and unique forms are specialized for individual adults, individual non-adults, multiple heat modified adults, and multiple heat modified non-adults. The specific information necessary to perform forensic methods is incorporated into the recording forms. For example, the non-adult recording form includes tooth eruption pattern figures, a figure depicting the metric measurements of the pars lateralis and basilaris to estimate age-at-death, and ages associated with post-cranial fusion of ossification centers.[637] The adult recording form includes stature formulae for White and Black Americans, metric cut-offs for estimating sex, and the cranial landmarks used by Fordisc for craniometric analysis. [638] An additional form is provided for inventorying surface scatters and commingled remains that will not be analyzed in the mortuary. This form is purposefully designed to assist in calculating MNI. The Word format allows these forms to be edited to insert methods applicable to the particular population being investigated.

The Scientific Investigation of Mass Graves details a set of SOPs that are functional, a characteristic that most publications on forensic anthropology and/or archaeology and human rights investigations fall short on. Other volumes that attempt to address minimum guidelines, best practices, and SOPs are written in narrative form and demonstrate the information through case studies. These types of publications are an interesting read and informative, but lack the specifics that would make it possible to serve an investigation as functional SOPs. Clearly

[637] All three methods from Scheuer L, Black S. Developmental Juvenile Osteology. Academic Press; 2000.
[638] Stature formulae after Trotter M. Estimation of stature from intact long bones. In: Stewart TD, editor. Personal identification in mass disasters. Washington: 1970; Metric data for sex after Stewart TD. Essentials of Forensic Anthropology. Springfield: C.C. Thomas, 1979.

stated, internationally recognized SOPs are necessary to formalize the systematic application of forensic disciplines to criminal investigation of human rights infractions.

Other SOPs included in The Missing are the establishment of minimum requirements when it is not possible to conduct a full autopsy, the collection of antemortem data, the criteria required for personal identification, standards for the use of DNA analysis, exhumation standards, the management of human remains when forensic specialists are not available, and the involvement of families in the investigation. The lists of minimum guidelines provided can be incorporated into the protocols of any judicial or humanitarian investigation of mass graves, and the legality of the investigation can be backed by the international standing of the ICRC.

Humanitarian Needs

The second main focus of the ICRC workshops was the tension between the justice and the humanitarian need for identifications. Families have a right to know the whereabouts of their family members. In the former Yugoslavia many families of the victims refused to believe their loved ones were buried in mass graves, and held out hope that the missing were being held in detention camps.[639] Without identification, families of the missing live with fear of the truth weighing against the hope of a joyful return. Personal identification allows for proper grieving and emotional closure.[640] The families of the victims do not receive full justice until the remains are identified. Therefore, efforts must be made to collect information regarding victim identify concurrently with that for judicial purposes.

In times past, identification has been neglected due to constraints involving resources, time, money, facilities, and the personnel required to collect the additional ante- and postmortem

[639] Williams E, Crews J. From dust to dust: ethical and practical issues involved in the location, exhumation, and identification of bodies from mass graves. Croatian Medical Journal 2003;44(3):252.
[640] Stover E, Shigekane R. The missing in the aftermath of war: when do the needs of victims' families and international war crimes tribunals clash?, 859-862.

information required to identify victims.[641] The collection of information related to identification must have an explicit purpose in the analysis of the remains. This must be addressed when developing minimum standards and requires incorporation into SOPs.

Evidence should only be examined in a mortuary once; all information that can be observed and is relevant to identification ought to be recorded during the initial analysis, and no procedures should be performed that would hinder identification at a later time.[642] The information needs to be recorded in a manner that allows it to be functional for judicial purposes and to facilitate identification.[643] The analyses performed for identification purposes should be incorporated into the standard forms used for recording information for judicial purposes. The Inforce SOPs record both types of information.

The equal treatment of the humanitarian effort together with the judicial purpose of the investigation is a professional and ethical responsibility of the forensic agencies and experts participating in a forensic investigation.

[641] Crettol M, La Rosa AM. The missing and transitional justice: the right to know and the fight against impunity. International Review of the Red Cross 2006;88(862):358.
[642] The Missing, 10.
[643] Crettol, La Rosa, The missing and transitional justice, 362.

