Forensic Legacy of the Khmer Rouge: The Cambodian Genocide

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ABSTRACT

The people of Cambodia were subjected to widespread forced migration and labor, disease, starvation, torture, murder, and indeed, genocide over a period of four years during the control of the country by Pol Pot and the Khmer Rouge in the 1970s. While the country awaits some form of justice from the hybrid tribunal hearing cases against a few of the perpetrators of these crimes, it has undertaken to memorialize the dead in visible monuments in order that the people remember and never allow it to happen again.

This paper outlines the few forensic investigations which have been undertaken on the remains of the deceased from this period in Cambodia's history. The current status of the legal proceedings and the current death investigation system in Cambodia are also presented. There is a wealth of objective forensic information that can be gathered from analyzing the remains that have been disturbed and placed in monuments (stupas), and also in the undisturbed graves across the country. This information cannot only assist in any legal proceedings, but can aide in training medicolegal experts in Cambodia for the future good of the country and its rule of law. *Acad Forensic Pathol.* 2017 7(3): 415-433

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INTRODUCTION

In 1962, a farmer by the name of Pol Pot took over leadership of the Cambodian communist party. The communists were unhappy with life under the autocracy of Prince Sihanouk who had taken over the rule of Cambodia following the departure of the French colonists from the country in 1954. Sihanouk was unpopular both in his country and internationally, and was overthrown by the military in 1970, which then installed General Lon Nol as president of the Khmer Republic. Lon Nol equalled Sihanouk both in his anticommunist position and his activities aimed at routing out communism. He allowed the US free rein to continuously bomb those areas of Cambodia into which the Vietnamese communists had escaped. This political situation served to assist Pol Pot in gaining a large following of loyal Khmer Rouge supporters. On April 17, 1975, Pol Pot and his army took Phnom Penh. He established “Democratic Kampuchea” (DK), immediately cut off Cambodia from the outside world, and emptied its cities. In the ensuing four years, Pol Pot undertook a reign of terror in his quest to build a new, purely agrarian society with no ties to the past.

Documents, witness reports, and other evidence that has been collected since the 1990s indicate that there were waves of mass killings of specific groups of people and that those who survived were deliberately translocated and many of them were worked to death on farms or died of starvation. Buddhist temple complexes (wats) were transformed into prison camps and many of the killing fields and stupas are located in close vicinity to these wats. The Tuol Sleng Prison, known as S-21, contained much evidence illustrating how people were imprisoned and tortured there prior to being killed. The prison, a former school, is now a museum to the genocide.

Not unlike other modern crimes against humanity, there is also abundant forensic evidence available to document what happened to the people of Cambodia. Although many of the mass graves have been exhumed unscientifically, the remains themselves are available to assess. In addition, work done in the

2000s by forensic experts suggests that undisturbed mass graves remain in some parts of the country. In 2003, Cambodia and the United Nations (UN) signed a cooperation agreement to establish the Extraordinary Chambers in the Courts of Cambodia (ECCC) in order to prosecute crimes against humanity committed during the DK period. To date, the ECCC has four cases on its docket: the first has been completed and has been through appeal, the second has just ended, and the fate of the third and the fourth are currently unknown as they may or may not be adjudicated.

DISCUSSION

History

Cambodia has a long and rich history. The earliest evidence for cities sustained by sophisticated water management systems is during the period spanning the 5th to 8th centuries AD (Pre-Angkorian period), although evidence for habitation predates this period. This Pre-Angkorian period was followed by the Angkor period (9th to 15th centuries AD) from which some of the world’s most famous religious and civic structures survive and represent the height of Cambodia’s influence in the region in which it controlled, which covered not only present day Cambodia but also what is now Laos, Thailand, and Southern Vietnam (1). For many years, historians and archaeologists have postulated that the downfall of the once powerful kingdom began in the 15th century with a Thai invasion and sacking of Angkor in 1431-1432 in which “*the old capital was taken and entirely devastated by the Siamese*”, as a result of which the kings of Angkor migrated elsewhere and “*Buddhism of the lesser vehicle presided over a melancholy but serene peace*” in the centuries to come (2). It seems that many historians view the 20th century genocide almost as inevitable as it was apparently the culmination of half a millennium of conflict and wars (3). Recent investigations utilizing the advanced technology of laser scanning the subsurface from aircrafts has, however, revealed that while cultural centers and capital cities may have moved, the population did not, in fact, move with it or decline catastrophically. The laser scanning is capable of showing vast subsurface structures that, unlike

the stone structures of the central religious and civic buildings, would have been constructed from earth and materials that have decomposed over the centuries, such as the irrigation systems, roads, bridges, and habitation structures of most of the population (4, 5).

