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Identifying Desaparecidos: The Development of Forensic Anthropology in Chile

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Identifying *Desaparecidos*: The Development of Forensic Anthropology in Chile

A Capstone Project Submitted in Partial Fulfillment of the
Requirements of the Renée Crown University Honors Program at
Syracuse University


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Abstract

Between 1973 and 1990, Pinochet's dictatorship in Chile implemented the systematic practice of forced disappearances and extrajudicial killings in order to eradicate the imagined "communist cancer" (Wyndham and Read 2010: 31). A total of 3,227 deaths have been tallied; 1,465 of these were cases of *detenidos-desaparecidos*, or enforced disappearances (Garrido and Intriago 2012: 34). Scholars suggest that Chile's transition to democracy will remain incomplete without first locating and identifying the *desaparecidos* (Aguilar 2002). Through methods of comparing postmortem skeletal analysis with antemortem data, forensic anthropologists carry out the important work that makes identifications possible.

This thesis evaluates the development of the field of forensic anthropology in Chile, taking into consideration certain peculiarities in such development that led to errors in identifying the dead. An analysis of these errors, the circumstances that led to them, and the resulting response in their aftermath, provides an important lesson for the improvement of the field as it moves forward and is applied in other global contexts. I take an anthropological approach to this case, and rely on comparison with the U.S. and several other international cases. As the field of forensic anthropology matures, ethnographic studies of scientists and their practices have begun to emerge. Additionally, there has been an increased reflexivity on the part of the forensic scientists themselves. Following these trends, I rely on personal interviews and reflections of key forensic practitioners in Chile. This thesis aims to join the ongoing discussion, and to raise awareness of the important role forensic anthropology plays in uncovering the truth, providing evidence of political crimes, revising historical memory and, most importantly, returning loved ones to their families in the hopes of giving them solace from their suffering.

List of Abbreviations

AAAS	American Association for the Advancement of Science
AFDD	<i>Agrupación de Familiares de Detenidos Desaparecidos</i> Association of Relatives of the Detained and Disappeared
AFEP	<i>Agrupación de Familiares de Ejecutados Políticos</i> Association of Relatives of the Politically Executed
CIE	<i>Comité Internacional de Expertos</i> International Committee of Experts
D.D.	<i>Detenidos Desaparecidos</i> -- Detained and Disappeared
EAAF	<i>Equipo Argentino de Antropología Forense</i> Argentine Forensic Anthropology Team
EAFG	<i>Equipo de Antropología Forense de Guatemala</i> Guatemalan Team of Forensic Anthropology
FAFG	<i>Fundación de Antropología Forense de Guatemala</i> Guatemalan Foundation of Forensic Anthropology
GAF	<i>Grupo de Antropólogos Forenses</i> Group of Forensic Anthropologists (Chile)
MIR	<i>Movimiento de la Izquierda Revolucionaria</i> Revolutionary Leftist Movement
N.N.	<i>No Nombre</i> -- No Name
SML	<i>Servicio Medico Legal</i> -- Medico-Legal Services

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Summary of Capstone Project

Discarded bodies piling up on the side of the street and floating lifelessly down the Mapocho River were a stark reality for Chileans during the early days of the military dictatorship that lasted from 1973-1990. General Augusto Pinochet kidnapped, tortured, and murdered thousands of individuals for their perceived political affiliations. The term *desaparecidos* is used to describe individuals who have been taken by the state and whose fates and whereabouts are not disclosed, effectively “disappearing” them. These individuals were systematically robbed of their identities when they were kidnapped, murdered, then buried anonymously and clandestinely in graves across the country. Only by identifying the remains of these *desaparecidos*, returning them to their families, and collecting evidence of human rights violations for the prosecution of perpetrators will the country be able to reconcile with the trauma of the past.

Forensic anthropology is the examination of human skeletal remains that aids law enforcement agencies in the identification of unknown individuals. Traditionally, forensic anthropology has been used to identify repatriated war dead and to investigate domestic criminal cases in the U.S. More recently, however, this traditional practice has been harnessed and adapted to the international investigation of human rights violations. The first instance in which this occurred was when North American forensic anthropologists brought forensic anthropology to Argentina to identify remains of the victims of the dictatorship. The practice soon spread to Chile; however, the circumstances the practice faced posed many challenges.

My research focuses on the development of the field of forensic anthropology in Chile, the importance of identifying the victims of enforced disappearance, and the reasons for, and impact of, errors that were made in the process. I first encountered the theme of *desaparecidos* during my semester studying abroad in Santiago, Chile, in the fall of 2012. With the help of my Program Director Mauricio Paredes, I located Isabel Reveco, one of the first practitioners of forensic anthropology in Chile, and original member of the Group of Forensic Anthropology (GAF), for interviews. I met with her twice in November of 2012, each time for a two-hour interview at a Starbucks in Santiago. I also interviewed Eugenio Aspillaga, a physical anthropology professor at the University of Chile, who played an important role in reforming the practice of forensic anthropology in 2006 after the errors came to light. After developing my project a little further and making more contacts, I returned in July 2013 for three weeks to interview Elías Padilla, another original member of the GAF, along with Patricio Bustos, the current national director of the Medico-Legal Services (SML) in Santiago; Marisol Intriago, the head of the Special Identification Unit of the SML; and her leading archaeologist, Joyce Stockins.

The site of Patio 29 in the General Cemetery of Santiago, where hundreds of victims were illegally buried shortly after the coup, serves as an effective focal point for analyzing the violent practices of the state, along with events surrounding later identification efforts and subsequent errors. It was the site of the first official large-scale excavation of remains in post-dictatorship Chile, in which both the early independent GAF and the later governmental SML

participated. It was, thus, also a site that faced many challenges and external pressures. Practitioners had to think on their feet.

The main obstacles included dealing with the persisting legacy of the dictatorship, conflicting demands from different parties, limited resources for effective identification and investigation, and gaping holes in the evidence due to the destructive practices of perpetrators. The continued pressure hindered not only the work of anthropologists and forensic scientists, but also the participation of families still searching for their disappeared loved ones. It is important to remember that the individuals most affected in this tragic history are the families and relatives of the *desaparecidos*, including some *desaparecidos* who were disappeared not only once, but twice, as a result of identification errors.

Despite the errors that occurred in Chile, the use of forensic anthropology in instances of human rights violations is crucial because, when used correctly, it not only helps to identify victims of political crimes, but also garners evidence that forces recognition of the crimes committed and opens up a space for discourse in societies that have been traumatized by violent pasts. I believe it is important to draw attention to Chile in a manner that looks closely at the peculiar and nuanced development of the field of forensic anthropology in this country, in order to set the stage for broader comparative study. An analysis of the errors that occurred in Chile, the circumstances that led to such errors, and the resulting response in their aftermath, provides an important lesson for the improvement of the field as it moves forward and applies itself in other global contexts.

This application of forensic anthropology to human rights contexts has generated a relatively new conversation within the wider field. Forensic anthropologists have begun to step back from the technical, scientific, and highly specialized focus that is characteristic of the field in the U.S., and have become much more reflexive concerning their own practice. In this study, I take a more ethnographic approach to the Chilean case, in order to shed light on the harrowing events that took place there.

Acknowledgements

I owe a great many thanks to Mauricio Paredes, Program Director for Syracuse University Study Abroad in Santiago, without whom this project would not have been possible. Aside from opening my eyes to the raw and honest history of Chile, and sharing his insightful perspective on it, he was the first to introduce me to the theme of using forensic anthropology to identify *desaparecidos*. He planted the idea for this research project and then helped me cultivate it into something so much bigger than I ever imagined it could be. He went out of his way to track down my first informant, Isabel Reveco, which then led to a whole network of connections that allowed me to return to Chile the following year and continue building on my project.

I must next thank Isabel Reveco for so graciously allowing me to dredge up old memories from the past and sharing with me her unique perspective on such a pivotal time in the development of forensic anthropology and Chilean history. Her task was not an easy one and I truly admire her resilience. Thanks is also due to Elías Padilla, who kindly shared with me his account of events, and the professionals of the Medico-Legal Services of Santiago (Patricio Bustos, Marisol Intriago and Joyce Stockins) for allowing me to interview them.

Collecting data in the field is one thing. Actually converting that data into a cohesive and meaningful written product is a whole other story. Thank you to my advisor Shannon Novak for nurturing this written work since its very feeble first rough draft, patiently reading revision after revision and consistently providing a steady stream of comments and feedback aimed at improving my project. Thank you also for keeping me in line and holding me accountable to our self-set deadlines, without which this project would still be resisting completion.

Cristian Silva has also provided extremely valuable feedback, and I appreciate having someone familiar with the practice of forensic anthropology in the human rights context in Latin America to offer his valuable thoughts on my project. Not only that, I am grateful to Cristian for exposing me to actual hands-on practice and making it possible to gain experience working alongside forensic anthropologists in Guatemala. The insight I gained from that experience has been valuable in the writing of this thesis.

Chapter 1: Introduction

My research focuses on the development of the field of forensic anthropology in Chile and the importance of identifying the victims of enforced disappearance. Such disappearances are defined by the Office of the United Nations High Commissioner for Human Rights [OHCHR] (2009: 1) as follows:

According to the Declaration on the Protection of All Persons from Enforced Disappearance, proclaimed by the General Assembly in its resolution 47/133 of 18 December 1992 as a body of principles for all States, an enforced disappearance occurs when “persons are arrested, detained or abducted against their will or otherwise deprived of their liberty by officials of different branches or levels of Government, or by organized groups or private individuals acting on behalf of, or with the support, direct or indirect, consent or acquiescence of the Government, followed by a refusal to disclose the fate or whereabouts of the persons concerned or a refusal to acknowledge the deprivation of their liberty, which places such persons outside the protection of the law” (preamble).

In Latin America these victims of forced disappearances are referred to as *desaparecidos*, a term that originated in Guatemala as a result of state-sponsored kidnappings and secret executions (Frey 2009: 53). In Chile, individuals were systematically disappeared through kidnapping, torture, murder and clandestine burial by operatives of military dictatorships and were referred to more specifically as *detenidos desaparecidos* (Frey 2009: 56). Identification of these individuals, I argue, is central to reconciliation in post-conflict Chile. They force an acknowledgment of the violence of the past that, in turn, allows for a transition to a more effective democracy. However, the developmental trajectory of forensic anthropology within Chile is far from ideal. In this paper, I pay close attention to the challenges forensic anthropologists faced, the errors in identifications, and how this distinct path has impacted both Chilean society and

the further development of forensic anthropology in the international community.

I had heard of Pinochet's dictatorship in Chile before, but only in passing, in classes in Spanish, anthropology, or international relations. The first time I really paused to absorb the severity of the political violence that the dictatorship had wreaked on its own citizens in the 1970s and 1980s was when I spent five months living in Santiago. From August to December of 2012, I studied at a local university, got to know the nation's people and history, and how their history has shaped them.

In addition to taking several anthropology classes at *la Pontificia Universidad Católica*, I took two courses taught by the Chilean SU Abroad director, Mauricio Paredes. These courses taught by Mauricio focused specifically on Chilean history since the *coup d'état* of September 11, 1973, which led to seventeen long years of dictatorship. Over the course of the semester, I came to understand why these classes were so important. They served to fill a historical gap not covered in the Chilean education system, and they helped to enlighten us about the context in which we were spending our semester abroad. Mauricio explained that the official Chilean history, as told by the textbooks, ends in 1973. The events of the ensuing era of military rule are blatantly overlooked or disregarded (Paredes 2012). This was evident in the classes I was enrolled in at the local (predominantly right-wing) university, *la Católica*. It seemed as if we were gaining a privileged knowledge of past events that most Chileans our age did not even fully understand about their own country.

My first encounter with forensic anthropology in Chile was through an in-class viewing of the 1998 documentary film, *Fernando ha vuelto* (Fernando has returned) (Caiozzi 1998). Captured in the film were images of professionals of the Medico Legal Services (Servicio Medico Legal or SML) returning the identified remains of a victim, or *desaparecido*, of the dictatorship to his surviving family members. When I approached Mauricio about looking further into this event, he confided in me the truth behind the documentary, a fact he was planning on later revealing to the class. Mauricio divulged that several years after the film's making, it was discovered that Fernando's remains did not actually belong to Fernando; there had been a mistake (Bustamante and Ruderer 2009: 131; Crowder-Taraborrelli 2013; Torres 2011).

The errors made during efforts to identify the *desaparecidos* intrigued me, and I decided to explore this topic for my Honors Capstone Project. Mauricio has served as an invaluable resource, helping me to track down important contacts in Chile. Through a mutual friend of his, I was introduced to one of the first practitioners of forensic anthropology in Chile, Isabel Reveco, whom I had first seen in the documentary. Now retired from forensic anthropology and running her mother's elementary school, Reveco graciously agreed to sit down with me for coffee several times during my semester in Chile. She openly discussed with me her experiences of practicing forensic anthropology in Chile at a time when it was unprecedented.

I continued research and expanded my network of contacts via email while back at SU the following spring semester. By the summer of 2013, I had

connected with several more individuals through Isabel Reveco, so I returned to Chile for three weeks to conduct interviews with them. I spoke to Elías Padilla, a social anthropologist and old colleague of Isabel Reveco who had worked with her in the early days of identification just after the end of the dictatorship. I also interviewed Patricio Bustos, the current national director of the SML; Marisol Intriago, the head of the Special Identification Unit of the SML; and her leading archaeologist, Joyce Stockins. Another valuable contact that I met with on both of my trips to Chile was Eugenio Aspillaga, a physical anthropology professor at the University of Chile, who played an important role in reforming the practice of forensic anthropology in 2006 after the errors came to light.¹

In order to consider the events in Chile through a broader comparative lens, I situate this particular case in relation to several other cases in quite different contexts, including Guatemala, Spain, the former Yugoslavia and Argentina. I turn, in particular, to those who have focused their studies on the application of forensic anthropology in these regions of the world. To name a few, Fredy Peccerelli (2003), executive director of the Guatemalan Foundation of Forensic Anthropology (FAFG), as well as cultural anthropologist Victoria Sanford (2003), focus on forensic anthropology in Guatemala; forensic archaeologist Layla Renshaw (2010, 2011) explores the exhumation of mass graves from the Spanish Civil War; and cultural anthropologist Sarah Wagner's (2008) investigation of DNA technology in identifications in the former Yugoslavia has proved useful. Closer in geographical proximity to my case are those who have written about the dictatorship violence in South America, such as

¹ <http://www.facso.uchile.cl/antropologia/departamento-de-antropologia/57366/eugenio-aspillaga>

Luis Fondebrider (2002, 2010) and Clyde Snow (Snow et al. 1984). These individuals were key figures in the origin of the practice in Argentina, a practice Zoe Crossland (2000, 2002) has written about as well.

These are just a few of the authors I draw on to contextualize the role of forensic anthropology in post-conflict human rights investigations in Chile. These authors represent just a few of the voices that have started to generate discussion about the recent paradigm shift in forensic anthropology and archaeology in the last few years (Crossland and Joyce n.d; Fondebrider 2010: 155). This diverse group of individuals draws attention to the application of forensic anthropological techniques to the investigation of political crimes and human rights violations in different global contexts (Crossland and Joyce n.d.; Fondebrider 2010). Reflections by forensic anthropologists who conducted early human rights work, such as Karen Ramey Burns (1989), William D. Haglund (2003, 2005), and Eric Stover (1982, 2003), to name a few, provide interesting and complementary insights. Situating Chile within this discourse helps us understand how this particular case is influenced by, and can in turn affect, the wider international practice of forensic anthropology.

The recent paradigm shift in this subfield, and the expanding investigation of human rights violations by these specialists, has generated a relatively new conversation within the wider field of forensic anthropology and archaeology (Crossland and Joyce n.d; Fondebrider 2010: 155). It is important to understand that, despite how technical, scientific, and specialized the field of forensic anthropology becomes, we cannot forget the importance of the holistic

perspective that is the foundation of an anthropological approach. This is what gives forensic anthropology its potency, power, and ability to work effectively, carrying out both humanitarian and legal work.

Thesis Outline

In what follows, I will first discuss the historical background of what happened in Chile, starting from the coup and the beginning of the military dictatorship in 1973. I believe knowledge of these past events is crucial for understanding the development of forensic anthropology in Chile. I will then discuss the extrajudicial killings and mass graves that resulted from such events. I chose to focus mainly on one specific site of a clandestine mass grave in Santiago — Patio 29 — a sight found in many references to the identification process. I introduce this site at the end of Chapter 2.

I understand that many people reading this may not be familiar with exactly what forensic anthropology is and its origins. Therefore, in Chapter 3, I delve into how traditional forensic anthropology arose in the United States. I detail the type of analysis conducted by forensic anthropologists, especially the components that make up a standard biological profile. This section highlights the importance of collecting both antemortem and postmortem information. I then contrast development in the U.S. with the nature of development in Latin America, as the information and application spread internationally. Traditionally, forensic anthropology has been used to identify repatriated war dead and investigate domestic criminal cases in the U.S. It is the application of this

traditional practice that more recent innovation has harnessed and adapted to the international investigation of human rights violations. Chapter 4 further elaborates on the objectives of forensic anthropology within this new application and its adaptation to a global setting.