Chapter Eleven

PROFESSIONALISM AND ETHICS ON TRIAL

> No, I'm board eligible. They accepted my case work, they accepted my professional standing, they accepted my experience, and they accepted my training. I just did not take the test…[644] *(William Haglund, explaining why he is not an ABFA diplomat, Prosecutor v. Popović et al)*

The forensic expert, in order to maintain that title, must commit himself to maintain professional standards and uphold certain ethical practices. Organizations involved in investigations must also have established guidelines for professional conduct and ethical practices.[645] The ICTY trials revealed several indicators of professionalism and ethical behavior expected of both a forensic expert and contracted organization. These topics were minimally addressed in the Krstić trial but used more heavily by the Defense in the Popović trial in an effort to diminish the validity of the forensic experts and the overall investigation. The legitimacy of an investigation, in part, depends upon the recognition of the forensic experts' standing as respected professionals in the field in which they practice. Unethical behavior and practices reflect negatively on the forensic expert and diminishes the integrity of the entire investigation.

Professionalism and Ethics in the Krstić Case

In *Prosecutor v. Radislav Krstić*, each expert began their testimony by stating their profession, educational background, employment history, professional affiliations, and field experience. The experts described when they were active in the investigation, the title they held, and what particular contribution they made to the investigation. Their curriculum vitae were submitted to the Court as written documents.

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[644] Prosecutor v. Popović et al., Haglund, T. 8981.
[645] Cox, Flavel, Hanson, Introduction and context, 3.

Critiques of the professionalism on the part of individual forensic experts were limited to one individual. The Prosecution revealed in the Krstić trial that colleagues of Haglund had criticized his work. Haglund described the complaints as regarding the "rate and quality of the work" and briefly summarized the results of the Oversight Committee:

> […] the expert panel's opinion was that the criticisms really had nothing to do with the quality, did not jeopardise the scientific quality of the work, and they added that it wasn't surprising to them to have brought together people from disparate lands and disparate backgrounds and experiences and not have some different perceptions of how things should go.[646]

Only one specific complaint was discussed by Haglund – while reviewing autopsy reports, supervising pathologists changed the causes of death of other subordinate pathologists in an effort to standardize the work. The Oversight Committee reviewed all the original autopsy reports and agreed that the opinions were consistent. Changing causes of death without consulting the original pathologist was found to be an inappropriate act, but the scientific findings were not jeopardized.[647] The Defense did not cross-examine Haglund on this issue. Other criticisms by the Oversight Committee, which was concluded well before the Krstić case began in November 1997, were not raised by the Defense.

The only direct comment from the Defense regarding the professionalism of the forensic experts was in the Stankovic Report. This concluding and supportive remark followed the critique of the forensic investigation:

> Regardless of the above remarks, my view is that the persons committed for the forensic examination of the exhumed human remains revealed in the graves around Srebrenica have substantial professional experience and abundant technical, scientific and moral integrity, and that the mentioned failures result from the absence of a unique work methodology, and also from certain inexperience and personal ego of some of the experts engaged in the mission.[648]

[646] Prosecutor v. Krstić, Haglund, T. 3761.
[647] Prosecutor v. Krstić, Haglund, T. 3762.
[648] Stankovic Report, 11.

The Stankovic Report did, however, comment on an issue that is both a professional and ethical concern for the investigation – personal identification of the victims:

> […] the prime principle of the autopsy is to ascertain identity, which in the examination of the bodies was not the priority task, and the result of such a stand is that only about 5% of the bodies was identified.[649]

Stankovic requested that the pathologists explain why identification was not a priority of the investigation, considering its dual purpose of supporting the case and serving the needs of the missing persons' families. Haglund replied in his cross-examination that there were several thousand victims spread among many graves, and there was a lack of antemortem data such as dental and medical records available to the investigators. DNA analysis was required to confirm a positive identification but Haglund described this analysis as expensive.[650] The OTP did not provide the resources required for DNA analysis.

The humanitarian efforts made by the mortuary team during the investigation were described in response to a question posed by Judge Rodrigues. The Judge asked what questions guided the investigation and the objective of the research applied. Baraybar explained the two objectives as 1) to establish a demographic profile of the population including MNI, age-at-death, and sex estimation and 2) to assist in identification of the victims by recording stature estimations and unique features such as old fractures.[651] Clark and Lawrence also described efforts to assist in the personal identification of the victims.[652] It was explained that the results of these inquiries were not contained within the reports submitted to the ICTY because of their perceived irrelevance to the legal case.[653]

There were no inquiries or accusations made against the ethical conduct of the two main organizations in the investigation, PHR or the OTP.

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[649] Stankovic Report, 5.
[650] Prosecutor v. Krstić, Haglund, T. 3764.
[651] Prosecutor v. Krstić, Baraybar, T. 3891-3892.
[652] Prosecutor v. Krstić, Clark, T. 3903-3904; Lawrence, T. 3987, 3994.
[653] Prosecutor v. Krstić, Baraybar, T. 3892.