Cambodia's more recent history (18th to 19th century) is marked by civil wars and ethnic violence, which culminated in French colonization in 1863. Throughout the colonial period, little attention was paid to educating the Khmer in their culture and history (3). In 1950, a growing faction of Cambodian communists joined forces with the Vietnamese who were also under French colonial rule (6). In 1954 at the Geneva conference, the French agreed to withdraw from Cambodia, Vietnam, and Laos. Cambodia became a kingdom under Prince Norodom Sihanouk. Sihanouk remained neutral in the US war against Vietnam in the 1960s and maintained his autocratic rule by routing out communism and any other form of opposition in his own country, including putting down an insurgency by Pol Pot in 1967 (6). As the US intensified its attacks on Vietnam, its communist forces increasingly fled to Cambodia, just over its western border. In 1970, a coup resulted in Sihanouk's replacement with General Lon Nol as president of the Khmer Republic. The new president was backed by the US and the US stepped up its bombing attacks in Cambodia to assist him in destroying the communist threat that had spilled over the border from Vietnam. The bombing ended in 1973 but not before approximately half a million tons of bombs had killed at least 100 000 people (3). The bombing served to assist Pol Pot in building his army as he could blame the deaths on the capital city, Phnom Penh, where the "haves" resided. Most of the bombing had been directed at the poor and uneducated agrarian communities (or the "have nots") outside of the cities. Pol Pot and his Khmer Rouge army were successful in taking Phnom Penh on April 17, 1975, and he established his rule over what he called Democratic Kampuchea.

Pol Pot's reign of terror started that day and continued until 1979 when the Vietnamese army overthrew the Khmer Rouge and installed a Vietnamese led government in what was now called the People's Republic

of Kampuchea (PRK). Estimates of the number who died vary, and the counting has created much debate (7, 8). The best estimates are that somewhere between 1.671 (21% of the population) and 2.18 million people died between April 1975 and January 1979. Civil war and turmoil continued in Cambodia until 1999 despite intervention of the international community and the UN to attempt to bring peace to the country. In 1979, a hurried trial of Pol Pot and Ieng Sary (his second in command) was undertaken, but they were tried in absentia, and the outcomes were essentially meaningless. In 1994, President Clinton passed a law to bring the Khmer Rouge to justice as they continued to kill Cambodian troops and civilians (3). This was also the year that Yale University received a grant to establish the Cambodian Genocide Program, which continued until 2001 (9). In 1999, a UN group of experts recommended that an international tribunal and truth commission be established to try the crimes of the Khmer Rouge regime (10). After much discussion between the UN and Prime Minister Hun Sen, which at times seemed to indicate that a tribunal would never be established, on June 6, 2003 Cambodia and the UN signed a cooperation agreement to establish the ECCC to prosecute crimes against humanity committed during the DK period (11).

Genocide and Crimes Against Humanity

The term genocide was defined by the 1948 UN convention on the Prevention and Punishment of Genocide (12). Article 2 of the Convention defines genocide as:

...any of the following acts committed with intent to destroy, in whole or in part, a national, ethnic, racial or religious group, as such:

(a) Killing members of the group;

(b) Causing serious bodily or mental harm to members of the group;

(c) Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;

(d) *Imposing measures intended to prevent births within the group;*

(e) *Forcibly transferring children of the group to another group.*

The 20th and 21st centuries have, unfortunately, provided the world with many examples of mass killings, forced dislocations, and other examples of crimes against humanity such as homicide, torture, and rape. Some perpetrators have been successfully prosecuted for crimes against humanity and war crimes in such tribunals as the International Criminal Tribunal for the Former Yugoslavia (ICTY), the International Criminal Tribunal for Rwanda, the hybrid tribunal in East Timor (Special Panels of the Dili District Court), and the International Criminal Court (ICC), although this court has, to date, only handed down three convictions for war crimes. Genocide is harder to prove and since the Second World War only a handful of people have been convicted of this crime.

What happened during the period of DK has always been referred to as genocide. When the Vietnamese communist army defeated the Khmer Rouge in January of 1979, they found abundant evidence that a multitude of the population had been killed. Not only did they find Pol Pot's primary torture prison (Tuol Sleng), but also the "killing field" associated with it, known as Choeung Ek (13). Prisons, concentration camps, and mass graves were found all over the country. In the ensuing years, the Cambodian Genocide Program and the Documentation Center of Cambodia (DC-Cam) have collected much documentary evidence to prove that the Khmer Rouge deliberately targeted certain groups of people such as the wealthy and educated urban Cambodians, Buddhist priests, the Vietnamese and Chinese minorities of Cambodia, and the minority Muslim Cham, as well as former policemen, soldiers, and students, amongst others. Not only were these identifiable groups targeted, but the Khmer Rouge systematically uprooted all Cambodians from their home villages and moved them to other locations, severing all ties with their communities and property.