Chapter 5 delves into the specific case of Chile. I begin with an overview of the unique path that forensic anthropology in Chile took, and then go into a detailed description of the evolution of the process. I start by describing the scene in 1978 and 1979, when bodies first started to be removed from the ground, a period prior to the existence of formal forensic anthropology or archaeology. I then discuss the development of such forensic specialists and the formation of an organized group called the Group of Forensic Anthropologists or GAF (Grupo de Antropologos Forenses). I choose to focus even more closely on one individual of that team, my key informant Isabel Reveco. Within her story, I introduce the reader to Patio 29, the specific site of clandestine burials that received the most media attention when errors of victim identification were revealed.

In this same chapter, I introduce the case study of Fernando de la Cruz Olivares Mori, informed by a documentary film (*Fernando ha vuelto*) that highlights the identification of his remains. Focusing on this one case helps to illustrate the practical application of forensic anthropology that I describe, making it more comprehensible. Through this case, we may also assess the importance of recognizing trauma in the bones of human rights cases, and the role of families in the identification process.

The case of Fernando provides an appropriate segue into Chapter 6, which focuses on errors in the process of victim identification, seeing as his remains were effectively misidentified by early efforts. I describe the buildup of doubt and suspicion regarding errors in the late 1990s and early 2000s. I once again turn to Fernando to illustrate the impact his case had on families when the misidentifications were made public in 2006 (Crowder-Taraborrelli 2013). In order to understand what led to these errors, I attempt to tease apart the various factors that played a role. Among these, I identify the persisting legacy of the dictatorship, conflicting demands from different parties, limited resources for effective identification and investigation, and gaping holes in the evidence due to the destructive practices of perpetrators.

Since the errors, a massive reformation process occurred in institutions and the practices of forensic anthropology in Chile. I elaborate on this in Chapter 7 and discuss the important introduction of DNA technology to the process. In an effort to illustrate the state of forensic anthropology today in Chile, I tell the story of Jenny Barra, which was a personal story shared with me by Isabel Reveco. Barra's case helps illuminate the complexity of such investigations. It shows that even today, with much more advanced training and equipment than existed at the outset, without a comprehensive understanding of the events that led to the fates of the *desaparecidos*, identification may still be challenging. It is crucial to utilize all sources of possible information including ante- and post mortem data along with DNA analysis to corroborate initial assessments. I conclude with a discussion of forensic anthropology within the context of transitional justice and

of the global impact of what occurred in Chile. Ultimately, my goal in writing this thesis is to integrate myself into the new discussion that is emerging. Strong foundational studies in anthropology, paired with hands-on experience in both ethnographic work in Chile and practical application of forensic anthropology in Guatemala has given me a valuable perspective from which to analyze the Chilean case. Due to my participation in the application of forensic anthropology in human rights cases and having studied such an application from an ethnographic perspective, I believe I may be able to contribute to the ongoing discussion.

Chapter 2: Historical Background

The Coup (1973)

When the military coup of September 11, 1973, overthrew the democratically elected socialist government of Salvador Allende in Chile and placed General Augusto Pinochet at the seat of power, few could have imagined the devastation that it would wreak on Chilean society (Lira 2001: 114; Wyndham and Read 2010; Zalaquett 1991:6). Pinochet's campaign for mobilization portrayed the communists as an internal threat to the country. He framed it as "saving" the country from the "communist cancer" that was spread by the "armed guerillas" (Wyndham and Read 2010: 31). Phrases such as "It's us or them"; "Kill or be killed"; "The cancer has to be rooted out"; "You can't make an omelette without breaking a few eggs" were common (Rettig Report 1991: 70). This generation of a pathological discourse about the opposition, intended to dehumanize them, is a tendency that has accompanied genocidal acts and mass violence by one group against the "other" time and time again (Savage 2013). It is a process of "othering," in which the target group is portrayed as lesser, inferior, weaker, and a disease to society in some way (Erikson 1985; Lira 2001: 112; Staszak 2008). In the Spanish Civil War, nationalists considered the left, the rural, and industrial workers to be "pathogens in the body of Spain" (Renshaw 2011: 62).

Pinochet generated this discourse about an internal societal threat and then used it as justification for his practice of kidnapping, disappearing, torturing, murdering, and exiling thousands of his own citizens. The fact of the matter is

that “the political militancy of victims had no relevance.” According to Chilean journalist, writer and human rights activist Patricia Verdugo,


The immense majority of them were *miristas* [of the group MIR- Movimiento de Izquierda Revolucionaria or Revolutionary Left Movement], communists, and socialists. But there were also those who lacked any militancy and were detained for reasons of kinship or friendship with others. (1980: 9)

Paredes goes on to emphasize how the discourse generated by Pinochet and his supporters about the Marxist enemy and the internal war was an immense distortion of the facts. Paredes stated that in 1973, Pinochet declared there to be 15,000 communist guerrillas inside Chile, armed and trained, and furthermore, that there were 45,000 guerrillas just on the other side of the border in Argentina and Bolivia waiting to invade. All of this, at the time, was nothing but lies (Paredes, personal interview, Oct. 4, 2012). “None of them were found with weapons in hand, or fighting in jungles or mountains. They were arrested in their homes, in their offices, or in the street on an average day” (Verdugo and Orrego 1980: 9).

In the first few months directly following the military coup, there was an immense wave of detentions and killings (Wyndham and Read 2010: 35; Verdugo 1980: 6). As represented by the film *Patio 29: Historias de silencio* (Patio 29: Stories of Silence 2000), directed by Eduardo Larraín, “Hundreds of dead were left to rot in the streets; over eighty bodies were seen floating in the waters of Santiago’s Rio Mapocho in the first days of the coup” (Wyndham and Read 2010: 33). According to statistical analysis of three major reports by the National Commission on Truth and Reconciliation (1991), the National Corporation of

Reparation and Reconciliation (1996), and the National Institute of Human Rights (2012), out of a total of 3,227 victims killed between 1973 and 1990, 1,465 cases were *detenidos-desaparecidos* (Garrido and Intriago 2012: 34). Another investigation also showed that 631 of these victims, a staggering 52.89%, disappeared between September and December of 1973 (Padilla 1995). Most killings occurred in the “Metropolitan” region of Chile where Santiago is located (Garrido and Intriago 2012: 36; see Table 1). Amnesty International (2013) lists the total number of survivors of political imprisonment and/or torture at 38,254.

Table 1: Geographical Distribution of Killings²



Region	Total	Detained and missing	Identified	Executed	Identified
I/XV	41	15	4	26	19
II	38	10	5	28	21
III	22	6	0	16	13
IV	21	2	1	19	17
V					
RM					
VI					
VII					
XIII (Santiago)	782	623	110	159	38
VIII					
V	30	25	0	5	0
IX					
XIV					
X					
VII	64	54	0	10	7
VIII	209	153	7	56	24
IX	113	103	1	10	0
X/XIV	102	71	1	31	7
XI	7	4	0	3	1
XII	2	1	0	1	0

² “The identified numbers refer to identifications of victims that had been missing and not to the positive identifications that were performed at the moment of death in the same territories” (Garrido and Intriago 2012: 34).

Searching Families

Families and friends were left searching from place to place for loved ones that had been disappeared. They looked in hospitals, prisons, known centers of torture and detention such as Estadio Nacional and Londres 38, and at the SML (Padilla 1995).

Within days of the coup, word that the morgue was already overwhelmed with hundreds of unidentified bodies led many families to confront the macabre scene of piles and piles of bodies in advanced stages of decomposition stacked up in corridors and offices. Most were naked and bullet-ridden. (Wyndham and Read 2010: 34)

Due to this initial flood of corpses in the streets and morgues, the employees in departments such as the SML and the Civil Registry were subject to immense pressure. Doctors adopted the practice dubbed “economic autopsies,” omitting important details that could have helped with the identification of bodies at a later date (Lowy 2006; Wyndham and Read 2010: 34). Additionally, the Civil Registry neglected to take fingerprints of the deceased (Lowy 2006). In so doing, these departments demonstrated negligence and share in the complicity of erasing the identities of the victims that passed through their inspection (Lowy 2006).

The authorities responsible for disappearances kept relatives ignorant of their loved ones’ fate and stood in the way of any legal investigation to uncover the truth (Fondebrider 2002: 898). Families were subjected to years suspended in limbo and denied any sense of closure (Fondebrider 2002: 898). During the summer of 2013 when I returned to Santiago to conduct research for this paper, I interviewed Marisol Intriago, the current director of the Special Unit of Forensic Identification at the SML. She explained to me that,

Desaparecidos were not just murdered but attempts were made to convince the whole world that they did not exist. This almost drove some families crazy. Legal documents were manipulated to the point that individuals really did disappear. Not just that their whereabouts were unknown, but that they didn't exist at all in the records. (Intriago and Stockins, personal interview, July 11, 2013; see Verdugo 1980: 81 for a specific example)

The attempts of families and friends to find the missing were portrayed as desperate attempts by crazy people to destroy the country through their lies.

They were transformed into pariahs of society through the disappearance of the victims. Families looking for *desaparecidos* were seen as dangerous and problematic, not because of their political beliefs, not for their own values, but merely because they insisted in the existence of people that 'did not exist.' (Intriago and Stockins, personal interview, July 11, 2013)

Often families knew that their relative was most likely dead, but found it difficult to let go of what little remaining hope they had for fear of forsaking them (Fondebrider 2002: 889). They did not want to accept the fact that their loved one was dead without acknowledgement from the state of what had happened and an explanation as to why. As anthropologist Fondebrider explains,

Until their bodies are found or their death is confirmed, there can be no funeral rites and no final answers. Thus in almost every case there is affliction, fear and a deeply disrupted family life, together with a desperate need to recover the remains so they can give them proper burial and close – if only partially – the agonizing circle of uncertainty. (2002: 898)

Another event that marks the process of disappearance was the disposal of bodies of the *desaparecidos* in mass graves. Some examples of graves that have been located are: Pisagua, where 20 mummified corpses were found; a grave in Talca, where three bodies were found bound together and thrown in a pit; Calama, at the sites designated KM 13; "Chihuío," in the 10th Region; and "Quebrada El

Arrayán – Los Quillayes” in Rapel, all of which were linked to Pinochet’s operation Retiro de Televisores (Removal of Televisions), a strategic move by the government to hide evidence of its crimes (Cáseres 2011: 15-16). More details are found in the appendix, which include tables that I have translated from a thesis written by Chilean archaeologist Iván Cáseres. These tables list all of the sites in which remains have been found in Chile and when they were excavated. They also list the type of analysis conducted, when it was done, and who did the work. Lastly, they note the results that were produced and the names of any victims that could be identified.³

The Formation of Patio 29

The case of Patio, one of the better-known sites, is somewhat more peculiar. Shortly after the coup, the Army took control of the SML (Bustamante y Ruderer 2008: 48) and the General Cemetery (Wyndham and Read 2010: 34). The Generals in charge decided that in order to get rid of the bodies overflowing in the morgue, they would bury the dead in anonymous graves in a discrete back lot of the General Cemetery (Bustamante y Ruderer 2008: 48; Wyndham and Read 2010: 34). Authorities ordered cemetery workers to bury an estimated 320 bodies, two or three to a grave (Wyndham and Read 2010: 35). As Chilean forensic archeologist Cáseres (2011) explains,

[T]he concept of a grave alludes to a formal structure prepared to contain one individual, located inside a cemetery. For this reason we agree that

³ See Appendix A for tables from Iván Cáseres Thesis. *Detenidos desaparecidos en Chile: Arqueología de la muerte negada*.

Patio 29 in the General Cemetery of Santiago corresponds to individual graves more so than mass graves. (16)

Another peculiarity of Patio 29 is that, because the cemetery workers that buried the *desaparecidos* were Catholic, they marked each grave with cheap standard metal crosses inscribed N.N. to signify “No Name,” along with the date that they were buried (Wyndham and Read 2010: 35). To anyone who saw this plot or knew of it, it was evident that victims of the dictatorship had been illegally interred there; however, nothing could be done about it while the people of Chile still lived under an oppressive dictatorship (Lowy 2006). Furthermore, even if it had been possible to retrieve the remains, the professional understanding of how to remove them and identify them in a systematic and scientific manner did not yet exist at that time (Reveco, personal interview, Nov. 22, 2012). Ironically, while the denomination N.N. further emphasizes the loss of individual identity, it is this very same trait that made them so easily locatable for investigation and identification when the dictatorship ended (Wyndham and Read 2010: 43).

When the time came, an attempt was made to establish forensic anthropology in Chile to identify remains. Chile was one of the first countries to try to employ techniques of forensic anthropology in the realm of human rights and political crime investigations (Fondebrider 2002, 2010). Most of the training and understanding of Chilean practitioners of forensic anthropology came via the Equipo Argentino de Antropología Forense (EAAF), the team of forensic anthropologists in Argentina who were dealing with a similar dilemma (Fondebrider 2010: 157; Guntzel 2004; Reveco, personal interview, Nov. 22, 2012; Steadman and Haglund 2005). The Argentines, in turn, gained this

knowledge from the United States. In the U.S. during the 1980s, several specialists and professionals decided to explore a new, more internationally compelling application of forensic anthropology that went beyond the types of cases the U.S. historically dealt with (Fondebrider 2010; Steadman and Haglund 2005).

Chapter 3: The Development of Forensic Anthropology in the United States

Anthropology, as a discipline, strives to understand humankind in all its complexities, both in the past and the present. Forensic anthropology is a relatively new subfield within physical anthropology that relies on the use of physical and biological characteristics of the human skeleton to aid legal entities in the identification of unknown individuals (Shirley and Tersigni-Tarrant 2013: 1). Forensic anthropology has developed differently in various geographical regions, due to distinct historical, cultural, and political contexts. On one hand, in the United States, forensic anthropology developed in the second half of the 19th century to deal with domestic criminal investigations, and later, the repatriation of war dead. Thus, the field had decades to be refined. By contrast, the practice was introduced practically overnight during the 1980s and 1990s in Latin America, in order to deal with mass numbers of dead resulting from their numerous dictatorships.

Regardless of its earlier inception, the field of forensic anthropology is relatively new in the United States and can be divided into three periods: the Formative Period (1800s-1938), the Consolidation Period (1939-1971), and the Modern Period (1972-present) (Shirley and Tersigni-Tarrant 2013). In general, forensic anthropology arose from the investigation of domestic criminal cases. During the Formative Period, before an established field existed, those who showed the most interest in forensic work were anatomists (Shirley and Tersigni-Tarrant 2013). The first recorded application of forensic techniques in the

investigation of a criminal case is that of the murder of Dr. George Parkman at Harvard in 1849 (Shirley and Tersigni-Tarrant 2013; Snow 1982: 102). Harvard anatomy professors, Oliver Wendell Holmes and Jeffries Wyman, aided in the investigation, and they determined that the characteristics of the skeleton that was found were consistent with a man of Parkman's description (Snow 1982: 102). Later, in 1878, Thomas Dwight, who succeeded Wendell Holmes, became the first to really recognize the need to develop methods for determining sex, age, and stature (Shirley and Tersigni-Tarrant 2013: 3). He became known as the father of forensic anthropology in the United States (Snow 1982: 99; Stewart 1979).

Succeeding contributors of this period consist of: anthropologist George Dorsey (1839-1931), who is known for collaborating on the Leutgert murder case, and subsequently abandoning forensics after facing harsh criticism from other anatomists for his testimony in court; Harris H. Wilder (1864-1928), a European-trained zoologist who made contributions to personal identification using fingerprint analysis and facial reconstruction; Paul Stevenson (1890-1971), an American anatomist who studied age determination and stature in Chinese populations; Ales Hrdlicka (1869-1943), who studied medicine before developing the field of American physical anthropology (Krogman 1976; Shirley and Tersigni-Tarrant 2013: 3); and Earnest A. Hooton (1887-1954), who joined the Anthropology Department at Harvard after earning his diploma in anthropology and who became an important figure for training future physical anthropologists (Shirley and Tersigni-Tarrant 2013: 3-4).

Later practitioners, such as anatomists Dr. Carl Hamann and T. Wingate Todd, had the insight to begin compiling the first expansive collection of skeletal remains in 1912 (Shirley and Tersigni-Tarrant 2013: 4). Research to develop standards for sex, age, ancestry, and stature is most easily conducted on large samples of individuals of known identity. It was a change in Ohio state law, permitting professors to retain medical cadavers upon completion of dissection by medical students, which allowed them to do this (Shirley and Tersigni-Tarrant 2013: 4). By the time of Todd's death in 1938, there were skeletal remains of over 3,000 individuals in the collection at the Cleveland Museum of Natural History in Ohio (Shirley and Tersigni-Tarrant 2013: 4). Other samples followed, such as the collection developed by anatomist Robert J. Terry in the 1920s and carried on by Dr. Mildred Trotter when she assumed his anatomy teaching position at the Washington University Medical School in St. Louis, Missouri. This collection contains nearly 2,000 skeletons, which today are housed at the Smithsonian Institution's National Museum of Natural History in Washington, D.C (Shirley and Tersigni-Tarrant 2013: 5).