Professionalism in the Popović Case

The Defense's favorable, or at least neutral, view of the forensic experts and the management of the investigation was decidedly different in the Popović case. The Defense probed much further into Haglund's review by the Oversight Committee and raised several other professional and ethical issues regarding the forensic experts and the investigation. The professional qualifications and conduct of forensic experts was examined by the Defense. Professional conduct indices included the forensic experts' prior knowledge, what information regarding the mass graves and the actions that may or may not have preceded their creation was supplied to the experts, the management of the grave excavations and mortuary, their personal interactions with other team members, and public speaking and the media. The forensic experts were also asked to comment on specific ethical practices. Ethical questions were raised concerning the involvement of NGOs in the investigation, which agency paid the forensic experts, and the lack of personal identifications.

Professional Qualifications

The Defense questioned the forensic experts' professional qualifications during Baraybar's cross-examination. Baraybar was asked if he was a member of the American Board of Forensic Anthropology (ABFA) and when he replied, "No, I'm not. I'm not – I'm not American," the Defense asked if he was aware that Haglund was not a diplomat of the ABFA.[654] The Defense named several individuals who had participated in the investigations, referred to many as students, and asked what role they played in the investigation. Baraybar responded to the Defense by providing those "students" qualifications: some students had Ph.D.s.[655] Another list of names was read along with their role in the investigation, and Baraybar was asked if he

[654] Prosecutor v. Popović et al., Baraybar, T. 8886-8887.
[655] Prosecutor v. Popović et al., Baraybar, T. 8820.

considered each person "competent".[656] Baraybar affirmed his belief in the listed persons' competence.

Preconceived Notions

The forensic experts were asked questions regarding their interpretations of the mass graves and the circumstances surrounding the victims' interment. These questions were phrased differently than during the Krstić trial. Many questions did not require forensic expert direct interpretation, but rather asked what factors beyond the forensic evidence may have led the experts to make those particular interpretations. The Defense's questions probed what information was provided to the forensic experts by the Prosecution, and which interpretations of forensic evidence were influenced by this information, or not made solely based upon the forensic evidence. This delves into the forensic expert's professional responsibility to testify based on established forensic evidence only, and their ethical responsibility to maintain neutrality despite having been hired by the OTP or having been an existing contract between the OTP and the forensic expert's employer, PHR.

The Defense asked if the OTP had provided any information to the forensic experts pertaining to what precipitated the creation of the mass graves or what they expected to recover from the graves. Baraybar was asked whether the OTP informed him that he was going to find military-aged civilian men.[657] Haglund was asked whether the OTP told him how many bodies they believed were buried in the graves.[658] Both denied receiving any prior information from the OTP regarding expected finds. Wright recalled being told that one site was a place of execution, where the bodies were buried, and that it was an undisturbed grave.[659] He also explained that he did not accept the information provided to him as fact:

[656] Prosecutor v. Popović et al., Baraybar, T. 8888-8889.
[657] Prosecutor v. Popović et al., Baraybar, T. 8892.
[658] Prosecutor v. Popović et al., Haglund, T. 8989-8990.
[659] Prosecutor v. Popović et al., Wright, T. 7445-7446.

> I was thinking of all sorts of possibilities for these graves, that they might for instance date from the 1992 war and so on. We were always on the look-out for evidence that would test the propositions that had been put to me.[660]

Clark claimed that he received very little information regarding the victims prior to autopsy and described his position on the subject:

> […] There is argument whether we should be -- do a case sort of blind or with some information. I think there is a happy medium. I think we probably reached this here, and certainly we had little detailed information about the cases. Other than to the extent that we were generally informed whether this was a primary grave or whether this was a grave which had been disturbed, and that explained why so many of the bodies were disrupted. Things like that. But in terms of what weapons had been used, whether grenades had been used or whatever, we were the main instigators of that information from our findings.[661]

However, within the remaining transcript, Clark confirmed that he was informed regarding the "perceived circumstances under which these victims had met their deaths" and that prior to conducting the autopsies he did have a preconceived notion:

> The balance weighed in favour of the fact that these were people who had been the victims of an alleged execution.[662]

This preconceived notion reflects poorly on the neutrality of the investigations, particularly the pathologists' autopsy reports.

Management Skills

The Oversight Committee focused heavily on a lack of appropriate management. Most of the blame was placed on Haglund, the Chief of Exhumations in 1996. The Defense systematically introduced the "criticisms" and "recommendations" made by the Oversight Committee and asked for Haglund's comments. The following is an edited list of management complaints not aforementioned:

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[660] Prosecutor v. Popović et al., Wright, T. 7448.
[661] Prosecutor v. Popović et al., Clark, T. 7349.
[662] Prosecutor v. Popović et al., Clark, T. 7349.