Legal Proceedings with Regards to the DK Regime

Revolutionary People's Tribunal, Cambodia

In July of 1979, the Tribunal rendered its verdict on the trials of Pol Pot and his second in command, Ieng Sary. The two were convicted in absentia by an 11-man tribunal that included US lawyers and took five days. The evidence presented was largely from survivors who had witnessed what happened and did not include any forensic evidence. They were convicted of genocide, but the definition was one that was created specifically for the tribunal, and they were sentenced to death. The sentences were not carried out (14).

Extraordinary Chambers in the Courts of Cambodia

The court created to prosecute the perpetrators of the DK crimes is a hybrid tribunal, similar to the ones set up in East Timor and Sierra Leone. The court is situated in Cambodia, and the judges, prosecutors, defense council, and other staff are a combination of Cambodians and internationals. The legal standards are both Cambodian and international. The court can only prosecute two categories of alleged perpetrators for alleged crimes committed between April 17, 1975 and January 6, 1979: Senior leaders of Democratic Kampuchea and those believed to be most responsible for grave violations of national and international law (15). The court currently has a docket of four cases.

Case 001: Kaing Guek Eav alias Duch, the former Chairman of the Khmer Rouge S-21 Security Center in Phnom Penh was indicted in 2008. He was convicted of various crimes against humanity and grave breeches of the Geneva convention of 1949 in 2010, and was finally sentenced to life in prison in 2012.

Case 002: The trials of Nuon Chea (former Chairman of the DK National Assembly and Deputy Secretary of the Communist Party of Kampuchea) and Khieu Samphan (former Head of State of DK) began in 2011. They were convicted of crimes against humanity in 2014, and closing arguments in their second trial, in which they are charged with genocide against the Vietnamese and Muslim Cham and other

grave breeches of the Geneva convention of 1949, are just being completed at the time of writing. If they are found guilty of genocide, this will be the first true conviction for genocide in Cambodia.

Two other cases are before the court, and three have been charged (one recently had charges dropped), but not yet indicted. Two of the persons originally indicted have died, as have other individuals who were in custody and expected to be indicted. All surviving individuals are now elderly. The future of the court is unknown at present as they have serious budgetary issues (16).

The Human Remains

While there is much documentary evidence and many witness statements of the genocide and other crimes against humanity that occurred in the DK period, there are also the remains of the victims of the killings, which in many cases have been placed into stupas and are readily visible to any who visit the places. The treatment of these remains differs greatly to how the dead are treated today, and indeed how they would have been treated prior to the DK period. The minority Chinese and Cham bury their dead in cemeteries and mark the graves, while the majority cremate them in Buddhist ceremonies. However, any stupas created from exhumed remains from areas that had been cemeteries and were then utilized as mass graves may contain remains of those other than Cambodians killed during the DK regime if those graves were unmarked. This is the case at Choeung Ek, discussed below. It is understandable that immediately following the end of the Khmer Rouge regime, the surviving people had better things to do than deal with the dead who, for the most part, had been buried, albeit in some cases not very deeply, with the result that their graves were readily discoverable. Very soon after Vietnam ended Pol Pot's reign, the PRK, with the help of Vietnamese "forensic" experts, began to utilize the human remains towards a political end. In 1980, a Vietnamese General by the name of Mai Lam was put in place as the curator of the Tuol Sleng museum in the former S-21 prison building and the Choeung Ek Memorial Stupa (the place of the "killing fields" for the S-21 prison).

According to sources, he is quoted as saying that the preservation of human remains was "*very important for the Cambodian people – it's the proof.*" Some have interpreted this as also legitimizing the Vietnamese invasion, which effectively put an end to Pol Pot's genocide by building visual reminders of what happened (17).