The second period, known as the Consolidation Period, began in 1939 with the publication of Wilton Marion Krogman's *Guide to the Identification of Human Skeletal Material* in the FBI's Law Enforcement Bulletin (Shirley and Tersigni-Tarrant 2013: 5; Snow 1982; 105). This truly marked the emergence of anthropologists in the field of forensics. Later on in his career, Krogman produced the first forensic anthropology textbook, *The Human Skeleton in Forensic Medicine* (1962) (Shirley and Tersigni-Tarrant 2013: 6; Snow 1982:

106). Krogman studied under Todd and later influenced many of his own students, including William M. Bass (Shirley and Tersigni-Tarrant 2013: 6).

The Modern Period began in 1972, when Ellis R. Kerley (1924-1998) founded the physical anthropology section within the American Academy of Forensic Sciences (AAFS) (Shirley and Tersigni-Tarrant 2013: 6). Additionally, Dr. William M. Bass established a physical anthropology graduate program at the University of Kansas in the 1960s (Shirley and Tersigni-Tarrant 2013: 6-7). Approximately 40% of current practicing forensic anthropologists are said to be able to trace their academic lineage through Bass (Marks 1995).

Also unique to the development of American forensic anthropology is an emphasis on the identification and repatriation of war dead. Holland and Tersigni-Tarrant (2013) propose that this focus on repatriation is due to the “youth” of the United States compared to other historical powers. As a young country, they argue, it did not start participating in large-scale wars overseas until the twentieth century (Holland and Tersigni-Tarrant 2013: 17). By this time, the technological and logistical capabilities of transporting enormous numbers of bodies back to their home soil had been developed (Holland and Tersigni-Tarrant 2013: 17). In 1948, Dr. Mildred Trotter became the Scientific Director of the Central Identification Laboratory in Hawaii, working to identify American service men lost in World War II (Holland and Tersigni-Tarrant 2013:18). During her time there, she expanded the study of war dead for research, in an effort to create more accurate and modern standards (Holland and Tersigni-Tarrant 2013:18).

Then came the Korean War and the Vietnam War. Each time, the forensic anthropologists at work had to assess the specific needs of the situation and adapt their techniques to the context in which identifications were conducted (Holland and Tersigni-Tarrant 2013: 21). It is this gradual learning process, afforded by time and opportunity, that characterizes forensic anthropology in the United States today. Forensic anthropologists in the U.S. were able to refine the process of identifications while working on domestic criminal cases and the repatriation of war dead. Scientists in conflict-ridden regions of the world, such as Central and South America and the former Yugoslavia, did not have such opportunities. That being said, an indispensable component of identification that unifies and defines forensic anthropology globally is the formation of a biological profile.

Biological Profile

Since the inception of forensic anthropology, the construction of a biological profile has been central to the identification of remains (see Table 2 below). While today, particularly in the context of human rights violations and political crimes, biological profiles are not the sole source of information, they still form the basis on which the practice was built and deserve attention. Four basic components make up the biological profile of an individual: sex, age, ancestry, and stature; these are assessed using principles of skeletal growth, development, degeneration, and variation (Shirley and Tersigni-Tarrant 2013: 25). Skeletal and dental trauma and pathologies may also contribute information to the

individuation of unidentified remains and the elaboration of missing persons' stories.

Methods for determining the sex of an individual rely on both morphological differences between men and women, such as the shape of the pelvis and characteristics of the cranium, as well as the metric analyses of dimorphic dimensions (Buikstra and Ubelaker 1994). It is important to note that no reliable morphological or quantitative methods for determining the sex of juveniles currently exist; subadult sex may be established only through biochemical and molecular analysis (Saunders 1992). The most notable morphological differences for adults can be found in the pelvis (Berg 2013: 143). The reproductive capabilities of women have driven natural selection to favor a wider pelvis that is suitable for childbirth (Leong 2006). Since males have no such need, their pelvises are narrower (see Berg 2013: 143 for more details; Phenice 1969). Sexual dimorphism of the pelvis is 90-95% accurate for determining the sex of an adult (Berg 2013: 143).

While it may be the most reliable indicator, the pelvis is not the only characteristic used to estimate sex. Cranial morphology, though only 70-80% accurate, is still a useful tool when used in conjunction with other methods (Berg 2013: 143). Metric analysis of the pelvis (Washburn 1984) and cranium (Giles and Elliot 1963), along with certain joints, has proved useful. Measurements of the femur, humerus, and tibia have been shown to be 80-95% accurate in estimating sex (Berg 2013:152; Dittrick and Suchey 1986; Holland 1991; Stewart

1979). Bass (2005), in particular, discusses the measurements of the femoral and radial head diameters to estimate adult sex.

When it comes to estimating the age of skeletal remains, one must keep in mind that it is the age at death that is assessed, not the time that has passed since death. Aging techniques are based on the chronological development and growth of bones and teeth, followed by the subsequent degeneration that occurs with senescence (White, Black and Folkens 2012).

When talking about children, the term *subadult* is used to refer to individuals who have not yet completed skeletal or dental development (Shirley, Fazlollah and Tersigni-Tarrant 2013: 161). In general, it is easier to assign more specific age estimations to subadults because developmental changes occur at a rapid and predictable rate during the first third of life before they begin to slow (White, Black and Folkens 2012). The pattern and timing of dental calcification and development are the most reliable indicators gauging the age of the remains of subadults (Moorees et al. 1963a,b; Smith 1991). Second to dentition, the measurements of long bones are taken and compared to established standards to determine an approximate age (Fazekas and Kosa 1978; Ubelaker 1989). Lastly, an understanding of when different epiphyses appear, and when they fuse to primary ossification centers during development, assists this determination (Scheuer and Black 2000).

In the aging of adult remains, the pelvis is seen as having the most accurate landmarks. Scoring systems are used to approximate age from the pubic symphysis (Brooks and Suchey 1990; Todd 1920), and similar systems are used

to assess the auricular surface of the pelvis (Buckberry and Chamberlain 2002; Lovejoy et al. 1985). The estimation of age from sternal rib ends is also taken into consideration (Iscan et al. 1984), along with the fusion of cranial sutures and several other late-fusing epiphyses (Buikstra and Ubelaker 1994; Meindl and Lovejoy 1985). Lastly, dental wear is also age-related, and the use of scoring systems such as those devised by Smith (1984) and Scott (1979) may assist in age estimation (Buikstra and Ubelaker 1994). The challenging part in assigning a specific age or age range is that the techniques used try to divide up the continuum of growth and development into arbitrary categories (White, Black and Folkens 2012).

The determination of ancestry also factors into the biological profile. Historically, the anthropological categorization of people into different “races” focused on ranking populations based on cranial measurements and morphological features, putting Europeans above everyone else (Gould 1981). This practice negated the intricacies of human variation and adaptation. Despite the 19th century typological origins of race determination, consideration of ancestry is still useful today, particularly in forensic anthropology in the U.S. (White, Black and Folkens 2012).

Today, anthropologists understand the scientific shortcomings of such a practice. However, forensic practitioners must operate within the system of the U.S. government and bureaucratic “race” classifications. In order to be able to communicate with the legal system and the general public, forensic anthropologists must define ancestry in terms comprehensible to such groups (St.

Hoyme and Iscan 1989). While there are no real scientific “races,” anthropologists are able to estimate ancestry because there is a strong link between social race and skeletal biology (Ousley et al. 2009; Sauer 1992). Ousley (2009) describes this to be a result of assortative mating practices and limited gene flow, which has allowed for the maintenance of certain group characteristics. However, more mating between geographical populations results in more variation, making it harder to categorize people.

Current techniques use morphological and metric analysis of characteristics that are prominent in different geographical regions in order to narrow down search categories for missing individuals (Ousley, Jantz and Fried 2009). In the 1990s, the use of computer technology was introduced to aid this process (Jantz and Ousley 2013: 254). Currently in its third version, *FORDISC* is a computer software program that takes skeletal measurements of an unknown individual, runs them through statistical formulas and compares them to reference samples to estimate possible ancestry, sex, and stature. Determination of sex is population-specific, meaning that the differences between males and females vary from one population to the next (Ousley and Jantz 2005). Thus knowing which population an individual might be from may be necessary before proceeding with the rest of their biological profile.

There are two basic methods for stature estimation, one based on regression equations and the other on the measurement of full anatomical height. While the anatomical method is preferred, due to the sensitivity of regression equations to population variation, it requires a nearly complete skeleton, which

often is not present in forensic case work (Shirley 2013: 246-7). Thus, the regression method is employed; it works by measuring long bones and entering those numbers into the appropriate regression formula, based on the appropriate sex, ancestry, and time period (Shirley 2013: 247). The most commonly used formulas in North America are those of Genovés (1967), Trotter (1970) and Trotter and Gleser (1958) (White, Black and Folkens 2012).

The assessment of pathology and trauma has also become an integral part of skeletal analysis. When studied in the individual, it gives us insight into personal experiences, and when studied in the population, it may reveal broader trends. By assessing these conditions, anthropologists may also gain insight into the movement of people, climate and weather conditions, diet and economy, living environment, occupation, and medical treatment practices (Roberts and Manchester 2005). Pathologies are not just a result of biological disease or genetic disorder; they may also be due to cultural practices such as intentional deformation or surgical alteration (White, Black and Folkens 2012: 429). Environmental factors such as nutritional deficiencies and trauma may also leave their mark on bone (White, Black and Folkens 2012: 429).

The analysis of trauma plays an important role, particularly in cases of political crimes and human rights violations. In these cases, collecting evidence of systematic force and brutality may serve a purpose in criminal courts. Skeletal trauma includes fracture or dislocation of the bone, artificial deformation, or disruption of blood or nerve supply to the bone (Roberts and Manchester 2005: 84-5). Trauma may be the result of an accident, cultural practice, therapeutic

treatment, or as in the cases addressed in this paper, interpersonal violence (White, Black and Folkens 2012: 433).

Interpersonal violence is visible most notably in skull injuries; however, the ribs and scapulae should also be assessed, and defense injuries to the forearms and hands may be present (Judd 2002; Jurmain 1999). Being able to distinguish between ante-, peri-, or postmortem trauma may be challenging, but doing so might indicate survival of an injury or possible manner of death (Sauer 1998). Antemortem injuries occur prior to death, perimortem occur around the time of death, and postmortem occur after death (White, Black and Folkens 2012: 433). Three types of perimortem injury, based on the force used, include sharp, blunt, and projectile injuries (Simmons and Haglund 2005: 168). *Sharp* refers to an injury most likely created by a weapon with a sharp edge, *blunt* leaves a depression fracture caused by a blunt object or a fall, and a *projectile* injury results from impact from a weapon at high velocity (Roberts and Manchester 2005: 110). A rounding of the wound edges indicates healing, and the first fibrous union may be visible around 15 days after the injury (Roberts and Manchester 2005: 90). Thus, complete healing may indicate survival, while partial healing or no healing may indicate death near the time of injury (Roberts and Manchester 2005: 114).

When it comes to the assessment of human remains, sex, age, ancestry, stature, pathology, and trauma are all key components. All come together to form a biological profile, with pathology and trauma providing further individuating details. The more information that can be incorporated into search parameters for

a missing person, the more likelihood there will be of finding a positive match. However, the biological profile does not stand alone. The unique perspective of forensic anthropologists considers both the biological and cultural determinants of human skeletal biology (Shirley and Tersigni-Tarrant 2013: 27). For example, “characteristic skeletal features indicate whether a skeleton is male or female, but other skeletal markers can reveal aspects of an individual’s identity such as socioeconomic status, health history, and occupation” (Shirley and Tersigni-Tarrant 2013: 28). Such a balanced approach allows for the creation of a more complete picture when searching for the identities of the missing.

Table 2: Primary Components in Human Identification

(Kimmerle 2013: 433)

Profile Component	Methods
Sex estimation	Pelvic morphology Pelvic metric analysis Cranial metric analysis Cranial morphology Long bone metric analysis
Age estimation	Pubic symphysis morphology Auricular surface morphology Sternal rib morphology Dental metrics Osteoarthritis and degenerative joint changes Dental wear Cranial sutures
Stature estimation	Long bone metric analysis
Ancestry or ethnicity estimation	Cranial metric analysis Cranial morphology Postcranial metric analysis Postcranial morphology
Pathology/unique markers	Documented prior skeletal disease, trauma, or medical intervention/ modification Congenital abnormalities
Human identification	Facial approximations/ superimposition/photo ID DNA Fingerprints

	Clothing identification Artifact/ jewelry identification Circumstantial evidence, i.e., witness accounts or geographical locations Dental records Radiographic imaging of skeletal or dental anatomy
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Scientific Identification: Antemortem and Postmortem Findings

Renshaw (2010, 2011) touches on the importance of utilizing both ante- and postmortem data to achieve positive identification in forensic anthropology. She refers to this compilation of references and data as the “bringing of different material indices of the dead into new relationships” (Renshaw 2011: 35). The combination of ante- and postmortem data in an investigation in turn permits “scientific identification” (Renshaw 2010: 452). Antemortem data consist of information that is garnered about a person’s life before death, while postmortem data is collected from the physical remains after death (Byers 2005). This ante- and postmortem data is then compared and assessed for compatibility, in order to determine probable identities and to propose that identity to the court (Cáseres 2011: 19). “The investigation of a mass grave entails not only the exposure of human remains, but also an intensive gathering-in of reference data, assembling knowledge and representations of the dead” (Renshaw 2010: 451).

Sources of antemortem information that may factor into a scientific identification, as Renshaw (2010: 452-453; Cáseres 2011: 19) describes them, are: (1) eyewitness accounts that may reveal the last time the deceased was seen by family or friends before they died, (2) family histories that provide descriptions of the deceased that may be recognizable in their skeletal remains, such as

pathological characteristics, injury, or reputable stature, and (3) physical objects, which can range from articles of clothing and shoes to documents such as identity cards, photographs, or medical and dental records. Each of these may then contribute information to a “physical profile” of the deceased individual that can aid in scientific identification by comparison with data garnered from skeletal remains (Renshaw 2010: 452-453).

Criticisms about the fallibility of human memory have, at times, cast doubts on the value of subjective experience and testimony (Renshaw 2011: 11). Renshaw (2011) explains how physical evidence may be thought to counteract anxiety about the fallibility of human memory; however, this is also flawed, considering interpretations of physical evidence can still be framed in particular ways that “exhibit authorship and mediation” (14). Wagner (2008) too, explains how some may value physical scientific evidence derived from skeletal and material remains over the subjective description and testimony of families. However, even in the investigations carried out in the former Yugoslavia, where it was often the case that remains were so commingled and scattered that DNA analysis was necessary for identification, the corroboration and confirmation of family’s testimonies and memories were still essential. Based on her experience in the former Yugoslavia, Wagner (2008) states,

[M]emory, imagination, and supposition ... do not exist on the opposite side of some vertical line drawn between their subjectivity and the objectivity of DNA science. Rather these different kinds of knowledge gain significance within the process of identification in relation to one another. (150)

Chapter 4: Objectives of Forensic Anthropology

In the case of forensic anthropology and crime scene processing, the fundamental purpose is to identify to whom the remains of the deceased belong, and to collect and preserve physical evidence, which then helps reconstruct the events that led to death (Kimmerle 2013: 424). A significant distinction between the use of forensic anthropology in domestic criminal cases and in investigations of human rights violations is that the latter are usually large-scale in which the perpetrator is a state (Fondebrider 2002: 887). Renowned forensic anthropologist Clyde Snow, known for his work on international human rights cases, once commented that “of all murder victims, those of the state are the most helpless and vulnerable since the very entity to which they have entrusted their lives and safety becomes their killer” (Crowder-Taraborrelli 2013: 399; Guntzel 2004: 14). Thus, the added dimension of many complex and intertwining socio-political and historical layers must be accounted for in the investigation of large-scale, state-led human rights violations.

While the practice of forensic anthropology originated in the context of medico-legal death investigations, with the objective of seeking criminal prosecution, in certain contexts it is used to achieve humanitarian goals, such as reparation and the repatriation of human remains (Crossland 2011; Kimmerle 2013: 421). “The identification of victims of mass atrocities is a process that gives families and survivors access to justice and is defined as a human rights issue” (Kimmerle 2013: 421). Quite often, however, these legal and humanitarian

objectives can be at odds with each other when they serve the various goals of different groups (Crossland 2011; Fondebrider 2002).

Forensic identification also plays an important role in reconstructing and defining memory (Crossland and Joyce n.d.: 9; Ferrándiz 2006; Renshaw 2007). One reason efforts may focus on humanitarian objectives as opposed to legal ones may be due to the lapse of time between a traumatic event and the investigation of it. Critical evidence may be lost in that time, which hinders the investigative process (Kimmerle 2013: 423). One must consider whether a legal case can be built or not. Some standards that are assumed in the U.S. or Europe may not be attainable in other contexts, and procedural errors may compromise the investigation. A breach in the chain of custody, for example, may reduce the legal validity of evidence (Fondebrider 2002: 888).