> There should be a transmittal of knowledge, both up and down the chain of command frequently.[663]
>
> There was a lack of stating who the volunteer was specifically working for, and little thought as to positioning less experienced personnel with more experienced anthropologists and pathologists.[664]
>
> There was a total lack of communication between supervisors and between supervisors and volunteer personnel.[665]

Haglund defended his practices, but also agreed that the Oversight Committee made valid recommendations. The Defense summed up their line of questioning with a very blunt question for Haglund:

> Well, I put it to you that the Office of the Prosecutor put together the panel of the independent experts to whitewash the shoddy job and sloppy science that was done by you and others at Srebrenica?[666]

The Judges stopped Haglund from answering the question, stating that Haglund was not present to answer for the Prosecution. Even without this blatant criticism, it was clear that one of the Defense's tactics was to reveal a cover up of a less than scientific, methodological, and accurate investigation. The results of the Oversight Committee were often returned to by the Defense during each of the forensic expert's cross-examinations. The Defense asked the other forensic experts if they agreed that Haglund mismanaged the investigation. They were asked to comment regarding his professionalism.[667] The forensic experts refuted some claims, but agreed there were problems with Haglund's management style.

[663] Prosecutor v. Popović et al., Defense, T. 8953.
[664] Prosecutor v. Popović et al., Defense, T. 8957.
[665] Prosecutor v. Popović et al., Defense, T. 8959.
[666] Prosecutor v. Popović et al., Defense, T. 8974.
[667] Prosecutor v. Popović et al., 8775, 8893, 19065-19069, 19076-19078.

Personal Character

The Defense also attacked the personal character of Haglund. Excerpts were read from the book, *The Key to My Neighbor's House* by Elizabeth Neuffer, a journalist who observed and then wrote about the exhumations:

> "Some of Haglund's team members accused him of being high-handed."[668]
>
> "Others found him too dictatorial for their tastes."[669]
>
> "Haglund, exhausted, worried, frantic, obsessed with getting things done, had lost the art of polite conversation."[670]

Baraybar was asked to recall how Haglund reacted at the time Baraybar became seriously ill. The Defense asked if it was true that Haglund told him he was "gold bricking", a term used to describe someone who avoids their duties, and that Haglund "wouldn't even give you a ride [to the hospital]?"[671] Baraybar recalled the argument between Haglund and himself but denied having to walk to the hospital.

Haglund replied to one accusation, made by administrator John Gems, that he was "aggressive" and had a "condescending attitude which had an adverse effect on the mission" with a simple statement: "that's personality, not science."[672] However, all of these character attacks reflect poorly on Haglund's ability to manage an investigation.

Actions and words of those in a supervisory position are relevant to the perceived control of the investigation and the ability to conduct a proper investigation. Professionalism must be maintained in all aspects of the job. During an exhumation in which the teams must live and work together, the boundary between the two, being on or off the job, is blurred. A person in a supervisory role must maintain a professional demeanor at all times in order to gain the confidence of the team members and exhibit control of the investigation.

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[668] Prosecutor v. Popović et al., Defense, T. 8994.
[669] Prosecutor v. Popović et al., Defense, T. 8994.
[670] Prosecutor v. Popović et al., Defense, T. 8995.
[671] Prosecutor v. Popović et al., Defense, T. 8893.
[672] Prosecutor v. Popović et al., Defense, Haglund, 8940-8941.

Public Speaking and the Media

The Defense also used Haglund's own words against him. A quote in *The Key to My Neighbor's House* was read by the Defense:

> It says," -- this is quoting you, "'I never thought I would have to do more than one site at a time,' he said some years later reflecting on that summer of 1996. 'I knew it would be horrible and it was horrible. The whole summer was beyond The Hague's vision. They didn't realise how much time it would take, there was no clear direction, and we didn't have a good sense of what we were getting into.'"[673]

Another quote was taken from a seminar given by Haglund for The Crimes of War Project and The Freedom Forum:

> "I slow plate this one and that's one of the reasons -- I had a four-ring circus going on. I was going absolutely crazy here. But sometimes you're lucky and you have had the resources to cover the grave and sometimes you're not."[674]

Haglund described these comments as having been taken out of context and as characterizations of "how you feel."[675] He denied that there was any chaos. The lesson to be learned, however, is clear: as a Chief of Exhumations in a criminal investigation, your words, whenever or wherever they are spoken, are binding and may be used against you. As a professional, a current investigation should not be discussed glibly or in any manner that may interfere with future legal proceedings.