The Skull Map

When Pol Pot's secret torture prison, Tuol Sleng, was made into a genocide museum in 1980, one of the first uses of human remains from the mass graves was to construct the skull map which hung in the museum until 2002 (18). Approximately 300 skulls and some long bones were arranged in the shape of the country of Cambodia. The skulls and long bones from the map are generally known to have been excavated from Choeung Ek. Although most media reports at the time state that the map was dismantled because it was in bad condition, there was a political undercurrent to its removal. The former King Norodom Sihanouk began calling for cremation of all of the remains in Cambodia in 2001 so that their souls could find peace according to Buddhist belief. This was in direct opposition to prime minister Hun Sen's direction that the remains should be preserved as evidence of the crimes committed and also to educate people in the future as to what occurred in the past (18). In 2003, the authors chose ten of those skulls to be utilized in an exhibit in the Tuol Sleng museum, which was to demonstrate the value of forensic evidence for the expected crimes against humanity and genocide trials (19, 20). The skulls were chosen to illustrate the types of trauma that had been seen in our analysis of some hundreds of skulls, both from stupas and the skull map. Examples of blunt-impact trauma, gunshot wounds, and sharp force trauma (including incised and chop/hack wounds) were included (**Images 1 to 3**).

This work was done during Phase 2 of the Forensic Project undertaken with DC-Cam and the skulls were originally intended to be shown to the public in plexiglass cases on wooden pedestals. The plexiglas protects the skulls, but there are slats in the pedestals to allow the spirits to come and go as they wish. In their

exhibition paper, DC-Cam reiterates the sentiment first voiced by General Lam that the bones are a reminder for future generations of the country's suffering and devastation and that they serve as evidence. In accordance with King Sihanouks' concerns; however, the exhibit is stored in a room at Tuol Sleng that is not open to the general public.

Choeung Ek

Unlike many of the other stupas in Cambodia, the one at Choeung Ek is not associated with a Buddhist wat turned prison/concentration camp. It was originally a Chinese cemetery and is believed to be the "killing field" for the people who were interrogated

and tortured in S-21 (Tuol Sleng). It was discovered to hold approximately 129 mass graves, which were exhumed in 1979-80 under the curatorship of General Lam and apparently with the assistance of Vietnamese "forensic" specialists. The remains of approximately 9000 individuals were excavated. The present day stupa mostly contains skulls only. In 2002, the area surrounding the memorial contained open pits with obvious weathered human bones embedded in the soil and scattered on the surface. Most of the visible bones were long bones. These pits are apparently the remnants of the excavated mass graves (21). The remains were originally housed in a wooden memorial. In 1988-89, a new, large concrete stupa with glass sides was constructed to house the remains. It was

Image 1: Gunshot wound of the head. Skull from Tuol Sleng formerly from the skull map.

also at this time that an “expert” team from Ho Chi Minh University in Vietnam came and studied and measured all of the skulls. No reports from this examination or the original excavation have ever been made available, nor have reports on any other reported Vietnamese excavations at other sites (22).

In the early 2000’s a number of presented papers, book chapters, and one publication in a scientific journal were the product of a research project supported by the then US Joint POW/MIA accounting command in cooperation with the Kingdom of Cambodia on a sample of skulls and mandibles from the stupa. Remains were chosen based on ease of access in the stupa and completeness. One of the publications re-

ports upon a sample of 85 randomly chosen skulls of which ten displayed perimortem blunt impact trauma to the occiput. In a discussion of differential diagnoses of the particular pattern of trauma seen on these skulls, the authors make a convincing argument that the fractures are due to direct blows to the squamous part of the occipital bone, which would have resulted in death due to disruption of the brainstem and spinal cord. The important thing about this forensic examination and publication is that it provides objective evidence for one of the manners of execution utilized by the Khmer Rouge, which had previously only been documented by survivors and witnesses. As noted by the authors, one of the witnesses was an executioner at Choeung Ek who described how the prisoners

Image 2: Sharp force trauma to the head. Skull from Tuol Sleng formerly from the skull map.

were made to kneel on the edge of the grave pits and then hit with an iron ox-cart axle on the back of the neck (23). There are numerous paintings at Tuol Sleng by one of the survivors of S-21 (Mr. Vann Nath, who died in 2011). One of these depicts a person kneeling, blindfolded, and with hands tied behind their back on the edge of a pit, the executioner standing beside him holding a large club, like a baseball bat, and looking down at the prisoner. The important thing about this study is that the authors found a pattern of trauma in a random sample of skulls and constructed a careful differential diagnosis utilizing observations of fracture morphology, knowledge of how certain forces affect bone and the skull in particular, and the physiological effects of that force on the skull and brain. Once this

was completed, a possible cause for the trauma could be suggested from other known information, such as witness statements and illustrations. This is not simply a case of wound-weapon matching.