In the case of the Chilean *desaparecidos*, much information was lost mostly as a result of the state's systematic attempts to destroy evidence and erase identity (Padilla and Reveco 2004). During initial investigations, even though evidence was collected, the challenges posed by the politically tense post-dictatorship environment delayed pursuits of legal prosecution. Exhumations were still carried out, but experts focused instead on identifying individuals for the purpose of returning remains to their families (Reveco, personal interview, Nov. 22, 2012). Gradually, through the period of ongoing transitional justice it has been realized, as Cáseres (2011) notes, "that identity has legal value and, once established, yields civil and criminal consequences for the families and victimizers" (103-4). Thus in Chile, forensic anthropology was utilized to seek

both humanitarian and legal goals, and it is the practitioner's task to navigate relations within both spheres.

Effective communication between prosecutors and forensic practitioners is vital to optimize the resources. Equally important is the relationship that is built between the practitioners and the victims' families regarding communication, information and expectations that both parties may have. (Garrido and Intriago 2011: 19)

Dr. Clyde Snow has dedicated himself to the development of forensic anthropology in the context of investigating human rights violations and identifying victims of political crimes. He explained his reasons for doing this, as follows: (1) "to find the skeletal remains and return them to the families and the communities," (2) to hopefully seek justice, (3) to produce what he dubs a "chilling effect," which he believes may deter other potential perpetrators from committing mass-atrocities by showing them how forensic anthropology can expose crimes, and (4) "to get it on the historical record" (Guntzel 2004: 16).

Forensic Anthropology in the Arena of International Human Rights

Fondebrider (2002) explains that politically motivated kidnappings and disappearances, torture, and extrajudicial killings are practices that have been systematically employed across the "Third World" for more than 50 years, yet little attention has been paid to it in the international arena until the wars in the former Yugoslavia hit the media (886). Thus, the use of medico-legal techniques for the protection of human rights is a relatively new practice (Kimmerle 2013: 422). In the early 1980s, "Argentina was one of the first countries to combine

anthropology and forensics as legal tools to enforce the protection of human rights through judicial accountability” (Fondebrider 2002, 2010; Kimmerle 2013: 421). Regular exhumations were carried out in order to investigate the large number of remains of disappeared people from the preceding period of political violence (Guntzel 2004: 14). These investigations aimed at establishing the cause and manner of death for legal purposes, then attempted to identify the remains and return them to their families in a humanitarian effort (Fondebrider 2002: 887).

Dr. Clyde Snow was one of the first to pioneer the application of forensic anthropology to cases of human rights violations and political crimes (Fondebrider 2002, 2010). Up until that time, Snow was known for his work on serial murder cases and airplane crashes (Guntzel 2004: 14). In 1984, he was part of the handful of forensic experts that were sent to Argentina by Eric Stover, the then Director of the Science and Human Rights Program at AAAS (American Association for the Advancement of Science) (Burns 1989: 70). Snow collaborated with local students, archaeologists, anthropologists, and physicians to begin exhumation and identification efforts using traditional archaeological and anthropological methods (Fondebrider 2010: 157; Guntzel 2004: 14; Kimmerle 2013: 422; Snow et al. 1984; Stover and Eisner 1982).

Over the next five years, Snow returned regularly, helping to train the founding members of the EAAF, the Argentine Forensic Anthropology Team (Fondebrider 2010: 157; Guntzel 2004). Luis Fondebrider was also involved in the formation of the EAAF, and under the guidance of Snow, he became president of the organization. The EAAF was the first organization of its kind that was

independent from the government (Crowder-Taraborrelli 2013: 387), which allowed it more freedom in a post-dictatorship period. Their interdisciplinary approach in Argentina provided a foundation for similar efforts in other countries and acted as a standard for removal or remains, analysis, and identification for the purpose of repatriation, prosecution, funerary rites, and reconciliation around the world (Kimmerle 2013: 422).

The dictatorships that plagued the Southern Cone, consisting of Chile, Argentina and Uruguay, were all quite similar. The infamous “Plan Cóndor” connected these countries through a covert agreement among the military regimes in the region to exchange intelligence and political prisoners (EAAF 2009: 99). Thus, it was realized that the application of forensic anthropology established by the EAAF could also serve for Chile, once it reached democracy. Snow and the Argentines of the EAAF played a principle role in the training and formation of the original team of forensic anthropologists in Chile, called the GAF (Grupo de Antropologos Forenses) (Padilla and Reveco 2004).

Chapter 5: Chile

The Unique Course of Forensic Anthropology in Chile

Forensic anthropology was practically nonexistent in Chile until after the 17-year military dictatorship ended. The plebiscite of 1988, which put to the vote whether or not Pinochet would stay in power, was a key signal that the dictatorship was coming to its end (Paredes, personal interview, Oct. 4, 2012). One year before the return to democracy, when it became apparent that the regime would fall, a handful of experts began preparing for the quickly approaching need for forensic anthropology (Padilla and Reveco 2004). Thus, it was only when Chile finally emerged from its era of political repression that the critical tools of forensic anthropology could be developed and used to deal with the mess that the dictatorship had left (Intriago and Stockins, personal interview, July 11, 2013). From this effort, the Grupo de Antropólogos Forenses (GAF), or Group of Forensic Anthropologists, was born (Padilla and Reveco 2004). However, due to the tense political atmosphere that extended for years after the end of the dictatorship, the development of forensic anthropology in Chile was far from seamless. Thus, it is important to understand how this specialization formed within the historical, political, and social contexts of the time.

I was lucky enough to hear this history directly from Isabel Reveco, a former practitioner of forensic anthropology who was directly involved in the process. My professor, Mauricio Paredes, helped me track her down through a mutual friend of theirs. The first time I managed to get her on the phone, I was thrilled that she was willing to sit down with me for an interview. I agreed to

meet her at a location of her convenience. Little did I know just getting there would be an adventure, but she turned out to be such a valuable informant that I braved this trek a second time, just a week later. Isabel shared with me her perspective on the development of forensic anthropology in this tumultuous era, along with her own personal story of involvement in this process. The stories and details of what she told me are presented in the following section.

Evolution of the Process

The State of Forensic Archaeology in the Beginning

Even though the GAF did not form until the dictatorship was nearing its end, this did not mean remains did not surface before then. There are several cases in which victims' remains were found during the dictatorship. A brief review helps illustrate the conditions that forensic archaeologists and anthropologists were working in during that period of political repression.

When the first traces of *detenidos desaparecidos* appeared in 1978 in the brick ovens of Lonquén (Metropolitan Region), and in 1979 in Yumbel (Region VIII), there was no adequate method for exhuming the bodies. Doctors of the regional SMLs, along with family members and construction workers, dug up what they could find of the bodies and their belongings and put them into plastic bags to send to the SML headquarters in Santiago (Reveco, personal interview, Nov. 22, 2012). "In both cases neither archaeologists nor anthropologist were present...[and] they employed very rudimentary techniques which resulted in, in

some cases, critical damage to the bones and the loss of a large amount of contextual information associated with the bones” (Cáseres 2011: 58).

The lack of professional forensic anthropology and archaeology technicians was not the only problem. Political and military pressure threatened advances towards discovering the truth or any form of activity that ran counter to government interests. In fact, shortly after the recovery happened, the bags containing remains from Lonquén and Yumbel were taken by the secret police force the National Intelligence Directorate or DINA (Dirección de Inteligencia Nacional) and re-buried in a secondary mass grave, showing the futility of any attempts to investigate at that time (Reveco, personal interview, Nov. 22, 2012).

The very first participation of experts in the field of anthropology in human rights investigations in Chile was in 1986, only a few years before the end of the dictatorship (Padilla and Reveco 2004). At this time, Carlos Cerda, the Minister of the Court of Appellations in Santiago named archaeologists of the Chilean Museum of Pre-Columbian Art as experts in the case of Quebrada La Mina de la Cuesta Barriga in the commune of Padre Hurtado (Metropolitan Region) (Cáseres 2011: 60; Padilla and Reveco 2004). A few years later came the development of the GAF.

Exhumation vs. Excavation

When bodies first started coming out of the ground, the process was so fraught with complications and disorganization that a tremendous amount of contextual information was lost (Intriago and Stockins, personal interview, July

11, 2013). According to Ivan Cáseres (2011), a former archaeologist of the GAF, a large part of the problem was the practice of exhumation, as opposed to excavation. Exhumation is the process utilized in common criminal cases, in which the police remove the remains and turn them over to medical examiners to analyze (Cáseres 2011: 17). By contrast, an archaeological excavation is much more systematic and is guided by a scientific methodology. Crossland (2011: 292), Conner and Scott (2001) also highlight this distinction between a chaotic, unstructured, and destructive exhumation and an excavation, which aims to scientifically and systematically record context and preserve evidence at the site itself. However, it should be noted that these two terms are often conflated in works that discuss the removal of bodies from the ground and the purpose of making the distinction here is to illuminate the transition from a chaotic to an orderly practice in Chile over time.

The risk of unstructured, chaotic, and destructive exhumation in cases of forensic archaeology is that it may complicate identification, hinder the return of remains to relatives, and invalidate the use of evidence in a court of law (Crossland 2011: 292; Joyce and Stover 1991: 241; Stover et al. 2003: 663).

An excavated body in contrast, is one that is carefully removed from the grave, where thought is paid to the traces of human actions that led to its deposition in the ground, and close attention paid to the clues and signs left behind by those responsible for its burial. (Crossland 2011: 292)

At the time that bodies were removed from Yumbel and Lonquén, the dictatorship had not yet ended, and there was hardly time for an excavation process to be established (Intriago and Stockins, personal interview, July 11, 2013). Even after a forensic identification team had been formed post-

dictatorship, systematic and controlled excavations did not occur for some time because techniques of forensic archaeology were not employed. Those exhuming the remains saw the process as merely collection and neglected the burial contexts in which remains were found (Intriago and Stockins, personal interview, July 11, 2013).

Due to the legal tradition in Chile, it is the police that exhume the remains from burial sites and then transfer them to the medical professionals who are in charge of examining the bodies (Cáseres 2011: 18). They did not, however, transfer any of the associated items recovered from the grave or record the location in which they were found. The medical examiners primarily carried out autopsies, and when it came to the remains of *desaparecidos*, they would, at most, record a brief description of the clothing associated with the body. Only at the request of the judge were the cultural materials associated with the remains analyzed by the police, who may or may not have collected them (Cáseres 2011: 18). This division of labor created a disconnect between different forms of analysis and those carrying it out. As a result, the contexts in which the bodies had been interred were lost (Cáseres 2011: 17). This was how the process ran, up until the early 1990s, since the expertise of biological and forensic anthropologists or archaeologists was not incorporated until after the end of the dictatorship.

The development of a more systematic analysis of human remains came from the involvement of forensic anthropologists. As mentioned earlier, these professionals specialize in the analysis of bones and teeth, distinguishing ancestral traits, sex, age, and stature, depending on the condition of the remains. While this

type of analysis focuses on physical characteristics of the person, social or cultural anthropology and ethnography may also be able to uncover a narrative of their stories before and leading to their death. Such a process focuses on various contextual factors surrounding the bodies (Skinner and Sternberg 2005: 7-8). For successful identification, anthropologists must collect as much information as possible, which includes both antemortem and postmortem data. The combination of the two helps to link human remains as much to the social lives they led prior to death as to the causes and context of their deaths (Renshaw 2010: 453).

Forensic anthropologists have acquired a unique toolkit that permits them to carry out such a complex and specific kind of work. These professionals collect witness testimonies and antemortem data, carry out grave searches and recovery, exhume remains, create biological profiles, perform trauma analysis, and provide expert testimony (Kimmerle 2013: 428). Additionally, Renshaw suggests that archaeological and forensic methodologies have the ability to “communicate the scientific objectivity, political neutrality and calm methodological orderliness” of excavations (Renshaw 2011: 140).

Formation of the GAF

Before 1989, forensic anthropology as a credible and established field did not exist in Chile (Marisol and Intriago, personal interview, July 11, 2013; Reveco, personal interview, Nov. 22, 2012). That year, North American Dr. Clyde Snow and three Argentinians from the EAAF came to Chile to assess

whether there was a basis on which to form a Chilean forensic anthropology team. Snow and his colleagues traveled throughout Chile searching for remains, trying to determine where remains were buried, whether they were human, and whether or not they pertained to the context of political violence (Reveco, personal interview, Nov. 22, 2012). In April of 1989, Sola Sierra, president of the Association of Relatives of the Detained and Disappeared or AFDD (Agrupación de Familiares de Detenidos Desaparecidos), invited the Commission of Human Rights of the College of Anthropologists of Chile, formed two years prior by alums of the University of Chile, to meet Dr. Snow and his team (Bustamante and Ruderer 2009: 74). Snow, along with Sierra and Morris Tidball-Binz of the EAAF, had decided that it was imperative that a group of forensic anthropologists be formed in Chile quickly, so that they would be able to carry out investigations and identifications as soon as Pinochet stepped down from power (Padilla and Reveco 2004).

During my interview with Intriago and Stockins, they explained that, at the time, the SML could not take on the task of forensic identification efforts because until the dictatorship ended the institution was still controlled by the military. Prior to the dictatorship, it had been called the IML, Instituto Medico Legal, and it was an institution that was geared towards academic development, research, and the training of professionals in the field of forensics – principally medics, biochemists, and the likes (Intriago and Stockins, personal interview, July 11, 2013). These women explained how prior developments were completely disrupted by the dictatorship and, like many public services, the institution was

left deprived of its capacity, its finances, and its role in the area of judicial administration. Professional and technical development also suffered during these years, so when the dictatorship ended, it lacked the tools and the training it would have needed to be able to tackle the process of identification (Intriago and Stockins, personal interview, July 11, 2013).

That same year, the GAF was formed following an intense two-week training program directed by the Argentinians, which lasted from August 19 to September 1. The GAF was equipped with the theoretical, methodological, and technical skills to identify human remains pertaining to victims of repression, especially the disappeared and politically executed (Censo-Guía España). Initially, Isabel Reveco, Elías Padilla, Gabriel Guajardo, David del Pino, and Soledad Cid, all of whom were social anthropologists, made up the GAF (Sepúlveda 2005: 4). Additionally, there were archaeologist Iván Cáceres, odontologist Germán Ochsenius, and biochemist Ximena Cid (Sepúlveda 2005: 4). Investigating Patio 29 would serve as “on-the-job training” for the team, since it was work that none of them had any previous experience with. It was also a job that carried significant social and political clout (Reveco, personal interview, Nov. 22, 2012).

Isabel Reveco and Her Studies

During my first encounter with Isabel Reveco she explained to me how she came to be one of the first practitioners of forensic anthropology in Chile (Reveco, personal interview, Nov. 22, 2012). She explained that in the GAF,

there was an abundance of anthropologists; however, she was the only one with a solid foundation in biological anthropology. She is known to have paved her own way as one of the first practitioners of forensic anthropology in Chile (Aspillaga, personal interview, Oct, 23, 2012; Padilla, personal interview, July 17, 2013).

When she first started her studies at the University of Chile in 1980, she began as a nursing student but switched to anthropology after her first year. There was no official degree offered for physical or forensic anthropology, just social anthropology and archaeology. The medical focus, however, always interested her more. While Reveco graduated with a degree in social anthropology in 1984, the highly clinical nature of her course selections while earning her undergraduate degree qualified her for physical anthropology more than anyone else at the time. “It was the first time anyone had done such a thing” (Aspillaga, personal interview, Oct. 24, 2012). When the need for forensic anthropology arose in Chile to investigate and identify the remains of *desaparecidos* from the dictatorship, Reveco stood out. Dr. Snow took note of her pertinent educational background and recruited her to be trained for the task at hand. In very little time, Isabel Reveco became the one coordinating and training other forensic anthropologists in Chile (Reveco, personal interview, Nov. 22, 2012).

Starting Identifications: Patio 29

In 1990, Pinochet finally stepped down from power. President Patricio Aylwin came in to replace him on March 11; ten days later, the first three bodies of dictatorship victims were excavated. The remains were found on a farm called

Las Tórtolas de Colina, which was a property of the Army (Cáseres 2011: 41). The speed of these early excavations demonstrates the urgency of the search for answers. In the case of these first remains, the biological profiles of the bones were compared with the archival records collected by the human rights organization known as the Vicariate of Solidarity of the Catholic Archdiocese of Santiago (Reveco, personal interview, Nov. 22, 2012). The same year, before excavations started at Patio 29, the Vicariate of Solidarity entrusted Reveco with the task of organizing and systematizing all of the information they had amassed on Patio 29 to that point. She spent many hours reviewing documents and conducting paperwork in order to consolidate the efforts of previous judicial investigations that had failed because they encountered dictatorial pressure. As taxing as such work was, it was necessary, before excavation started, in order to understand the complex context enveloping Patio 29 (Reveco, personal interview, Nov. 27, 2012). In this section I portray the initiation of identification efforts as explained to me by Isabel Reveco and corroborated by additional sources.