A related topic involves speaking with the press. The Oversight Committee agreed that there was "too much concern with regard to media involvement."[676] Haglund attributed his frequent press briefings on the OTP. He stated that he was designated as the only person authorized to speak with the press and to speak with them regularly.[677] Haglund assured the Court that the aim of these meetings was to provide information regarding only the procedures of

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[673] Prosecutor v. Popović et al., 8995.
[674] Prosecutor v. Popović et al., Defense, T. 8971; Haglund WD. (2000) From Rwanda to East Timor: collecting physical evidence of war crimes. Conflicts and war crimes: challenges for coverage (May 2000); Washington, D.C.: Crimes of War Project, 2000, full text of Haglund's seminar is available at <http://www.crimesofwar.org/seminars/day2-haglund-p3.html> (accessed 1 February 2009).
[675] Prosecutor v. Popović et al., Haglund, T. 8971.
[676] Prosecutor v. Popović et al., Defense, T. 8966.
[677] Prosecutor v. Popović et al., Haglund, T. 8965.

the investigation, and not the evidence being collected. Involving the media, he said, was not something that would have occurred during a criminal investigation in the United States. The Defense asked why Haglund did not use his position to stop the OTP from allowing the media to take a picture of remains with wrists bound with wire because "It may affect the integrity of the site."[678] Haglund replied that measures were taken so that it did not affect the integrity of the site.[679]

Large scale forensic investigations are quite different from those of an individual criminal act; a whole community is invested in the investigation. The media can serve a functional role to inform and update the community regarding realistic expectations of the investigation, but the crime scene and evidence thereof must be protected.

Ethics in the Popović Case

Finances

Without using the word "ethical" the Defense probed the potential ethical compromise related to financial arrangements among PHR, the OTP, and the forensic experts. PHR was contracted by the OTP in 1996 to provide forensic experts and conduct investigations in Bosnia and Herzegovina, including the Srebrenica mass graves. The Defense again attempted to use Haglund's own words against him regarding the acceptance of financial payment for his work. Quoted in an article in *The Science of Human Rights*, the Defense read:

> […] it says, "Accepting support directly from national governments would compromise the perception of independence and, consequently, their credibility."[680]

The Defense asked Haglund if he believed that accepting money from the OTP would also have "the same effect." Haglund corrected the Defense, explaining that the quote applies to NGOs accepting money, not forensic experts, and that he was unaware of any money paid by the OTP

[678] Prosecutor v. Popović et al., Defense, T. 8967.
[679] Prosecutor v. Popović et al., Haglund, T. 8967.
[680] Prosecutor v. Popović et al., Defense, 8983.

to PHR.[681] He further explained that he received money from the NGO for doing a job, not for his opinion, but for his time.

Lack of Identifications

The lack of identifications made during the OTP investigation was portrayed as a reflection of the quality of the investigation and as a poor ethical choice on the part of the forensic experts. While discussing a criticism of the Oversight Committee, specifically that there was "apparent disagreement as to the primary purpose of the mission," Haglund explained that identification was not a part of the mandate:

> Yes, and I do agree about the -- the difference of the purpose, because many people were from human rights backgrounds and thought we were there basically to identify people, and that was not our purpose or our mandate.
>
> And that all again falls under the personal identification. We passed on the personal identification to other organisations; that was not something in our mandate. Only if we had leads to specific identifications, we followed those up.[682]

If the prosecutorial investigation was working in cooperation with another organization to identify the remains, this arrangement would be ethical. However, another quote from an article, written by an employee of PHR, was read by the Defense which contradicted this arrangement:

> The survivors wanted the world to acknowledge that they had been victims of genocide, and the remains provided their proof. But the ICTY's timetable for exhuming the Srebrenica graves held the unearthed remains essentially hostage to prosecutorial priorities and The Hague's logistical capacity.[683]

The Judges kept Haglund from responding to the Defense's question whether this statement was true. He was relieved from answering due to the fact that the article references 1998, a time when Haglund was not actively participating in the investigation. That referenced article describes how the OTP returned the unidentified human remains that were exhumed in 1996 to

[681] Prosecutor v. Popović et al., Haglund, T. 8984.
[682] Prosecutor v. Popović et al., Haglund, T. 8946-8948.
[683] Prosecutor v. Popović et al., Defense, T. 8986; the referenced article is Vollen L. All that remains: identifying the victims of the Srebrenica massacre. Cambridge Quarterly of Healthcare Ethics 2001;10: 339.

Bosnian authorities who also lacked the capability to identify the victims.[684] The result was the interment of the victims into an underground tunnel with no efforts made for identification.