The Cambodian Conservation Project

According to his testimony at the ECCC, Cambodian archaeologist Voeun Vuthy and staff members undertook a conservation project of the remains in the stupa at Choeung Ek as they were concerned about the decay of the bones. The work had three purposes: 1) preserve and record the history of what happened between 1975 and 1979; 2) compile historical documents for future generations so that the regime

Image 3: Multiple blunt impact trauma to the head. Skull from Tuol Sleng formerly from the skull map.

would not return and; 3) document the trauma on the bones to illustrate the “brutality” inflicted upon them. The work was undertaken by Vuthy and a team of 16, with some assistance from six various internationals. The work was ordered into a 12-stage process involving documentation and cleaning of the remains as well as consolidation. The group also undertook biological analysis (age and sex) and then proceeded to document the trauma and interpret which tool was used to create it. They then performed wound-weapon matching with tools they had identified as being used to execute people from historical documents and interviews with witnesses, including those who had apparently inflicted the wounds and those who saw the bodies afterwards. This work started in 2013 and was completed in 2015. The team produced a database, a series of 32 books/catalogues with photos, and a digital copy of the all of the data (24). Mr. Vuthy testified they recorded and conserved 6426 skulls and numerous other bones and further documented 28 083 separate traumatic wounds on these skulls. The summary documents to which he referred in his testimony do not appear to be available on the website of the ECCC, and the translation in the testimony is difficult to follow at times, but the types of trauma that they identified, as can best be interpreted, are summarized in **Table 1**.

Mr. Vuthy has an MA in zooarchaeology and since 2014 has been Director of Archaeology and Prehistory at the Ministry of Culture and Fine Arts in Phnom Penh. In his testimony, he told the court that he had lost his father and six family members during the DK period. The ECCC first became aware of his study, which was never promoted as a forensic report but rather an “*osteological study with an emphasis on trauma*,” when the Phnom Penh Post published an article on the project, although apparently at least portions of the study had been placed into the ECCC library earlier. The defendant Nuon Chea (case 002) and prosecutors agreed that some examples of the pages from the volumes, summary charts of findings from the study, photographs of implements found at Choeung Ek, and an evaluation report by an independent expert should be admitted and that Mr. Vuthy should be called to testify (25). On November 4, 2016, the court agreed

that the evidence had not been discoverable at the start of the trial, but that it was relevant, reliable, authentic, and could be admitted (26).

Documentation Center of Cambodia – Other Sites

The Mass Graves Mapping Project

In 1995, the Yale Cambodian Genocide Program, as part of their massive data collection project, began mapping all of the mass graves, prisons, and stupas in the country. This work was continued by DC-Cam. The “mapping” was done by visiting the sites, documenting what could still be seen, locating them by global positioning system (GPS), and interviewing locals and/or witnesses in order to interpret how many graves were there and how many people were in them.

Table 1: Counts of Trauma Mechanisms From the Choeung Ek Conservation Project

Trauma Mechanism	Total Number of Wounds Counted
Bamboo or wood club	9802
Square wood club	2435
Steel bar or axle	5806
Cane-iron bar	4
Thin edged knife	3563
Hoe	541
Axe	101
Bullets or rifle cleaning rods	1686
Bayonets	990
Trauma to back of neck	4
Chemicals	286
Blunt impact by force against a hard surface	1631
Torture from rifle cleaning rods (defined as incomplete perforations by the rod, meaning that it did not cause death)	38
Iron pushed into ears	758
Steel support head of photo chair at Tuol Sleng	11
Medical treatment	9
Ear amputation	20
Torture involving teeth (punching)	8

The project ended in 2004, but the documentation of graves continues by DC-Cam whenever new ones are found; one was found in 2007 and was largely excavated by the locals who dug it up unscientifically looking for gold (27), another was dug up in 2012. As of 2004, the mass graves mapping project had documented 19 733 mass graves in 388 districts, 196 prisons, and 81 stupas.

Documentation Center of Cambodia Forensic Project

An ambitious project was launched in 2001 in the lead up to the beginning of trials at the ECCC. With funding from several US agencies and the authorization of Prime Minister Hun Sen, a team of Cambodian and international researchers and experts undertook a three-phase approach. The authors were the forensic experts on the team. In Phase 1, a feasibility study was performed and included visits to three sites (Choeung Ek, Ampe Phnom, and Phnom Udong). At the end of this phase, one member also undertook a study on the state of forensic pathology in Cambodia (see below). Phase 2 had two objectives: to identify grave sites that were undisturbed by either removal of bones by locals for memorial construction and/or for looting purposes and to select a number of skulls exhibiting the typical types of trauma seen as a result of the execution methods used by the Khmer Rouge. These were to be exhibited at the Tuol Sleng museum (see above). During this phase, the remains at Wat Sauphy (Wat Ka Koh) were examined. Phase 3 was to be a scientific excavation of an undisturbed mass grave. To date, not one of the mass graves in Cambodia has been scientifically excavated, and the importance of doing this is discussed below. It is unfortunate that funding was not forthcoming for this phase of the project, and it was never undertaken. The work included documentary assessments in which the forensic experts reviewed the information on every mass grave documented by the grave mapping project. The experts then visited the sites that seemed like possible candidates based upon a potential lack of disturbance of the graves and the location (i.e., not in rice paddies, deep wells, or other areas which were then under water, and in areas which were secure from conflict as well as accessi-