Excavations of Patio 29 started on September 2, 1991, and lasted until September 14. There were four archaeologists working on the excavations, three from northern Chile and a member of the GAF. Reveco was the only person on the project with some experience in forensic anthropology, and she worked very closely with the judge in charge of the case, in order to coordinate operations. There were 107 graves excavated, in which 125 individuals were initially found, often two or three per grave. One more body was found in 1996, bringing the total to 126 individuals (Reveco, personal interview, Nov. 27, 2012). Of the

suspected 320 bodies buried in Patio 29, only a fraction were found, the cause of which is presumed to be Operación Retiro de Televisores (Operation Removal of Televisions) (Wyndham and Read 2010: 37). Here “televisions” acted as a code word for the bodies. Pinochet himself ordered this military operation in 1978 after the bodies of Lonquén were discovered (Pizarro 2013). He called for each military unit to return to the sites where they had buried their victims and, using heavy machinery, dig them up again in order to destroy the evidence and “re-disappear” the *desaparecidos*. Typically, the remains were removed and piled into sacks to be thrown into the ocean (Pizarro 2013). In 1982, these units had removed approximately 200 of the bodies from the cemetery in order to try to hide the traces of their political crimes (Wyndham and Read 2010: 36-37). This did not just occur at Patio 29, but throughout the entire country, wherever military forces or secret police had buried the bodies of *detenidos desaparecidos* (Wyndham and Read 2010: 36-37).

Between 1992 and 1994, 20 identifications were completed by the GAF, though shortly after, the GAF was dissolved due to a diminution of participation and lack of resources. At its peak the GAF, had eleven members, but in the last year, aside from Reveco, only two others remained. When Elías Padilla went to work abroad on a scholarship, the GAF could not continue, and Reveco went to work for the SML (Padilla, personal interview, July 17, 2013). In 1994, a doctor of the SML proposed the formation of a Special Unit for identification. This unit was separate from the morgue and took over the task of identifying *desaparecidos*, resuming the work on Patio 29 (Intriago and Stockins, personal

interview, July 11, 2013). The team, directed by Patricia Hernandez, was diverse and included a range of professionals, from odontologists to lawyers. Once again, Isabel Reveco was the only one with experience in forensic anthropology, and this was the first time that the SML had tried to incorporate such an approach.

Additionally, Reveco was the only one at the SML with prior experience in the type of investigation that involved identifying *detenidos desaparecidos* (Reveco, personal interview, Nov. 27, 2012).

While the GAF was an independent organization, the SML is a part of the state and, thus, has to work under the direction of the judicial system in order to serve legal purposes (Intriago and Stockins, personal interview, July 11, 2013). By the time investigations started getting under way, the dictatorship had come to an end, but a politically contentious atmosphere still surrounded the investigation of human rights violations by the state (Bustamante and Ruderer 2009: 75). A contributing factor that is still present in domestic law today is the Amnesty Decree Law of 1978, which protects all individuals who committed human rights violations between September 11, 1973, and March 10, 1978, from criminal responsibility (Amnesty International 2013; Lira 2001: 115). Although in recent years the amnesty law has been applied less by courts, its mere existence continues to be incompatible with Chile's international human rights obligations (Amnesty International 2013). It is in this context that the SML began its efforts to identify the 125 individuals of Patio 29 who still remained unnamed (Reveco, personal interview, Nov. 27, 2012).

Methods Used in Scientific Identification

Due to the lack of DNA technology up until very recently, the methods used to carry out the process of analysis and identification in the early years placed a great emphasis on the comparison of biological profiles with social profiles. Analysis of skeletal remains in the laboratory served to collect anthropomorphic traits. From these, approximate age can be determined, along with sex, dental anomalies, injury patterns, and traces left in the bones by certain illnesses, in order to compile biological profiles (Renshaw 2010: 458). But all this information has little significance for individual identification unless there are social profiles available for comparison, so that a potential match may be achieved.

It is due to the need for extensive social profiles that anthropologists spend time interviewing relatives and friends, collecting testimonies and details about the *desaparecidos* from people in their lives. The difficulty in using information collected in this fashion is that each person has a different relationship with the *desaparecido* in question and may have varying perspectives and memories of that individual that do not necessarily correspond. For example, perhaps political companions know details about the *desaparecido* that their family does not; if they had been shot in the leg, for example, or perhaps the last time the *desaparecido* was seen by their family was not the last time they were seen by friends. Often, the memories that people have of their disappeared loved ones are distorted, and they become idealized over time, imagination filling the gap of fading memories (Wagner 2008: 129). “The commonly occurring assertion that

one's father was tall or had a large stature may be the product of a child's sense of scale" (Renshaw 2011: 127). Reveco described how, as investigators, they are trained in techniques for interviewing relatives and friends that will give them the most precise results possible. She also emphasized the importance of collecting testimonies and accounts from all possible sources in order to corroborate details and to find the version that will best enable them to make a positive match with the bones (Reveco, personal interview, Nov. 27, 2012).

Other sources of information are medical and dental records that can give investigators defining characteristics to look for in the bones and teeth (Renshaw 2010: 453). The collection of this antemortem information allows for the reconstruction of a complex individual in a multilayered context. Characteristics that may prove useful in narrowing down a search include scoliosis, birth defects, unique dental work, or other traits that would be visible both in living individuals and their skeletal remains (Reveco, personal interview, Nov. 27, 2012). The use of photographs was also an important tool in the comparison of the physical remains to the person that once lived (Renshaw 2010: 452-453, Cáseres 2011: 19). One way these documents were used was in the technique of craniofacial superimposition (Reveco, personal interview, Nov. 27, 2012), which is explained below.

DNA analysis would have been the most scientific and systematic method for making matches, but at that time the technology barely existed (Padilla, personal interview, July 17, 2013). In 1994, the same year the task of identification was transferred to the SML, the group started to establish their own

laboratory for DNA analysis (Reveco, personal interview, Nov. 27, 2012). This sounds progressive although, according to Reveco, no one had experience with that type of technology, and they were nowhere near the level of technical standards needed for international accreditation for such procedures (Reveco, personal interview, Nov. 27, 2012). Furthermore, they were using only mitochondrial DNA, because the technology for analyzing nuclear DNA did not yet exist at that time, and so they were getting only molecular images that traced the maternal line (Bustos, personal interview, July 10, 2013). In addition to this lack of qualification, those charged with the task of identification had limited options and resources, and were facing intense external pressure.

Case Study: *Fernando ha vuelto*

Application of Methods

The particular case of Fernando de la Cruz Olivares Mori illustrates not only the methodology used by forensic experts to carry out the identification and the collection of evidence, but also the tragic errors that marred Chile's early days in the arena of forensic anthropology. The documentary *Fernando ha vuelto* (Fernando Has Returned), created by Chilean filmmaker Silvio Caiozzi in 1998, follows the return of Fernando's remains to his family after the forensic anthropologists of the SML established an identity. Documentaries serve as "critical visual documents for an understanding of the brutality of Pinochet's genocidal regime and the lack of support from governmental agencies for families during the painful process of identification" (Crowder-Taraborrelli 2013: 391).

Caiozzi then made a follow-up documentary in 2006, *¿Fernando ha vuelto a desaparecer?* (Has Fernando Disappeared Again?), when it became public that there had been misidentifications in the work that the forensic anthropologists had done (Caiozzi 2006).

Fernando was a member of the MIR, the Movimiento de Izquierda Revolucionario (the Revolutionary Leftist Movement). He disappeared on October 5, 1973. Forensic anthropologists began the investigation to identify his body in 1991, when human remains were retrieved from Patio 29. His family, however, was not included in the forensic investigations until 1994. The remains were officially identified in 1998 and returned to his family. At that point, 25 years had passed since Fernando's disappearance (Crowder-Taraborrelli 2013: 391).

At the outset of investigations involving the remains of *desaparecidos* in 1991, the anthropologists of the SML did not have very advanced technology, and in order to make identifications, they had to work primarily with the technique of craniofacial superimposition (Caiozzi 1998). With this approach, photos were of the utmost importance. Forensic anthropologists would digitally superimpose photos of various *desaparecidos'* faces on top of images of the excavated skulls and slowly erase the top image of the person away to see if the cranial and facial structures corresponded with each other. This method used all possible angles of the face and head and paid a lot of attention to the teeth and the structure of the nose (Caiozzi 1998; Reveco, personal interview, Nov. 27, 2012).

Photographs could also be of assistance if, as in the case of Fernando, the

victim had distinctive anatomical traits, such as scoliosis, that were evident in photos as well as in the physical remains (Reveco, personal interview, Nov. 27, 2012). Forensic anthropologists were able to see in photos that Fernando's right shoulder was always angled downwards, and was set lower than his left. This corresponded with the pronounced dorsal-lumbar scoliosis evident in the remains that were analyzed (Caiozzi 1998). Hernández states that other characteristics that factored into their assessment were stature and the fact that Fernando was an excessive smoker. In the documentary, she assures Fernando's widow that they made this identification with absolute certainty (Caiozzi 1998).

Assessment of Trauma

The forensic analysis of traumatic injuries in *Fernanado ha vuelto* appears to illustrate the violence Fernando experienced during captivity and interrogation. The documentary shows the experts Isabel Reveco and Patricia Hernández of the SML enumerating “all the lesions in his bones, making visible the signs of torture, inhumane beatings and bullet wounds” (Caiozzi 1998; Crowder-Taraborrelli 2013: 393). In the documentary, they do not explain their methodology for distinguishing between ante-, peri-, and postmortem fractures. Thus, we do not know the basis for their analysis, but we see them count up to two fractures or more on each rib and 55 or more fractures between the thoracic and pelvic regions. Hernandez indicates, with a pointer, the trajectory of the two bullets that passed through the skull, which were determined to be the cause of death. Gunshot wounds also appear to have fractured the clavicle and scapula.

The material traces recovered from close analysis of the physical remains help to paint a picture of the physical violence that these individuals faced prior to and surrounding the time of death.

The possible materiality found in [the remains] corresponds to the historical moment in which they occurred: skeletons impacted and destroyed by high and low velocity projectiles, bullet casings, fragments of dentures, clothing, shoes, rings, chains, bracelets and countless elements victims had with them at the time of arrest or death. (Cáceres 2011: 19)

When successful reconstruction of the identity of *desaparecidos* is achieved, it not only returns the individuals to their families to be mourned, but provides evidence of past injustices.

A source of great frustration in Chile when identifications first started happening was that, despite the collection of evidence of human rights violations, the political and legal obstacles that were a legacy from the dictatorship prevented anything from being done with the findings (Caiozzi 1998; Crowder-Taraborrelli 2013: 394). However, in an award-winning article about the EAAF, journalist Leila Guerriero (2010) explains Dr. Clyde Snow's belief that the documentation of trauma has the ability to play an important role in refuting the official story, clarifying the historical record, and forcing the recognition of such crimes. Thus, through the work of forensic anthropologists, victims were given a renewed *voice* with which to fight the injustices they had faced. Snow stated, "[E]very time we recover the skeleton of a young person with a bullet hole in the back of the skull, it makes it a little harder for them to come up with arguments" (Crowder-Taraborrelli 2013: 388; Guerriero 2010: 2).

The Role of Families in the ID Process

Without a doubt, the families of the *detenidos desaparecidos* are the main driving force behind the movement to find truth. Thus,

in every process involving scientific documentation of human rights violations, above and beyond the appropriate technical procedures the needs and wishes of the victims' families ought to be soberly and respectfully considered and never regarded as an afterthought. (Fondebrider 2002: 890)

The role of families in aiding the scientific process of identification with their memories and recollections is crucial. They give context to the bodies, so that alongside the biological profiles, there can be profiles of socially reconstructed individuals, allowing for comparisons of findings and the corroboration of identity. The families

develop their own techniques that appropriate a layman's forensics, material culture and plausible family histories to construct identities out of anonymous bones. Whether through forensic modeling or family photographs, these ways of looking make present that which is absent. They attach flesh, faces – even family – to bones. (Krmpotich, Fontein and Harries, 2010: 378)

Consequently, it is easier to conceive of a fight against human rights violations for those individuals who have been identified—those with a familiar name and a face. “Families can be valuable sources of information and their rights should not be diminished because their loved ones were the victims of mass, not individual, crimes” (Fondebrider 2002: 887).

Chapter 6: Errors

Doubts and Errors

The SML worked on identification of the remains found in Patio 29 until 2002. At that point, 96 *desaparecidos* had been identified, including the 20 individuals who had been named by the GAF (Bustamante and Ruderer 2009: 40). That same year they had to halt investigations because it was determined that there was not sufficient information to identify the 30 individuals who remained nameless. They would have to wait for the adequate technology to be developed (Reveco, personal interview, Nov. 27, 2012). Unfortunately, they were not as patient with the earlier identifications. As early as 1994, as a result of the reliance on unapproved DNA technology, the first doubts and suspicions arose over the procedures carried out by the SML. Iván Cáseres brought these doubts to the attention of tribunals in 1994 (Torres 2011). Reveco described an instance in which a name appeared on the list of identified victims from Patio 29 that could not be correct. That particular individual could not possibly have been in Patio 29 because the man who killed him had confessed, and in so doing, revealed the place where he had actually buried him. The remains of this individual were found in the designated place, suggesting that the remains identified in Patio 29 belonged to someone else and that they had been incorrectly identified (Bustamante and Ruderer 2009: 98; Reveco, personal interview, Nov. 27, 2012).

That same year, without informing the experts of the SML or the GAF (Reveco, personal interview, Nov. 27, 2012), who had been working directly with the remains and the families, authorities of the SML and the state, funded by the

Ministry of Justice, sent genetic samples and models of the craniums to Glasgow University, Scotland, to verify the identifications (Bustamante and Ruderer 2009: 92). The teams at Glasgow experienced difficulties with the poor quality of information sent from Chile, and could only reach sixteen possible identifications of the twenty-one cases that were sent (Bustamante and Ruderer 2009: 93-95). Of the sixteen individuals identified in Glasgow, three had already been assigned the identities of other individuals by the SML and returned to families for burial three months prior (Bustamante and Ruderer 2009: 95). Despite clear inconsistencies, instead of turning these results over to the judge and tribunal dealing with this case, the report was discredited and archived by the Chilean authorities (Bustamante and Ruderer 2009: 95-96).

In a second attempt to right wrongs, the Granada Report was ordered in 2001. The Granada Report was a signed agreement among the University of Granada, Spain, the AFDD, the Association of Relatives of the Politically Executed (AFEPE), the SML and the Ministry of Justice (Bustamante and Ruderer 2009: 97). The agreement was to bring two experts from the University of Granada to advise Chilean practitioners in the retrieval and analysis of mitochondrial DNA, to review the Glasgow report, and to help establish a DNA bank (Bustamante and Ruderer 2009: 97-98). In 2002, the report was submitted; it discredited the results of the Glasgow study due to the poor condition of the casts and photographs provided by Chile, and it criticized the methodology used by the SML (Bustamante and Ruderer 2009: 98). The SML, in turn, defended itself and its practices (Bustamante and Ruderer 2009: 98).

Finally, in 2003, to put a stop to the cycle of apathy rife within state institutions, the case of Patio 29 was handed over to Judge Sergio Muñoz. Muñoz ordered a secondary excavation of all the bodies that had already been returned to families (Bustamante and Ruderer 2009: 100). He systematized all of the information, created folders for each one of the 96 victims, and ordered new DNA tests (Bustamante and Ruderer 2009: 99). Analysis of mitochondrial DNA was chosen as a preliminary step because of its ability to show association within a group of people (Bustamante and Ruderer 2009: 101). Normally analysis of nuclear DNA would then follow, with data corresponding to the analysis of the mitochondrial DNA; however, this step was skipped (Bustamante and Ruderer 2009: 101). The second mistake that was made was that in the absence of national laboratories specializing in mitochondrial DNA analysis, and the lack of funds to send samples abroad, the samples were sent yet again to the SML to be processed (Bustamante and Ruderer 2009: 101).

According to Reveco, those working on identifications at the time had no idea about the multiple reports that had been produced and subsequently silenced, and despite their results and the state's knowledge of inconsistencies, they were continually permitted to hand over remains to families (Bustamante and Ruderer 2009: 96; Reveco, personal interview, Nov. 27, 2012). Reveco was uncomfortable with their obligation to produce results without first being more confident of their findings, but it was a shock to hear the announcement in 2006 that 48 of the 96 identifications achieved in Patio 29 were erroneous, and 37 were doubtful. Her first reaction was that all of the misidentifications could not simply

be the result of poor anthropological work; the DNA technology being used had to be defective (Reveco, personal interview, Nov. 27, 2012). “After studying the mitochondrial DNA they should have done an analysis of the nuclear DNA to obtain a definitive certainty that the mitochondrial DNA could not provide. This was not done” (Bustamante and Ruderer 2009: 105). In fact, the DNA laboratory in the SML was not completely prepared to deal with tests until 2005, eleven years after its establishment (Reveco, personal interview, Nov. 22, 2012). In April of 2006, the SML came out and officially apologized for errors in the initial identifications of the remains found in Patio 29 (Bustamante and Ruderer 2009: 105; Herrera Díaz 2006; Valencia 2006).

The Impact on Families: *Fernando ha vuelto a desaparecer?*

When it was realized that Fernando Olivares Mori had, in fact, been misidentified and the remains actually belonged to a man by the name of Francisco Zúñiga (Torres 2011), Silvio Caiozzi, who filmed *Fernando ha vuelto*, decided to make a follow-up documentary, called *Fernando ha vuelto a desaparecer?* (Has Fernando disappeared again?) (Crowder-Taraborrelli 2013). In the aftermath of the errors, he wanted primarily to capture the response of Fernando’s widow, Agave Díaz, to the misidentification. The revelation of misidentifications was disastrous for the families. Those who had had family members identified and returned to them were subjected to the anguish of the disappearance of their loved ones, not just once, but twice (Crowder-Taraborrelli 2013; Torres 2011; Wyndham and Read 2010: 40; Valencia 2006). The order to

investigate the errors demanded that remains that had been given to families for proper burial and funerary rites be exhumed again and returned. Consequently, “Díaz wishes she had been part of the group of families that never found their loved ones” (Crowder-Taraborrelli 2013: 399).