PHR began identification efforts in 1997, facing many obstacles, and few persons were identified. In 2000, the ICMP began its DNA identification program, greatly increasing the number of identifications.[685] Investigations with a restricted mandate for judicial purposes only must still conform to minimum practices that include identification.[686] Families should be granted the right to know the final disposition of their loved ones.[687]

Research Ethics

The Defense questioned Wright's ethics, asking if "that practicing as an anthropologist you have to be very careful of the ethics of what you do?"[688] Wright agreed and the Defense followed with:

> And, presumably, you would agree that, in the work that was carried out in Bosnia, researchers should have obtained the informed consent of any persons they intended to study.[689]

The Prosecution objected to the relevancy of the question and the judges concurred. Some of the forensic experts did, however, engage in research, such as the ICTY-UT research project. Samples of human remains were retained from autopsy in order to perform studies on the anthropological methods. This is a valid ethical question: is consent necessary or the most ethical manner to obtain reference samples? This question has not been answered conclusively for osteological samples.[690]

Professionalism and ethics are similar to methods and SOPs in that they must be guided by procedures and standards that are recognized as best practices.

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[684] Vollen, All that remains: identifying the victims of the Srebrenica massacre, 337.
[685] Vollen, All that remains: identifying the victims of the Srebrenica massacre, 339.
[686] The Missing, 10.
[687] The Missing, 11.
[688] Prosecutor v. Popović et al., Defense, T. 7506.
[689] Prosecutor v. Popović et al., Defense, T. 7506.
[690] The Missing, 26.

Chapter Twelve

PROFESSIONALISM AND ETHICS: BEST PRACTICES

> Well, let me tell you, there is no written rule or no law that regulates matters in that way. But I repeat again that there are situations and cases, and that was the situation in Croatia, that we did have experienced people, people who during their long careers, did also engage in forensic medicine, and that is why they were qualified enough to be able to do that work.[691] *(Davor Strinovic, responding to Milosevic questioning the qualification of pathologists performing autopsies, Prosecutor v. Milosevic)*

Being professional and working under ethical practices produce overlapping expectations. To be professional requires ethics, and performing ethically bolsters professional practices. Personal integrity and moral standards are required for both.[692] *Human Remains: Law, Politics and Ethics* was the title of a workshop organized by the ICRC.[693] Several recommendations were made regarding ethical guidelines for the forensic expert, and other recommendations were made to protect the forensic expert from accusations of unethical practice.

Qualified for the Unique Context

The forensic expert must be qualified and competent to work in a missing persons' context and must work only within his field of expertise. It is unethical to perform a job if at any time you are unable to meet standards due to professional deficiencies.[694] The Defense targeted this responsibility in Popović by questioning the "student" status of some members of the investigation team. Frease's professionalism was also targeted based upon her lack of

[691] ICTY, Prosecutor v. Slobodan Milosević, Case IT-02-54-T, Davor Strinovic, T. 17967.
[692] Galloway et al., Physical anthropology and the law, 54.
[693] The Missing, 8.
[694] The Missing, 10.

qualifications to supervise chain of custody. A missing persons' context is different than most forensic experts' regular practice and requires different skills – technical, logistical, and related to the judicial process – than most medicolegal investigations.[695] Additional experience is required to address these unique challenges.

The professional qualifications of the expert must be recognized by the authorities over the investigation, which may vary in different contexts, prior to any involvement in the investigation.[696] The determination of cause of death is restricted to licensed physicians. The American Board of Forensic Anthropology bestows professional credentials on forensic anthropologists. Only as of 2009 may any forensic anthropologist, regardless of nationality, be examined for Board certification.[697] There is no Board certification for archaeologists, but holding a Ph.D. and experience are considered markers of a professional status. It is the responsibility of the expert to ensure that his or her professional qualifications are accepted as sufficient to practice in a particular country and therefore qualify as an expert witness.[698]

Affiliations

The contracting agency must be recognized and legally approved by any involved government entity.[699] Any other agenda on the part of the contracting agency, for example, human rights advocacy or international justice, must be considered for its compatibility with ethical standards. The agency's mandate must also be compatible with ethical practices. As seen in the Popović case, any agencies with which experts are personally or professionally affiliated and the agency that provides financial compensation to the experts can be portrayed negatively by the Defense as a sign of partiality. The affiliation may be with a political or military group, an NGO with a conflicting mandate, or a personal interest group.

[695] The Missing, 10.
[696] The Missing, 14.
[697] Murray K. Marks. Personal communication. 2 April 2009.
[698] The Missing, 14.
[699] The Missing, 14.