ble) in order to “ground truth” the sites, get an update on the condition of the sites since first mapped, and undertake interviews of people living in the areas who may be able to provide information relevant to undertaking excavations of an undisturbed site. Varied levels of examinations were undertaken at some of the memorial stupas on the remains themselves in order to understand what could be forensically gleaned from remains that had already been dug up, and to choose possible examples for the forensic exhibit. Some of the findings are outlined below.

Ampe Phnom

This stupa was estimated to contain the remains of at least 1000 individuals based on the number of skulls that could be counted. Unlike many of the other stupas investigated, this one contained many long bones as well. Individuals of all ages and both sexes were represented (**Image 4**). The ground and riverbanks near the memorial contained exposed skeletal remains, which were easily noticed. This was not the only site visited where human remains and clothing were readily visible on the surface in areas where the graves had been disturbed to build stupas (**Image 5**).

One hundred skulls were randomly chosen from the stupa for examination, and one skull exhibited an incised wound on the right supra orbital ridge. The long bones of the stupa were surveyed and 13 examples of sharp force trauma were identified (**Image 6**).

Phnom Udong

This stupa contains several hundred skull portions and long bones. The skulls are largely calvarial fragments lacking the base and facial bones. All of the skull portions and a sample of long bones were assessed. Eight femora showed sharp force trauma, although the preservation of the remains in some of these cases made it difficult to distinguish between peri- and postmortem trauma, as there was much postmortem taphonomic damage to the remains. Two of the skulls exhibited gunshot entrance wounds to the right parietal area.

Wat Sauphy (Wat Ka Koh)

The entire contents of the stupa, which consisted of 104 skulls and a few long bones, were removed and analyzed for demographics (age and sex) and trauma (**Images 7 and 8**). Some examples of blunt impact and penetrating trauma were seen.

Stung Tauch

Although there is no memorial stupa in Stung Tauch village, this is actually a good thing. Interviews with survivors and witnesses by the mass grave mapping project and by the authors strongly suggest that there are unrobbed/undisturbed mass graves in the area.

During Phase 2 of the DC-Cam forensic project, this village was determined to potentially be the most likely to produce primary forensic evidence in the country.

The Cambodian Conservation Project – Other Sites

Wat Kraing Ta Chann

The team found 1904 skulls and 3158 other bones in the stupa. These were removed, cleaned, catalogued, and conserved according to the methodology utilized at Choeung Ek. Mr. Vuthy testified that there were six graves unexcavated in the area (28).

Image 4: The stupa at Ampe Phnom.

The conservation project also analyzed remains from Prasat Padei and Kok Prech; however, there is no information available on the results of those efforts.

Forensic Medicine in Cambodia Today

Forensic or medicolegal medicine—the combination of disciplines such as forensic pathology, forensic anthropology, forensic odontology, and allied forensic sciences in order to investigate deaths and identify those deceased—is an integral part of any country’s death investigation and legal systems. The scientific investigations of deaths provide information on how and why a person died and who they are. This information can be used by many factions of a society. A

country’s legal/judicial system can use the information in order to enforce the rule of law by bringing criminals to justice in cases of homicide. Public health policy can evolve to address the issues of community health on an ongoing basis, including both preventative and treatment programs for diseases and environmental toxins and hazards in the case of natural deaths, accidents, and suicides.

There is no medicolegal death investigation system in Cambodia. Despite efforts to introduce one in the 1990s and 2000s, the country remains without a system to scientifically investigate the deaths of its citizens (21). A recent media article underlined that it remains within the power of the police to ask for a

Image 5: Surface scatter of remains and clothing from a disturbed mass grave.

postmortem examination, and that they rarely do so (29). In addition, the term “autopsy” refers to the Cambodian police procedure of looking at a body and perhaps taking some photos. The police determine what happened. The single municipal court doctor in Phnom Penh also performs “autopsies” in this manner, although he would apparently take notes and issue a report (21). Despite his apparent repeated requests for appropriate resources to undertake true postmortem examinations, the article indicates that “autopsies” are usually only undertaken when a nongovernmental organization requests them and their starting point for looking further is a confession by the perpetrator (29).