By this time, families had mourned and come to terms with the loss of their loved ones. As Fernando’s brother, Miguel Olivares Mori, explained, “We had regained some peace, we had a place to leave a flower, and we knew he was there, in the same niche where our father and grandmother lie. But now we don’t know who occupies his place. Is it Fernando or another detained disappeared? Who is there?” (Valencia 2006: 1). The reality of the errors crept into the hearts and minds of the families.

This disastrous news also deeply wounded the relationship between forensic anthropologists and families. Intriago explains, “The break was complete, with the professionals of the SML, the work they did, and the state” (Intriago and Stockins, personal interview, July 11, 2013). It was not just the errors that came to light at that time, but the fact that the SML was working in a manner that did not meet the needs of the families. Intriago admits that their performance was not at an adequate level and was definitely not how the state should have responded. “It was bound to lead to an inevitable crisis” (Intriago and Stockins, personal interview, July 11, 2013).

Challenges

The Dictatorship's Legacy

A multitude of factors influenced the course of forensic anthropology in Chile, and it was the particular convergence of some of these factors that resulted in errors. Few blamed the anthropologists directly, because it was understood that Dr. Snow and the group of Argentinians “represented the highest level of understanding in the area in the world,” and so, as they indicated, “the quality of preparation of the Chilean group of forensic anthropologists is not in question” (Bustamante and Ruderer 2009: 74). It was more a question of the quantity of preparation; the amount of time individuals had to work on such cases (Bustamante and Ruderer 2009: 74). The anthropologists were forced to work under the immense pressure of a political system in transition from 17 years of dictatorship to an attempt at democratic governance.

The climate of fear that still hung in the air when the GAF was formed affected the group composition. Some have questioned why inexperienced youth, fresh out of college, were the ones entrusted with such an important task. The fact of the matter is that when approached, the more experienced individuals refused to join the group (Bustamante and Ruderer 2009: 75). At that time, the dictatorship had not yet ended, which was likely to have influence their decisions, deterring those with more established careers from an involvement that might put them at risk (Intriago and Stockins, personal interview, July 11, 2013).

One of the greatest challenges in Chile has been the extent of the dictatorship's legacy and the influence it has had on the transition to democracy.

It is a democracy that, even today, is still very much in transition (Intriago and Stockins, personal interview, July 11, 2013). It is not surprising, then, that its early days were rocky. The plebiscite of 1988 was held on October 5 of that year to determine whether Pinochet was to extend his rule by another eight years or not. The side voting against him, voting “No,” won 55.99% of the votes. This finally brought 17 years of dictatorship to an official end; however, silent powers continued to operate behind the scenes (National Democratic Institute 1998; Paredes, personal interview, Oct. 4, 2012). Even after Pinochet left power in 1990, he carried on as Commander-in-Chief of the army until March 10, 1998; after retiring he became a senator for life (Intriago and Stockins, personal interview, July 11, 2013).

Pinochet’s continued reach is seen in the fact that the elimination of remains, started as part of the operation Retiro de Televisores, continued even after the end of the dictatorship (Crowder-Taraborrelli 2013: 387; Lazzara 2006: 106). Caiozzi had difficulty distributing his documentary in Chile, and it was not until 2009 that he was able to get it shown on national television. “It appears that the sectors of society that supported the 1973 military coup were still actively silencing the voices of the victims and the activists almost two decades after the official end of the dictatorship in 1990” (Crowder-Taraborrelli 2013: 391). Even today people are still afraid (Intriago and Stockins, personal interview, July 11, 2013; Lira 2001: 118).

In a 2006 article by Chilean reporter Malú Ferrés, about the remains of Patio 29, he illustrates the reason fear still persists and poses a challenge for

identification. He conjures the memory of when the remains of national historic figure Diego Portales were allegedly encountered. It took only a few days for accredited individuals of the University of Chile to confirm that the remains belonged to him (Ferrés 2006). People asked, “How come the means to identify the skeleton of Diego Portales exists, but not the people who were detained, disappeared and assassinated during the dictatorship?” (Ferrés 2006). His simple response:

[B]ecause the murderers of Diego Portales are all dead. While the murderers of the people buried in 107 graves containing 126 skeletons, are - many of them - alive, and walk calmly through a plaza in some town, surrounded and protected by armed personnel with an ambulance looking out for their health. (Ferrés 2006)

Conflicting Demands

Forensic anthropologists were met with demands from all of the parties involved in the investigations. Along with pressure from the families of *desaparecidos*, they faced pressure from governmental sectors and judicial groups (Intriago and Stockins, personal interview, July 11, 2013; Reveco, personal interview, Nov. 22, 2012). These demands were often conflicting and contradictory. Investigations conducted by the SML were organized by judges and operated under a judicial mandate (Intriago and Stockins, personal interview, July 11, 2013). This made it so that test results would be considered valid in legal courts; however, it also created a demand for the anthropological investigators to produce rapid results. Those in charge of identifications were not only expected to return loved ones to their families, but also provide a sense of justice. This tension is exemplified by the case of Patio 29, which was under the charge of

Judge Andrés Contreras (Bustamante and Ruderer 2009: 81). Contreras had doubts about the work carried out as part of the identification process, and he initially postponed the return of remains to families (Bustamante and Ruderer 2009: 81). On February 15, 1993, however, lawyer Pamela Pereira, daughter of a *desaparecido* herself, filed a complaint against the deputy judge, citing Contreras' hold on returns as an inexcusable delay, and she demanded that remains already identified be returned to families (Bustamante and Ruderer 2009: 81).

Limited Resources

In addition to pressures from families and the judicial system, the forensic scientists faced other challenges. Their lack of adequate preparation and experience in dealing with this type of work inevitably led to mistakes. Experts put everything they had into this task and did the best job that they could with the limited understanding and resources they had at their disposal. According to Elías Padilla, in an interview conducted by Bustamante and Ruderer (2009) for their publication: “[T]here was no equipment, there were no suitable facilities to preserve the remains. Everything was done very precariously because there was no policy in this sense. It was something new, so there was no previous experience” (81).

Intriago recalls the instability of the GAF's having to move around a lot; they were constantly changing locations. At one point, they worked in the Museum of Natural History, which in logistical terms is far from the SML, and was very inconvenient when working on cases such as Patio 29, where they had to

commute to the SML headquarters daily (Intriago and Stockins, personal interview, July 11, 2013). They also worked in the Pre-Columbian Museum, which did not have the resources to support this kind of work, either (Intriago and Stockins, personal interview, July 11, 2013). Another challenge that forensic anthropologists faced in Chile was that little research had been done to map biological variation and create standards based on Chilean populations (Aspillaga, personal interview, July 4, 2013). The standards that are currently used were derived from distinct populations [for example Trotter and Gleser (1952, 1977) stature formulae are derived from U.S. war dead whereas those from Genovés (1967) are based on Mexican populations]. These may be less effective when used in Chile because they have not been adjusted to variations within Chile's population. Aspillaga believes that these problems have begun to be corrected, but still have a long way to go (Aspillaga, personal interview, July 4, 2013).

Holes in the Evidence

Many factors went into the destruction and loss of evidence. It was, after all, an objective of the state to make individuals disappear, along with any traces of their existence (Padilla and Reveco 2004). The results of Pinochet's Operación Retiro de Televisores are similar to the secondary mass graves that are characteristic of those found in the former Yugoslavia (Pizarro 2013; Wagner 2008). Perpetrators came back to mass graves in the dead of night, and using heavy machinery, clandestinely and illegally exhumed the bodies they had buried there (Kimmerle 2013: 428). However, instead of reburial in secondary mass

graves, as occurred in the former Yugoslavia, many remains in Chile were tossed into the ocean or made to re-disappear in other ways (Intriago and Stockins, personal interview, July 11, 2013; Pizarro 2013). There was the belief among human rights activists that some of the bodies were never buried at all and were instead incinerated (Lazzara 2006: 106). According to Lazzara (2006), agents of the dictatorship would have “mixed the ashes with birdseed to be spread around the city of Santiago” (106). Some believe that the practice of destroying bodies continued even beyond the 1990 transition (Crowder-Taraborrelli 2013: 389).

Antemortem records, which, experts of the GAF and SML tried to collect to aid in their postmortem investigations, were also sometimes hard to come by (Intriago and Stockins, personal interview, July 11, 2013). The process of identification is complicated because one may have verbal information, but no dental or medical records. Not everyone had or could afford dental and medical care, so those records simply do not exist, or they did exist but were destroyed in the process of disappearance (Intriago and Stockins, personal interview, July 11, 2013). Additionally, there is the problem that the majority of victims have similar profiles: “young healthy men with no unique characteristics or pathologies that could help distinguish them from each other” (Intriago and Stockins, personal interview, July 11, 2013). Remains under investigation would have some similarities with descriptions of missing persons, but often there was not enough consistency for a positive identification (Intriago and Stockins, personal interview, July 11, 2013). In the early stages, genetic analysis was not available for skeletal remains, and at the time, this technique was not even available for

fresh remains (Bustamante and Ruderer 2009: 92; Intriago and Stockins, personal interview, July 11, 2013).

According to Tomás Crowder-Tarraborrelli (2013), a Latin American Studies professor at Soka University, California, the inability of the state to properly orchestrate this crucial step during the transitional stages of democracy is a result of its “lack of professionalism and political will,” and it “unveils a complicity that has perpetuated the violence families of political activists have had to endure” (388). He adds that as a result of this political, social, and financial neglect, “governments have wasted valuable opportunities to bring comfort to families of the disappeared and provide evidence in the prosecution of perpetrators” (Crowder-Taraborrelli 2013: 400). By understanding the combination of conflicting forces that were exerting pressure on forensic anthropologists throughout the identification process, it is easier to understand how identification errors occurred.

Chapter 7: Since The Errors

State Response to Errors: Reformation of the Forensic Establishment

In the aftermath of the identification errors, the families were enraged and demanded that the state take responsibility once and for all “and dedicate all its sources to establish the identity of the remains exhumed.” Lorena Pizarro, the president of the AFDD at the time, spearheaded this effort (Crowder-Taraborrelli 2013: 396). The Chilean president at the time was Michelle Bachelet. In response to the demands of the families, she committed to conducting a thorough investigation of the errors, but also defended the forensic anthropologists (Crowder-Taraborrelli 2013: 397). According to Bachelet

One should not presuppose that someone has acted in bad faith or with the intention of hiding the truth. For many years, they did everything possible so that no traces would survive, no remains, no marks. Reconstructing the past has been and will be a difficult task, which we want to continue, and should continue. (Marino 2006)

The state’s solution was to completely reform and restructure the identification process in Chile with the assistance of international experts. Bachelet assembled the Presidential Advisory Commission on Human Rights, which in turn called together an international panel of experts to make recommendations for the SML (Bustamante and Ruderer 2009: 118; EAAF 2009: 101; Ministerio de Justicia 2011). Eugenio Aspillaga, now a physical anthropology professor at the University of Chile, was one of three Chileans

asked to be a part of the twelve-member panel of experts called in from all around the world⁴ (Aspillaga, personal interview, July 4, 2013).

I first encountered Aspillaga when I went searching in the social sciences library of the University of Chile for sources that did not exist. The librarians took pity on me after I had wordlessly flipped through dozens of journals. I explained to them what I was after and they suggested I see if Professor Aspillaga was in his office just down the hall. When I got there, I was informed that I had just missed him, so I left a note and got his email to see if I could arrange a meeting. Two days later, I was back in the anthropology department of the university, being greeted with the customary kiss on the right cheek and seated at a spacious round table in Aspillaga's cozy office.

He recounted for me his experiences with the international panel of experts, which was charged with reformation of the SML. When they asked him to participate, he considered it an ethical obligation. "It was the first time that the state went above and beyond the SML and took action to look for scientific support" (Aspillaga, personal interview, July 4, 2013). Aspillaga's role was to act as an advisor to the process as an expert in physical anthropology. They first reviewed the most contentious cases, the ones that demanded an expedited solution. Patio 29, Calama, Chihuío, Paine, and Fuerte Arteaga were among the most problematic (Aspillaga, personal interview, July 4, 2013).

The panel worked to establish the best strategies for arriving at valid positive scientific identification. They placed a great emphasis on an approach

⁴ <http://www.facso.uchile.cl/antropologia/departamento-de-antropologia/57366/eugenio-aspillaga>

that would prevent future errors, while maintaining the most consideration for the families (Bustamante and Ruderer 2009: 118; EAAF 2009). These families had understandably been overwhelmed by so much confusion, poor treatment, and a lack of response on behalf of the state. Their needs had to be taken into careful consideration. Had they not been, the intervention would have seemed a brutal assault (Aspillaga, personal interview, July 4, 2013).

The panel met two to three times a year for a week, depending on the circumstances. They would shut themselves away in a room with government representatives and the SML experts and discuss the ongoing developments, advancements, and challenges (Aspillaga, personal interview, July 4, 2013). The re-analysis of remains was ordered to clarify the question of misidentifications (Aspillaga, personal interview, July 4, 2013; Bustamante and Ruderer 2009: 118). The panel established that remains should first be dated using radiocarbon dating techniques to see if they corresponded to the period in question (Aspillaga, personal interview, July 4, 2013). The panel also selected at which labs the genetic analysis would take place. Patio 29 remains were sent to the University of North Texas (Torres 2011); others were sent to Innsbruck, Austria, and still others were sent to the Red Cross laboratory in Sarajevo (Aspillaga, personal interview, July 4, 2013)

At the end of each week-long meeting, the panel delivered a report to all of the associations of families with which it worked. Whether it was with the Association of Relatives of the Detained and Disappeared (AFDD) of Paine or the Association of Relatives of the Politically Executed (AFEP), and so forth, the

panel only worked with formally established groups. These massive meetings would be held with these groups, along with other representatives of human rights organizations, in order to explain exactly what the panel was doing, the progress that the organization had achieved at the time, and projections for the future (Aspillaga, personal interview, July 4, 2013; EAAF 2009).

It was important to incorporate the SML into the process to try and return credibility to them in the eyes of society (Aspillaga, personal interview, July 4, 2013; EAAF 2009). “An official process of accreditation was undertaken with the SML, something that its two directors pursued with great enthusiasm” (Aspillaga, personal interview, July 4, 2013). One of these individuals is still director today – Patricio Bustos. He has been a dynamic leader in this process. By the recommendation of the panel, Bustos started to search for and contract experts and reconfigure the SML team, formerly called the Unidad de Derechos Humanos (Human Rights Unit), which today is known as the Unidad Especial de Identificación Forense (Special Unit of Forensic Identification) (Aspillaga, personal interview, July 4, 2013).

Work continues to this day because there are many pending cases awaiting identification (Aspillaga, personal interview, July 4, 2013). There are also other skeletal or partially mummified remains that the judicial system refers to the SML for identification (Aspillaga, personal interview, July 4, 2013). There is now a team of archeologists and forensic anthropologists who are in charge of dealing with these bones and tissues. “They never see ‘fresh’ remains and are not thanatologists,” as Aspillaga stated, “but approach their work from the

perspective of forensic anthropology” (Aspillaga, personal interview, July 4, 2013). Dentists who have worked to establish forensic dental anthropology, along with social anthropologists and physical anthropologists, all specialists in forensics, have joined these professionals. Today this team is much more technically prepared than they were 10 years ago. Aspillaga explained that, at its inception in the 20th century, the SML had been conceived out of a 19th century mindset, which resulted in a lot of incompetence when trying to solve the types of problems they encountered. “They had no preparation, especially when efforts have been made to destroy the evidence of crimes” (Aspillaga, personal interview, July 4, 2013).

In my interview with both Marisol Intriago and Joyce Stockins, the latter, current head archaeologist of the SML, explained that in the wake of military operations such as Retiro de Televisores, one has to have a trained eye; destructive practice always leaves fragments of bone and pieces of clothing. With an untrained eye, she said, “I imagine these would seem small and unimportant and nobody would focus on them” (Intriago and Stockins, personal interview, July 11, 2013). Aspillaga explains that formation of a forensic specialist is still very general in some countries. In other places, to be able to work on cases like these, one must complete a postgraduate degree or a practical in an accredited lab.

This didn’t happen here until very recently, around five or six years ago. Ten years ago, if you wanted to become a forensic medic you would graduate as a surgeon and you would have taken a brief one-year course in legal medicine that dealt with everything from violations and medical problems, to assassinations, but not anthropology. About ten to fifteen years ago they started to demand that after completing seven years of medical school you would do a couple more years of training that focused

on legal medicine that had some anthropological aspects, but this still does not enable the ability to use methods in forensic anthropology. (Aspillaga, personal interview, July 4, 2013)

The panel made specific recommendations for processing information collected from investigations, based on the characteristics of findings (Aspillaga, personal interview, July 4, 2013). Some could be resolved with forensic anthropology if skeletal remains were relatively intact. Often, however, the remains were very fragmentary and commingled. Aspillaga attributes this disorder to the informal and uncontrolled collection of remains by family members and untrained individuals in the early years (Aspillaga, personal interview, July 4, 2013). Intriago and Stockins note that another factor contributing to the fragmentary nature of remains was the practice of removing and destroying evidence of clandestine burials, which severely complicates the analysis process (Intriago and Stockins, personal interview, July 11, 2013).