In its most basic form, the forensic expert should not belong to a group that was or is actively involved in the investigated crime. Investigations into the disappeared in Argentina started almost immediately after the military regime was ousted. Analysis of the remains was performed by medical experts linked to the police.[700] These were the same people who were complicit in the crimes; some even contributed to covering up the crimes through misreporting the cause of death on death certificates. The EAAF could not have any relationship with the medico-legal system in order to establish their independence and gain the trust of the families of the victims.

A forensic expert's nationality can in some instances also be an affiliation, albeit one not under the control of the expert, which might be portrayed negatively. Many of the forensic experts participating in the Srebrenica investigations were citizens of NATO countries that defended Bosnian Muslims in 1995. These experts could have been perceived as prejudiced based upon the influence of their home countries.[701] Other affiliations are much easier for the forensic expert to recognize and thus avoid any bias inferred by the relationship. For example, being a member of a human rights organization that has openly spoken out against a government or indicted group would be a conflict of interest for an investigating expert. Transparency, neutrality, and impartiality must be apparent in all aspects of the forensic expert's affiliations.

Identification

Human remains must be identified. Forensic experts have the ethical duty to advocate for the identification of human remains and perform analyses that contribute to the identification process. If the mandate of the contracting agency does not include identification, the forensic expert still has ethical duties to perform. While performing the examination of the remains, they must record all information that may contribute to identification. No procedure that destroys

[700] Doretti, Snow, Forensic anthropology and human rights: the Argentine experience, 291.
[701] de la Grandmaison GL, Durigon M, Moutel G, Herve C. The International Criminal Tribunal for the former Yugoslavia (ICTY) and the forensic pathologist: ethical considerations. Medicine, science and the law 2006;46(3):208-212.

material with future potential should be performed. Body parts deserve the same respect as whole bodies. For remains that are unidentifiable, their disposal must be performed in a way that adheres to the context of the situation.[702]

In June 2003, Jose-Pablo Baraybar spoke to the Prosecutor of the ICC during a public hearing held to elicit recommendations for the future work of the ICC.[703] He chose to discuss several "mistakes" made in the investigations performed under the auspices of the ICTY and offered recommendations regarding ethical practices for the ICC to consider. Baraybar described one particular mistake on the part of the OTP during their investigation of crimes committed in Kosovo: a heavy focus on performing as many post-mortem examinations as possible to fulfill the required *mens rea* for crimes against humanity – that a systematic, widespread, large-scale crime was committed. This haste resulted in only one-half of the victims being positively identified which Baraybar described as "a humanitarian tragedy".

Baraybar made several recommendations regarding how forensic evidence should be incorporated into the Prosecution's investigation. First, an autonomous scientific advisory unit should be formed and implemented as a responsibility of the chief of investigations. Their function would be to determine what forensic evidence could and should be collected. This includes considering the amount, quality, and characteristics of the potentially available forensic evidence based upon the local technical capacity in and around the area to be investigated. The Prosecutor would use this information to determine the impact this evidence may have in any particular case. If the evidence proved potentially valuable to the overall investigation, the scientific advisory unit would initiate the forensic investigation and assume responsibility for its final outcome. However, Baraybar requested that the ICC Prosecutor:

> Calculate the cost benefits of a forensic intervention prior to undertaking one which may satisfy the needs for the prosecution but cause humanitarian damage.[704]

[702] The Missing, 10.
[703] ICC, Public Hearing of the Office of the Prosecutor, Testimony of Jose-Pablo Baraybar (17-18 June 2003).
[704] ICC, Public Hearing of the Office of the Prosecutor, Testimony of Jose-Pablo Baraybar (17-18 June 2003).

The need for evidentiary information from victims should not outweigh the need for identifications to satisfy the humanitarian needs of the affected community.

Professional Development of the Discipline

Human Rights Law

To contribute to a criminal investigation, the forensic expert must understand the crime being investigated. Human rights investigations require knowledge of current human rights and humanitarian law. This work has attempted to demonstrate how a working knowledge of the substantive law of a single particular crime, genocide, can assist the forensic expert in collecting the evidence necessary to assist the court in determining if the crime was committed. Crimes against humanity and war crimes each have their own *mens rea* and *actus reas* that need to be proved to convict a perpetrator of that crime. A crime must first be understood before it can be properly investigated. The procedural law of the Court must also be understood.

Training Future Experts

Knowing the future likely holds many more opportunities for forensic anthropologists and archaeologists to contribute to international criminal missing persons investigations, students must be trained in preparation for the work.[705] An interdisciplinary program that incorporates historical, legal, and cultural aspects of conflict and human rights law with anatomy, archaeology, geology, and forensic and physical anthropology training would provide a well rounded background for international criminal investigative work.[706] International humanitarian and human rights law should to be incorporated directly into the basic training of forensic specialties.[707]

[705] Komar, Buikstra, Forensic anthropology: contemporary theory and practice, 1.
[706] Stover, Ryan, Breaking bread with the dead, 7.
[707] The Missing, 10.