Summary

In both common-law and civil law legal systems, the results of medicolegal examinations of the dead are utilized as one piece of evidence in a trial of an alleged perpetrator. Forensic evidence gleaned from

an autopsy can provide objective scientific evidence that can be used in a trial along with subjective evidence (such as witness reports) and other evidence, such as documentary evidence of all types, in order to prove the case that the alleged perpetrator is guilty of a crime. Forensic evidence can objectively corroborate other evidence. Experienced forensic experts, such as forensic pathologists and forensic anthropologists, undertake evidence collection on a daily basis and present their findings in courts of law. It is not the role of the forensic medical expert to assess all of the evidence in a case and utilize ancillary evidence such as confessions, witness statements, and documents (within reason, medical records and closed-circuit television video of a death may be appropriate and indeed pertinent) to interpret their observations and findings.

Previous international tribunals, hybrid tribunals, and cases at the ICC have made use of the evidence of

Image 6: Sharp force hacking trauma to a midshaft femur from Ampe Phnom.

forensic pathologists and anthropologists in some of their cases. These trials, unlike domestic murder trials, have tried individuals for crimes against humanity, war crimes, and genocide. All of these crimes have been successfully prosecuted with the use of forensic anthropological and pathological evidence. In particular, convictions of the crime of genocide were handed down in a number of the ICTY Srebrenica trials.

According to a secondary source, in Cambodia the coinvestigating judges of the ECCC excluded any possibility of this type of evidence in their trials. In April 2010, they stated “[I]t was highly unlikely that forensic exhumations would provide any additional evidence that would be conducive to ascertaining the

truth, whether exculpatory or inculpatory, than that which is already on the case file” (30). A search of the ECCC website could not find a document from which this was taken, but if true, this decision was clearly uninformed.

However, the court has allowed testimony on observations of trauma from skulls from a nonforensic expert from one of the memorial stupas. Some information can be gleaned from these collections of human remains, but their limits must be understood. All of the stupas contain biased collections as they were unscientifically excavated from what is presumed to be primary forensic graves. Nonexperts removed identifiable elements including complete skulls of adults

Image 7: Remains in the stupa at Wat Sauphy (Wat Ka Koh).

and older children and large long bones. The lack of elements from infants could, therefore, either be due to the fact that there were no infants or that they were not chosen as the bones are small and the cranial elements unfused. This fact makes any inference of the demography of the decedents impossible. Some of the collections contain incomplete skulls, but without the missing portions, it cannot be determined if the missing portions are due to perimortem trauma or to postmortem taphonomic processes. In addition, some of the collections exhibit extensive postmortem damage, likely due to the manner in which they were recovered, the original type of soil (see **Image 9**), and the manner in which they have been maintained since they were recovered. All of the stupas are exposed to

the elements in some way or another and many of the remains have deteriorated in this environment in the past 30 plus years. Moreover, the stupas are essentially ossuaries. The remains in them have been dissociated as individuals so that a complete autopsy cannot be done on a single individual. The only possible way to match up long bones with skulls would be by DNA profiling. It would be necessary to develop autosomal DNA profiles from every skull and every long bone, as mitochondrial DNA would be insufficient to match up individuals in groups of remains that may have derived from the same family units. Given the harsh postmortem environment of these remains with exposure to sun and rain over decades, it is unlikely that autosomal profiles would be successful for all of

Image 8: Remains from Wat Sauphy (Wat Ka Koh) laid out for analysis.

the remains in a stupa. Substantial funding would be necessary to attempt this as well.

Given the limits of the skeletal collections in the stupas, there remain medicolegal questions that could be addressed. The skulls could provide some idea of the sex ratio, keeping in mind that in some of the stupas the collection does not contain fragmentary remains. Trauma, or lack thereof, can also be documented. Again, a bias towards complete skulls would preclude those skulls that incurred trauma that resulted in numerous fractures to the skull and subsequent fragmentation in the postmortem period. It was noted at one stupa in Phase 2 of the forensic project, that the contents consisted of largely fragmented and incom-

plete skulls. Whether this was the result of perimortem trauma or postmortem taphonomic processes could possibly be investigated. Trauma to any postcranial material could also be documented. In single forensic cases, it is often possible to determine the ancestry of remains by discriminant function analysis of a number of cranial measurements. Vietnamese and Chinese are distinguishable from each other, and it is expected that the Cham being of Austronesian descent would cluster out separately as well. This information could be very important, in particular, for genocide charges where the intent to destroy a group must be proven.

The memorial stupas, since their creation shortly after Pol Pot was defeated, have been political symbols.

Image 9: Remains in the stupa at Phnom Udong showing the red clay soil and postmortem damage.