Enter DNA

Another key act of the Presidential Advisory Commission was to set up a DNA bank. Aspillaga considers it a serious methodological error not to have done so earlier and stated that it was a result of ignorance and inexperience.

The people who assumed the first DNA analysis in the SML probably carried out the amplification correctly but it is much more challenging to transform this data into a positive identification because you can have a set of genetic markers that you think are great because they are present in the father or grandmother, but if they are also present in 80% of the population then it is of little use. (Aspillaga, personal interview, July 4, 2013)

Thus, in order to get a control for the genetic variation in the Chilean population, the panel ordered general DNA samples to be taken all the way from Arica to Punta Arenas (Aspillaga, personal interview, July 4, 2013). Parallel with this project was the diligent collection of DNA samples from the family members of victims of political violence. Experts were very careful about how they took these samples. The panel installed a specialized team to take blood samples in a blood bank office next to La Moneda, the seat of the Chilean government. This location was intentionally chosen to be separate from the SML so as “to avoid making family members enter into the sordid and dark atmosphere of the SML” (Aspillaga, personal interview, July 4, 2013). Psychologists are present, and there is social support for the families. They try to take care of the families and keep lines of communication open (Aspillaga, personal interview, July 4, 2013). It has been a challenging task for the current team in charge of forensic identifications to repair the rift between them and the families. The reparation process since the errors has focused on putting the families’ needs first, and great effort has been placed on maintaining total transparency with them (Aspillaga, personal interview, July 4, 2013).

There are three types of DNA that are useful in forensic identification if they can be successfully extracted from bone and teeth, or blood and saliva samples. Mitochondrial DNA is maternally inherited (mtDNA) and exists outside the nucleus. Y chromosome DNA, which is passed along the paternal line, and nuclear DNA (nDNA), which contains markers from both parents, are both found

inside the cell nucleus.⁵ The analysis of mtDNA is useful for older remains such as bones and teeth, where the degraded state of nucleated cells may render nDNA analysis more difficult. The downside to mtDNA analysis is that due to its matrilineal inheritance, it cannot produce unique identifications, only confirm maternal relations.⁶

Regardless of the type of DNA used, one must control for possible variation in the victim's family history. The donors of familial DNA are distinct. For this reason, the panel brought in geneticists who could best interpret the findings, including CODIS statistician Ranjit Chakraborty, a globally recognized specialist in mathematics and applied statistics. Also involved were Lance Gima, Pilar Caballo, and Douglas Ubelaker (Aspillaga, personal interview, July 4, 2013). A case report produced by Claudia Garrido Varas and Marisol Intriago Leiva (2011) of the Special Identification Unit of the SML, describes in detail the restudy of the mass grave of Lonquén remains. The report walks step-by-step through the thorough process of excavation, documentation, assesment of trauma and, most notably, DNA analysis. Garrido and Intriago describe the careful selection of bone samples for both mitochondrial and nuclear DNA testing and the analysis of the resulting genetic markers (Garrido and Intriago 2011). This report and the work conducted to produce it demonstrate the advances that the SML has made since its early days.

⁵ National Institute of Justice. DNA Evidence: Basics of Analyzing. <http://www.nij.gov/topics/forensics/evidence/dna/basics/pages/analyzing.aspx>

⁶ FBI Laboratory Services: Mitochondrial DNA. <http://www.fbi.gov/about-us/lab/biometric-analysis/mtdna>

Forensic Anthropology in Chile Today

Case Study of Jenny Barra

The second time I met with Isabel Reveco for an interview, we met in the very same spot we had the first time. We sat at the same table in a Starbucks on the rooftop patio of one of Santiago's nicer malls. As the dusk descended around us and the air began to cool, we sipped on our lattés, and she graciously allowed me to pick her brain for a second time. While our first conversation had focused on the early stages of forensic anthropology in Chile, its development, and the role she played, the second revolved almost solely around the theme of the errors. Towards the end, she shared with me the personal story of a friend's disappearance and recovery.

The case of Jenny Barra, as told by Reveco, is a very recent example that illustrates the complex roles of multiple interwoven factors. This case illuminates the importance of contextual antemortem information alongside physical remains that has been elaborated upon by many others in the literature including Cáseres (2011), Renshaw (2010, 2011), and Wagner (2008). It also illustrates what a huge difference is made when the DNA technology used is adequately developed and properly implemented.

Jenny Barra was a close childhood friend of Isabel Reveco and the best friend of her older sister. Barra was twenty-two years old when she was kidnapped from the Reveco's house in 1977; Reveco was sixteen at the time. Reveco had suspected that they took her to Villa Grimaldi, a known torture center, but there was no way to confirm her suspicions.

During the dictatorship there was a mass grave used by the Dirección de Inteligencia Nacional (DINA), the Chilean secret police, close to an abandoned mine called Cuesta Barriga on the coast. In 1979, when Pinochet ordered the operation Retiro de Televisores, the primary graves of *desaparecidos* were dug up and the remains either dumped into the ocean or scattered in secondary graves (González and Peña 2008). In Cuesta Barriga, they happened to miss a couple of bone fragments, which were found years later, in 2001. These two bone fragments were sent to a DNA lab in Austria for testing.⁷

The importance of contextual information enters into the picture when we consider the fact that different military groups of the regime targeted different political groups at different stages throughout the dictatorship. For example, between 1973 and 1975, the Armed Forces were pursuing members of MIR, the Revolutionary Leftist Movement (Paredes, personal interview, Oct. 4, 2012; Reveco, personal interview, Nov. 27, 2012). Around 1976, their interest changed to the pursuit of members of the Communist Party. All the while, the Marines, rather than the DINA, were operating in the port town of Valparaíso and surrounding areas (Paredes, personal interview, Oct. 4, 2012; Reveco, personal interview, Nov. 27, 2012).

Taking into consideration these details, and using standard techniques of comparison between remains and individual profiles, investigators began to narrow down the possible number of matches. They determined that the two bone fragments found at Cuesta Barriga belonged to a female who was in her 20s at the

⁷ Dilemas. (Blog): Identifican Restos de Jenny Barra, Detenida Desaparecida en 1977. <http://www.dilemas.cl/index.php/noticias/1487-identifican-restos-de-jenny-barra-detenida-desaparecida-en-1977?videoid=pOXwSqRmC2U>

time of death. Due to the location where the bones were found, and knowledge of which burial sites belonged to which perpetrating group, it was likely that the woman was kidnapped around 1976 by the DINA and belonged to the Communist Party. Within these search parameters, using traditional methodology, there arose just one correlation – a woman of the Communist party who was 27 years old and disappeared in 1976. When the results came back from the DNA lab, however, they did not correspond with the match that was made via traditional methods and antemortem information.

Investigators readjusted their search parameters to account for the possibility of MIR members also being buried at Cuesta Barriga. In doing so they found another match, Jenny Barra. Her DNA matched that of the sample taken from the skeletal remains; it was she. What had happened is that Barra had passed through Villa Grimaldi, as Reveco had suspected. However, she was then transferred to the torture center known as Simón Bolívar 8800, where “those who entered did not come out alive” (Reveco, personal interview, Nov. 27, 2012). Apparently, various military groups made use of this location, so when the DINA transferred bodies to their dumpsite in Cuesta Barriga, members of various political target groups were buried together, blurring the previous delineations.

Before receiving the DNA test results, the investigators approached the case as they would have in the early stages, using traditional methods of data collection and comparison, considering both skeletal and contextual information. The woman that the initial results pointed to seemed to be a perfect match. However, with the advancements in DNA technology, it was possible to more

accurately corroborate the initial work done in the field. This case puts the errors of Patio 29 into perspective. DNA analysis does little good without the contextual information to complement it, because the complexities of these criminal violations pose many challenges. This case shows us that even today, without proper DNA technology and adequate antemortem information with which to compare, only a certain degree of confidence can be achieved (Reveco, personal interview, Nov. 22, 2012).

Transitional Justice

Now, much more so than before, the conclusion is that without an effort to return the lost citizens and seek justice for them, Chile cannot fully recover from the damage of its violent past. As described by Dr. Mario Aguilar when speaking of the Mesa de Diálogo (Round Table on Human Rights) in Chile, “the Chilean transition to democracy will remain incomplete if the fate of the disappeared is not fully known and legally investigated” (Aguilar 2002: 413). The locations of the bodies of *detenidos-desaparecidos* and the evidence of the state’s brutality found in the physical remains are seen, by some, as a critical factor in the search for justice and a transition to democracy.

The first step towards this goal was the National Commission of Truth and Reconciliation in 1990, also known as the Rettig Report (Aguilar 2002). Over a decade later, in 2004, the Valech Report followed, dealing with political imprisonment and torture. These projects aid in the public understanding of what happened; however, they also show the weakness of the transitional state because

both reports omit the names of the culpable, and as a result cannot be used in courts prosecuting human rights violations (Paredes, personal interview, Oct. 4, 2012). Furthermore, the effects of the Amnesty Law of 1978, implemented by the military junta as self-preservation, have obstructed efforts to assign accountability and blame (Paredes, personal interview, Oct. 4, 2012).

Thus, the transition has been challenging. Only a fraction of the total number of estimated bodies has been found, and the armed forces are still not completely forthcoming in their confessions of forced disappearances as a weapon and political practice (Aguilar 2002: 415). Yet the undeniable fate of the *detenidos-desaparecidos*, proven in court or not, was an important factor in the arrest of Pinochet in London in 1998 (Aguilar 2002: 414). The arrest gave courage to some public figures to create the Mesa de Diálogo in 1999, which convened human rights lawyers, representatives of the various commanders-in-chief of the Armed Forces and Carabineros police, religious leaders, and academics in the search for truth, justice, reparation, and forgiveness (Lira 2001: 115-116). The Round Table allowed people to pose basic questions such as, “What happened to the young people who never returned to their homes? Where have they gone? Who could be responsible for such absence? Where are their bodies? Have they been properly buried?” (Aguilar 2002: 417). These are questions that, up until that point, had not been publicly voiced.

One must also consider the extent to which the violence of the dictatorship, and of the double disappearances caused by misidentifications, affected different sectors of society in different manners (Lira 2001). It is

important to remember that almost half (42.76%) of the country's population voted to keep Pinochet in power during the 1988 plebiscite (Chile's Transition to Democracy 1988: 60). This was primarily the elite echelon of society, who benefited greatly from the economic stability that the Pinochet regime brought for the already wealthy (Paredes 2012). During the dictatorship, if not perpetrators, these were often a class of people who were distanced from the violence because it was not targeted at them. Thus, all they knew or believed of the violence is the political discourse that they heard being generated about the internal threat and the "crazy families spreading lies" (Intriago and Stockins, personal interview, July 11, 2013).

When the time for transitional justice came, and the voices demanding answers, accountability, and justice were finally heard, they were countered by "the call to forget the past and turn over a new leaf [which] clashed with traumatic memories that are still very much alive in society" (Lira 2001: 113). Some argue that those who push human rights issues aggravate "the open wound" (Lira 2001: 113). In my interview with Intriago, she mentioned how it can be tricky to explain to people what she and her colleagues do for a living because they do not know what kind of reaction they will get. The search for *desaparecidos* is still a very contentious topic for some today, and others are simply ignorant of it.

When you mention that you work on human rights cases, you'll sometimes get the response, "Oh, they are still looking for *desaparecidos*?" and well, yes they are still looking, until they find them and the cycle is closed. But for many people, they heard over the years the commentary about the problematic relatives that wouldn't let the country advance that did not allow us to forget. (Intriago and Stockins, personal interview, July 11, 2013).

Global Impact

Argentina played an important role in bringing forensic anthropology to Chile. “The work carried out in Argentina in the 1980s profoundly influenced forensic efforts in other Latin American states and in other countries around the world” (Wagner 2008: 252). As I elaborated earlier, the EAAF, the team of Argentinian forensic anthropologists put together by Snow traveled to Chile to prepare the team there for identification work (Reveco, personal interview, Nov. 22, 2012). From there, as other countries began to see the impact of such work, this particular application of forensic anthropology spread, first throughout Latin America and then overseas. “In 1992, the Argentine Team became a model for the Guatemalan Forensic Anthropology Team (EAFG), who received additional training from Clyde Snow, Karen Burns and other members of an AAAS delegation to Guatemala” (Steadman and Haglund 2005). In January of 1997, there was a split in the organization of the Guatemalan team, and the section that continued working on the investigations of mass atrocities and human rights violations was renamed the Fundación de Antropología Forense de Guatemala or FAFG (Guatemalan Forensic Anthropology Foundation) (Steadman and Haglund 2005).

Isabel Reveco from the Chilean identification efforts also traveled to Guatemala in 1992 during the formation of the EAFG (Cáseres 2011: 62; Reveco, personal interview, Nov. 22, 2012). This group in Guatemala intended to excavate and document the mass graves from the atrocities committed against the primarily Ixil Maya population that occurred during the late 1970s and early

1980s. This period was one of severe repression and was known as La Violencia (The Violence) (Sanford 2003).

The further expansion of networks within the human rights application of forensic anthropology are mentioned by forensic anthropologist William D. Haglund in his 2001 article on archaeology and forensic death investigation. He discusses how two archaeologists from the Guatemalan-based forensic team aided his exhumation work in Honduras in 1994, and he also explains their participation in investigations in Iraqi Kurdistan (Haglund 2001: 31).

Knowledge of forensic anthropology and its application to the investigation of human rights, in terms of establishing self-sufficient operational teams, spread next to Perú and El Salvador (Fondebrider 2002: 887; Fondebrider 2010: 157). In the mid-nineties, the skills developed in Latin America were drawn upon to construct a framework for forensic investigation in Ethiopia, Rwanda, and South Africa (Fondebrider 2002: 887). Investigations in the former Yugoslavia also emulated these strategies, first in Croatia, then Bosnia, and finally Kosovo (Fondebrider 2002: 887; Haglund 2001). Now “every human rights investigation of disappearances and executions... has a forensic component” (Fondebrider 2002: 887).

Chile was one of the first countries to incorporate the use of forensic anthropology to try to deal with the brutal state violence faced in the recent past, following closely behind Argentina and the EAAF (Fondebrider 2002, 2010). As forensic anthropology began to spread as a valid approach, subsequent countries began to adopt the practice, but due to drastic social and political differences in

each context, adaptations were required to accommodate specific needs and cultural differences (Burns 1989). For example, Skinner, York, Connor (2002) and Wagner (2008) explain how in the former Yugoslavia, an immense number of mass graves held commingled and scattered remains, due to the practice of illegal exhumation and secondary mass burial, which had been implemented on a scale much greater than in Chile. Over time, through their own exhausting process of trial and error, forensic specialists realized that DNA analysis had to be the primary form of identification (Wagner 2008). Antemortem information gathered in interviews, along with the classical markers of identity that make up biological profiles, was thus considered secondary and used to corroborate the molecular work (Djuric 2007: 125-126; Wagner 2008).

The application of DNA analysis being proposed in Bosnia was unique; it broke from the conventional role of genetics in forensic pathology, which utilized the science in order to *confirm or exclude* an already presumed link or identification. In fact, the Bosnian system of postmortem analysis stood traditional DNA testing practice on its head. Here DNA analysis, the matching of genetic profiles, would act as the engine for the entire identification process. This was not to say that DNA analyses, specifically a positive DNA match, guaranteed a conclusive identification, but the technology could place the results of an individual case (the identity of a given set of mortal remains) within a statistical range of certainty. At this point, classical forensic methods would again enter into the identification process, typically confirming or augmenting the statistical evidence of the DNA profile match. (Wagner 2008: 102)

Additionally, before the process was thoroughly reformed by the Presidential Advisory Commission, only mitochondrial DNA analysis was used in Chile for its ability to show compatibility with a group of people, while the additional step of nuclear DNA analysis was overlooked (Bustamante and

Ruderer 2009: 101). Funding was low, and to have this testing done would have required outsourcing the analysis to labs abroad (Bustamante and Ruderer 2009: 101). If anything positive can be taken from the tragedy of misidentification that occurred in Chile, I believe it serves as an example of “what not to do” for the international community approaching similar situations around the world. I have found the world of international forensic anthropology to consist of a relatively small network of people. It is interesting to see how, through this ever-growing network, we can trace the transfer of information and techniques, and how different groups within it influence each other and the practice of forensic anthropology. This network should be utilized to promote positive change.

Kimmerle (2013) describes how the international paradigm shift of forensic anthropology to human rights issues is even applicable in the United States, which is a country that typically prioritizes the investigation of more recent cases over “cold cases.” Such an international movement can redefine the approach to the problem of missing persons and unidentified remains (437).