An International Body of Forensic Specialists

Lastly, the Missing workshops recommended that a team of specialists be established in order to address the broader need for forensic specialists involved in the coordination and regulation of criminal investigations.[708] This team of specialists would disseminate guidelines and standards of practice as well as serve the forensic community by: drawing together the different disciplines of forensic science; regulating ethical issues; providing professional credentials; providing advice to contracting bodies and forensic scientists auditing and evaluating of field activities; reconciling language issues including translations and professional lexicon; and lobbying governments for the further application of forensic work within international contexts. The international community and forensic disciplines would benefit from an established relationship that bridges disciplines and incorporates all aspects of the pursuit of humanitarian and legal justice for those who suffer from human rights abuses.

[708] The Missing, 15-16.

CONCLUSION

> In conclusion, we in the Prosecutor's Office have no doubt that undertaking professional forensic investigations provided vital evidence and corroboration which establish the commission of serious violations of international humanitarian law, including genocide.[709] *(Graham Blewitt, Deputy Prosecutor of the International Criminal Tribunal for the former Yugoslavia, 1997)*

Genocide is a crime that has occurred too many times in our history yet the perpetrators of this crime have rarely been punished. A crime cannot be prosecuted without it first being recognized. The more people who comprehend the true essence of Lemkin's crime of genocide, the more likely it will be recognized when it has occurred and acknowledged as a heinous crime deserving of the international community's insistence upon justice.

This study offers a detailed appreciation of the crime of genocide and its legal interpretation. The forensic expert plays a unique role in the prosecution of genocide; the evidence collected can contribute to identifying the victims, their manner and cause of death, any patterns of injury, and time of death. It can also be used to corroborate witness testimony. Forensic evidence can be used to satisfy both the *mens rea* and *actus reas* of the legal definition of genocide. It is imperative that this crime, and all other human rights and international humanitarian laws, be understood by those responsible for providing and testifying to the evidence.

This study demonstrates both strengths and weaknesses of the forensic investigation in Srebrenica. This investigation was the largest forensic investigation to date. The forensic experts applied their disciplines to the task of unearthing thousands of victims from dozens of mass graves with no prior example to guide their work. The results can be scrutinized and mistakes identified. Despite any shortcomings, the ICTY trials continue to uphold the forensic evidence as scientific evidence of proof of genocide committed against the Bosnian Muslim people of Srebrenica. These trials demonstrate the enormous contribution forensic science lends

[709] Blewitt, The role of forensic investigation in genocide prosecutions before an international criminal tribunal, 288.

to a case and offer a wealth of information on the role of forensic evidence in fulfilling legal interpretations of human rights and humanitarian laws. Those involved in the ICTY investigations should make honest assessments of the investigation and make recommendations to the ICC based upon both the successes and failures of the investigations.

The increasing involvement of forensic anthropologists and archaeologists in international investigations of human rights violations demands improvement from within these disciplines. There is a pressing need for the development and regulation of methods, minimum standards, best practices, and professional and ethical standards to address the unique needs of investigations of violations of human rights and international humanitarian law. All of this emerging material must be coordinated among international experts to develop standards that fulfill the legal and humanitarian purposes of a forensic investigation.

The guilty pleas of Momir Nikolić and Dragon Obrenović, the Assistant Commander for Security and Intelligence of the Bratunac Brigade and the Chief-of-Staff and Deputy Commander of the 1st Zvornik Infantry Brigade of the Drina Corps, respectively, highlight the purpose of the ICTY. Both were indicted for some form of genocide and their reasons behind pleading guilty to a lesser charge were similar – to contribute to establishing the truth about Srebrenica, to contribute to reconciliation in Bosnia and Herzegovina, and to relieve the families of the victims from being subjected to additional suffering by having to testify again.[710] Perpetrators are being punished to this day for the crimes they committed in the former Yugoslavia. The ICMP continues to make positive DNA identifications and return remains to families. The success of the ICTY and the creation of the ICC will hopefully contribute to deterring future acts of genocide as well as punishing those who commit this heinous atrocity.

[710] ICTY, Case Information Sheet, Dragan Obrenovic (IT-02-60/2), available at <http://www.icty.org/x/cases/obrenovic/cis/en/cis_obrenovic.pdf> (accessed 1 February 2009); ICTY, Case information Sheet, Momir Nikolic (IT-02-60/1), available at <http://www.icty.org/x/cases/nikolic/cis/en/cis_nikolic_ momir.pdf> (accessed 1 February 2009).

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