As outlined above, the initial curator of Choeung Ek stated that the creation of the stupa was to preserve the evidence of what happened. A number of government directives since that time have also directed the provinces in the country to memorialize the genocide sites, essentially directing the local villages to dig up the graves and build stupas (17, 18). It should be noted that many of the graves had already been disturbed by grave robbing, and that continues to today (27). That these collections of human remains have become of historical importance and are seen as educational tools so that future generations do not repeat the atrocities has created the impetus for the Cambodian Conservation project. In his testimony, and other court documents, the director only ever states that the project at Choeung Ek and other stupas was one of conservation and documentation. Its purpose was not for the criminal justice system. It is interesting that the government of Cambodia has consistently promoted disturbance of the primary forensic mass graves for this purpose, but has not supported proper scientific excavation of them, nor did they allow the conservation project to undertake archaeological excavations.

In Phase 2 of the DC-Cam forensic project, a few possibly undisturbed primary forensic graves were located. That they were, indeed, present and undisturbed was never tested. The ECCC has apparently determined that excavation of these graves would not provide any information that they do not already have. Perhaps they are correct in that nothing new would be added to the many witness statements available to them, but scientific excavation could potentially provide corroborating or contradicting objective evidence. For example, there are witnesses who saw how many people were led to these pits and killed, or who were the executioners themselves and have confessed. There are also witnesses who were responsible for digging up the pits to fill the stupas, and all of these have provided estimates on the number of dead. In addition, numbers of dead have been calculated by the Mass Graves Mapping Project based upon these witness statements. In the evidence given at the ECCC on the number of skulls at the Kraing Ta Chann memorial, the witness was questioned about that number (N=1904) and the discrepancy in the number of dead

that he reported from interviewing elders in the village who had dug up the remains (N=10 042) (28). The numbers also seemed to be of continuous concern in the trial with respect to the remains at Choeung Ek. It is well-known that witness testimony can be affected by many things. In both East Timor and Kosovo, “witnesses” related in detail what happened at a particular massacre and when asked where they were when it occurred, they replied that they had not actually been there but had been hiding in the hills. Everyone knew what happened they said. North American legal cases have illustrated the frailty of eye-witness testimony many times, and many confessions have been later proven to be false. There are other issues related to inconsistent memory with those that have been traumatized as well (31). Scientific excavation and proper enumeration of individuals could address that issue. Excavation utilizing scientific archaeological technique would illustrate whether the graves were used once or were used for numerous events. Undisturbed graves would reveal the entire skeleton and any other findings which may be of importance, such as bindings, blindfolds, or plastic bags (said by some witnesses to be used to suffocate individuals). Projectiles could also be recovered. Not only could perimortem or fatal trauma be assessed, but the healed trauma or disease indicative of torture or long-term starvation and chronic illness may be discernible. Complete recovery of remains may give some true idea of the demographics of the people who died, as the remains of infants and children would also be recovered, if present.

The scientific excavation and examination of undisturbed mass graves in Cambodia could also have enormous benefits for the people of Cambodia in the future aside from the use of any findings in a criminal trial to bring the accused to justice for crimes committed in the past. It provides the opportunity to train medical doctors/pathologists, anthropologists, and police in accepted international standards in a death investigation which, in turn, feeds into the justice system and the rule of law. Education as a lasting legacy has been done by certain international groups in other postconflict countries such as East Timor, Bosnia, Kosovo, and Iraq and in most of these places, the edu-

cation and collaboration continues. As outlined above, the current state of death investigation in Cambodia is limited to police looking at remains and determining what happened, largely based on their observations and witness statements and/or confessions, and this only when a death is actually brought to their attention. Others have noted that by including forensic pathological and anthropological analyses of both the graves and the already exhumed remains as an integral part of the ECCC trials, a very important role in capacity building for the future is addressed (31).

CONCLUSION

Cambodia is unique in the history of countries that have experienced crimes against humanity and genocide. It has had a history of utilizing the remains of the millions of people who died or were killed in less than four years during the DK regime as both a reminder of what happened to them and an educational tool for future generations so that they may not make the same mistake. In following the direction of their government, and in many cases driven by abject poverty, Cambodians have largely destroyed the primary evidence of these mass killings, the mass graves. It seems unlikely that the current trials at the ECCC will resort to scientific medicolegal examinations of the graves that possibly remain, or the remains which have been removed from them. They have missed an opportunity to add objective scientific evidence to their trials, and at the same time provide opportunities for the Cambodian people to build knowledge and capacity in the areas of forensic pathology and forensic anthropology in order to contribute to a death investigation system which will truly assist Cambodia in its quest to ensure that things like this never happen again, even on a small scale.

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