From a human rights model, the families of victims have the right to due process, repatriation of the remains, reparations, information, and access to justice. Therefore, [a human rights] model for forensic anthropology and medico legal death investigations is as relevant in the United States as it is internationally. (Kimmerle 2013: 437)

Chapter 8: Conclusion

It is important to consider the case of Chile within a larger international framework, because Chile was among the first countries to pave the way for forensic anthropology in the investigation of human rights violations (Fondebrider 2002, 2010). That being said, forensic work there has not been as widely publicized as in countries such as Argentina and the former Yugoslavia, because it deals with a part of Chilean history that little discussed (Garrido and Intriago 2012). Through the longitudinal approach of this paper, my goal is to draw attention to Chile in a manner that looks closely at its peculiar and nuanced development, in order to set the stage for broader comparative analysis. I believe an analysis of the errors that occurred in Chile, the circumstances that led to them, and the resulting response in their aftermath, provide an important lesson for the betterment of the field as it moves forward. As my paper demonstrates, the identification and investigation of victims of human rights violations are far from simple tasks. I believe that an understanding of the factors that can influence the developments in the field of forensic anthropology may serve to inform the implementation of the practice in new or existing circumstances.

The application of forensic anthropology to the investigation of human rights violations and political crimes constitutes a recent paradigm shift (Crossland and Joyce n.d; Fondebrider 2010: 155). I wish to highlight not only this shift, but also the new discourse that has emerged around this transition. Many of the scholars focusing on different geographical regions whom I have referred to in this paper are part of a growing movement that has begun to take an

ethnographic approach towards studying this new focus within forensic anthropology (e.g., Fondebrider 2010; Sanford 2003; Snow et al. 1984; Wagner 2008). Individuals have begun to step back from the technical, scientific, and highly specialized focus of forensic anthropology that is characteristic of the U.S., and have become much more reflexive about their practices (Crossland and Joyce n.d.). They have begun to take into account overlapping social, historical, and political factors, and how these influence, not just technical practices, but the social position of the specialists involved (e.g., Fondebrider 2010; Sanford 2003; Snow et al. 1984; Wagner 2008).

This paper is my attempt to enter into this complex discourse in two regards. First, I have gained hands-on experience in the techniques of forensic anthropology through my recent participation in a field school, where I excavated and analyzed remains from mass graves in Guatemala. This has given me insight into the challenges that the fragmentary or degraded nature of remains and evidence may pose for analysis. I also gained an up-close understanding of the pressures placed on practitioners to satisfy scientific standards, as well as the needs of families and the demands of legal systems. Second, I have found myself in Chile taking an ethnographic approach to the development and practice of forensic anthropology in that region. Thus, I have gained a perspective on both technical practices of the new application of forensic anthropology to human rights cases, as well as the ethnographic study of the field. I am lucky to have been trained in the holistic four-field approach of anthropology in the U.S., which

places such a strong emphasis on bringing physical science and social considerations together.

What I found was that the field of forensic anthropology in Chile did not have the luxury of time and transformation it did in some other countries, such as the U.S. The only reference that Chile had to work from was Argentina (EAAF 2009). Chile's biggest challenge was the irresolute transition out of its era of political oppression. The continued pressure hindered not only the work of anthropologists and forensic scientists, but also the participation of families still searching for their disappeared loved ones (Lira 2001). Yes, the official dictatorship ended in 1990, but traces of its political power lingered long after (Caiozzi 1998; Crowder-Taraborrelli 2013: 394; Intriago and Stockins, personal interview, July 11, 2013; Lazzara 2006). The lack of, and even threat to, support for the identification process hampered professionals and forensic anthropologists' ability to carry out their work effectively (Bustamante and Ruderer 2009: 74). They were being pulled in multiple, often opposing, directions (Reveco, personal interview, Nov. 22, 2012). Moreover, the condition of the remains that they had to deal with would have been challenging for a fully experienced team today, much less one just getting started with limited resources (Intriago and Stockins, personal interview, July 11, 2013).

Despite their own setbacks, forensic anthropologists in Chile have ultimately made possible the reconstruction of stolen identities. Not only has this process bolstered brave demands to know the locations of additional mass graves (Aguilar 2002: 417), but these uncovered bones have been given a sense of

agency in the political process through the work of forensic identification. “The body-as-witness has become a trope of the reckoning that follow acts of violence” (Renshaw 2011: 10). As mentioned by Guntzel (2004), this is a theme that Snow reiterates; he mentions that bodies can be analyzed to garner scientific evidence in order to clarify the truth. Snow states, “Scientific evidence is hard to refute. Living witnesses, sometimes they lie. Dead people usually don’t” (Guntzel 2004: 16). Renshaw (2011) also addresses this concept, that reestablishing the materiality of missing people allows for a certain “reversal of the wrongs perpetuated against them” and puts an end to the impunity of those who violated their rights (11). When combined with an individual’s face, identity, and personal history, this layered narrative makes the evidence of torture and suffering found in the bones seem all the more tangible, personal, and present (Renshaw 2011: 30).

It is the specific combination of physical scientific findings from the skeletal remains, interwoven with social memory and testimony of individuals (antemortem and postmortem data), that allows the collection of evidence and the process of identification to proceed within specific contexts (Cáseres 2011: 19; Renshaw 2010: 2011; Wagner 2008). In looking at the development of forensic anthropology in Chile, it is essential to consider the historical, political, and social contexts. The errors made were not due to a lack of willpower on the part of individual forensic anthropologists or investigators so much as they were due to the numerous limitations and pressures that affected almost every aspect of their work (Bustamante and Ruderer 2009: 74; Reveco, personal interview, Nov. 27, 2012). I believe that analyzing the development of the field of forensic

anthropology in Chile provides a glimpse of the factors that influence the efficacy of such a vital practice, so that it may be adapted and applied more effectively in different regions of the world and different cultural contexts. Thus, devastating mistakes may be converted into something that benefits the future development of humanitarian efforts and legal processes.

I have learned a lot from the people who have made the writing of this paper possible, both personally and professionally. One of the most central lessons has been the importance of the families in the work that forensic anthropologists do in the human rights context. Most forensic anthropologists and archaeologist I have spoken to, both in Chile and Guatemala, tell me that the reason they dedicate so much of themselves to this challenging career is primarily for the families. Most of them have a personal connection to the work, making them especially driven to better the situation of others who share their suffering. Others simply see the great societal need for uncovering the truth and giving the families an explanation and a body to mourn.

As an outsider, there is no way I can possibly empathize with the loss and anguish these families and individuals have experienced; however, I can sympathize. After several months of living alongside the individuals of Chile's torn community, and learning their lesser told histories, I realized that my academic pursuits could mean a whole lot more if I found some way to put them to use. I wanted to help these people, and others like them, come to terms with the suffering they have faced. It is both through the application of forensic anthropology to human rights issues on the ground, and by raising awareness of

its importance by participating in the broader, ongoing discussion, that I aim to make my contribution here.

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Appendix

Cáseres Tables

Summary of Archaeological Exhumations and Excavations

LONQUÉN		Rol 17.123-3; 0705 F			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1978	Hornos de Lonquén	Exhumation	Vicariate of Solidarity	15 bodies exhumed	Not identified
2006	Cementerio Isla de Maipo	Archaeological Collection	Iván Cáseres SML	Recovery of human skeletal remains from mass grave	
2010		Análisis Molecular	Health Science Center Laboratory University of North Texas	Identification of 13 victims	Identification of 13 victims: Enrique Astudillo Álvarez Omar Astudillo Rojas Ramón Astudillo Rojas Miguel A. Brant Bustamante Nelson Hernández Flores Carlos Hernández Flores José Herrera Villegas Iván Ordóñez Lama Sergio Maureira Lillo Sergio Maureira Muñoz José Maureira Muñoz Segundo Maureira Muñoz Rodolfo Maureira Muñoz

PATIO 29		Rol 4449-AF			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1991	Patio 29	Archaeological Excavation	GAF (I. Cáseres, I. Reveco) M.A. Costa A. Llagostera F. Téllez	126 skeletons	
1993-2002		Macroscopic Analysis	SML	96 identifications	The identities were questioned in 2005
2007-2011		Molecular DNA Analysis	Heath Science Center Laboratory University of North Texas	46 re-identifications	Pablo Aranda Schmied, Luis Dávila García, Juan C. Díaz Fierro, Sergio Fernández Pavez, Carlos Fonseca Faundez, Raúl Fuentes Vera, Raúl L. Jiménez Barrera, Ricardo

					<p>López Elgueda, Jaime Millanao Canihuan, Carlos Miranda González, Waldemar Monsalve Toledo, Nelson Muñoz Torres, Jorge Pavez Henríquez, Adrián Sepúlveda Farías, Eduardo Toro Vélez, Héctor Vecencio González, Benjamín Videla Ovalle, Francisco Zúñiga Aguilera, Carlos Reyes Ávila, Juan José Valdebenito Miranda, Simón Sánchez Pérez, Carlos Ruz Zúñiga, Abraham Romero Jeldres, Donato Quispe Choque, Luis Núñez Álvarez, Edmundo Montero Salazar, Luis Gamboa Pizarro, José Muñoz Contreras, Raúl Muñoz Muñoz, Oscar Marambio Araya, Mario Casanova Pino, Jorge Espinoza Farías, Hernán Peña Catalán, José Vidal Molina, José M. Valle Pérez, Luis Vergara González, Orlando Ponce Quezada, Enrique Guerrero Muñoz, Gregorio Mímica Araya, Juan Utreras Beltrán, Enrique Cavallo Lira, Carloz Cruz Zavala, Miguel Á. Núñez Valenzuela, Daniel Rodríguez Lazo, José L. Astudillo Celedón</p>
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PISAGUA		Rol 3805			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Pisagua	Archaeological Excavation	Olaf Olmos	20 bodies naturally mummified in one grave	Identification of 19 victims 7 Detenidos Desaparecidos: Orlando Cabello Nicolás Cháñez Ch. Juan Mamani M. Luis Manríquez W. Hugo Martínez G. Orlando Rojas O.
		Laboratory Analysis	SML		

					<p>Manuel Sanhueza M.</p> <p>12 Politically Executed: Julio Cabezas G. Juan Calderón V. José Córdoba C. Marcelo Guzmán F. Humberto Lizardi F. Luis Lizardi L. Nelson Márquez A. Mario Morris B. Germán Palominos L. Luis Toro C. Juan Valencia H. Alberto Yañez</p>
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TOCOPILLA		Rol 3231			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Pique Minero La Descubridora	Collection	GAF (David del Pino, Elías Padilla)	Skeletal and cultural fragments	
1991		Macroscopic analysis and pulp tissue hydration	SML		Identified: Claudio Tognola Carlos Garay Luis Segovia

CALAMA		Rol 33423; 37340-A-8			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	KM-13	Archaeological Excavation	A. Llagostera L. Núñez M.A. Costa F. Téllez	1100 bone and cultural fragments	<p>Identification by exclusion and approximation (SML Protocol 1781-95):</p> <p>Roberto Rojas A. Jorge Saavedra G. Mario Aguelles T. Alejandro Rodríguez R. R. Jorge Hoyos Luis Gahona O. Fernando Ramírez R. Milton Muñoz M. Hernán Moreno V. Luis Hernandez N. Carlos Escobedo C. Luis Piñero L. Jerónimo Carpanchay C.</p> <p>* These identifications were</p>
1995		Laboratory Analysis	SML		

					questioned by the same SML
2009-2010		Molecular Analysis (re-identification of bone fragments)	Laboratory of the International Comission on Missing Persons (ICMP), Bosnia		Re-identification of: Jorge R. Yueng Rosario A. Muñoz Castillo Roberto S. Rojas Alcayaga Rolando J. Hoyos Salazar Alejandro Rodríguez R. Manuel S. Hidalgo Rivas Bernardino Cayo Cayo

CALAMA		Causa Rol 33.423			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1997	Pampa de Moctezuma	Exhumation	Police Investigation	1 body	No identification
2002		Molecular Analysis	SML		Identified: René Linsambarth

PAINE		Rol 289-74*; 2-90-E			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Cementerio La Rana de Huelquén	Archaeological Excavation	GAF (Isabel Reveco)	Recovery of three bodies	
1990		Archaeological Excavation	Antonia Benavente	Recovery of bone fragments and cultural material	
1990		Laboratory Analysis	SML	Identification	Identification of: 1 Ejecutado Politico: Roberto Ávila M. 2 Detenidos Desaparecidos: Mauricio Cea Iselcio Enrique González

PAINE		Rol 289-74*			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Cementerio de Chada	Exhumation	SML	1 body from one grave	Identification of one Ejecutado Politico: Juan Núñez V.

PAINE		Rol 289-74*			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Cementerio	Exhumation		13 bodies	Identification of:

	de Chada	The bodies were deposited in sacks that were guarded in the cellar of the SML	SML	Found on the premise of the SML	José Cabeza B. Francisco Calderón N. Héctor Castro S. Domingo Galaz S. José González E. Juan González P.
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* Initially all cases from Paine were grouped in just one judicial *causa* with the same *rol*.

PAINE		Rol 289-74*; 04-02 F			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
2007	Quebrada El Arrayán	Archaeological Excavation	Antonia Benavente, Andrea Seelefreund, Calogero Santoro	Bone fragments and cultural remains	
2010	Los Quillayes, Lago Rapel (VI Region)	Laboratory Analysis	Laboratory of Legal Medicine University of Innsbruck, Austria		Identification of 11 detenidos desaparecidos: Carlos E. Gaete López Rosalindo D. Herrera Muñoz Samuel Lazo Maldonado Carlos Lazo Quinteros Silvestre Muñoz Peñaloza Mario E. Muñoz Peñaloza Andrés Pereira Salsberg Luis Silva Carreño José I. Castro Maldonado Luis A. Gaete Balmaceda Ramón A. Capetillo Mora

CUESTA BARRIGA		Rol 2-77			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1986	VP3G-1	Archaeological Excavation	José Berenguer Carlos Alduante Luis Cornejo	Bone fragments and cultural remains	
		Laboratory Analysis	SML		Identification of: Juan René Orellana Catalán
2001	Cuesta Barriga	Exhumation	SML	Bone fragments	Identification of: Horacio Cepeda Fernando Ortiz

COLINA	Rol 35. 625-6
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Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Cerro Las Tórtolas	Exhumation	Police Investigation SML	Skeletal remains of three bodies	
1990-1991		Recovery of bone fragments	GAF (Iván Caseres, Isabel Reveco)	GAF	
		Laboratory Analysis	SML	SML	Identification of: Vicente Atencio C. Eduardo Canteros P. Alejandro Álvaros D.

FUERTE ARTEAGA		Rol 120.133-6			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1995	Fuerte Arteaga	Exhumation	SML	Three skeletal bodies	Identification of three detenidos desaparecidos: Ricardo Weibel N. Ignacio González E. David Urritia G.

FUERTE ARTEAGA		Rol 126.461-Exh			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
2001	Fuerte Arteaga	Archaeological Survey and Excavation	José Berenguer Iván Cáseres Kenneth Jensen Carlos Carrasco	One body in one grave	
		Laboratory Analysis	SML	Identification of skeletal remains	Identification of one detenido desaparecido: Juan Luis Rivera Matus

FUERTE ARTEAGA		Rol 126.461-Exh			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
2001	Sitio Tacna	Archaeological Excavation	José Berenguer Iván Cáseres Kenneth Jensen Carlos Carrasco	Recovery of close to 500 bone fragments	
2010		Molecular Analysis	Laboratory of Legal Medicine University of Innsbruck, Austria		Identification of 11 detenidos desaparecidos: Oscar L. Avilés Jofre Manuel R. Castro Zamorano Jaime G. Sotelo Ojeda

					Héctor D. Urrutia Molina E. Enrique Paris Roa Héctor R. Pincheira Núñez Luis F. Rodríguez Riquelme Oscar R. Lagos Ríos Julio F. Tapia Martínez Julio H. Moreno Pulgar Juan A. Vargas Contreras
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TALCA		Rol 62.260			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Cementerio de Talca	Archaeological Excavation	GAF (Iván Cáseres Roque)	Three bodies in one grave	
1990		Laboratory Analysis	SML	Skeletal remains	Identification of three ejecutados politicos: José Méndez Valenzuela Domingo Urbina Díaz Luis Urbina Diaz

NUEVA IMPERIAL		Rol 42.294			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Public Cemetery of Nueva Imperial	Archaeological Excavation	GAF (Iván Cáseres Roque) Marco Sánchez	One skeletal body in one grave	Identification of: Nelson Curiñir Lincoleo
1990		Laboratory Analysis	SML	Skeletal remains	

CHIHUÍO		Rol 2.182-98 **			
Year	Site	Intervention	Responsible	Intervention Results	Lab Results
1990	Chihuío	Archaeological Excavation	Julio Sanhuesa Ximena Navarro	Bone fragments and cultural remains	
2010		Molecular DNA Analysis	Laboratory of Legal Medicine University of Innsbruck, Austria		Identification of: Carlos M. Acuña Inostroza Luis A. Ferrada Sandoval Daniel Méndez Méndez Ricardo S. Ruiz Rodríguez Manuel J. Sepúlveda Rebolledo

** This case shares a *rol* with the Colonia Dignidad, both directed by the Minister Jorge Zepeda of the Court of Appellations of Santiago.

