Survey of Biological Factors Affecting the Determination of the Postmortem Interval

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Abstract

Estimating the time since death, or postmortem interval (PMI), is an important component of medicolegal investigations. Methods for estimating PMI date as far back as ancient Egypt. Advances in scientific knowledge have provided additional tools for estimating PMI. A survey of available literature and lectures was conducted to identify biological factors that affect PMI estimation and how they are assessed. The results of this survey showed that a high degree of variability exits within each method that reduces the accuracy of their findings. However, when taken in context with each other and used in conjunction with non-scientific evidence, such as witness statements, PMI estimations can help narrow the range of the PMI to a useful degree.

INTRODUCTION

Medicolegal death investigations are undertaken to determine the cause and manner of death. The postmortem interval (PMI), or the time since death, is one of the most important determinations made during the course of such investigations. It can assist in identifying the cause and manner of death. In a criminal case, it can lead to the identification or elimination of a suspect.

It is also one of the most difficult tasks to complete. Many different factors influence the accuracy of postmortem interval estimation. At the core of an investigation is the decedent, who provides many clues that may help investigators determine an approximate time of death. Biological evidence provided by the decedent involves a number of factors that are assessed and integrated during the course of an investigation. However, it is important to place the role of PMI within a historical context to identify the challenges that death investigators face.

HISTORICAL BACKGROUND

Methods for estimating the postmortem interval date back to the ancient Greeks and Egyptians during the fourth and third centuries BCE. They understood that dead bodies cooled and became stiff over a period of time after death, even though they did not understand the physiology behind the phenomena they were observing. Using a qualitative approach they identified the following traits:

- Warm and not stiff: Dead not more than a couple of hours
- Warm and stiff: Dead between a couple of hours and a half day
- Cold and stiff: Dead between a half day and two days
- Cold and not stiff: Dead more than two days (Sachs, 2001).

The Washing Away of Wrongs, a Chinese forensic handbook written in 1247 CE and believed to be the first such text, described other methods for determining the postmortem interval. Observing the degree of decomposition of a body could suggest the time of death depending on the season. For example, in the summer a body that had been dead for three days would have a "foul liquid" purging from the nose and mouth, while such signs could be significantly delayed during the cold weather of winter. It should be noted that estimations of the postmortem interval were limited to a window of one or two days as the time of travel to a death scene could impact accuracy (Sachs, 2001).

Our current system of death investigation can be traced to the Old English "crowner," the origin of our term "coroner." The crowner was responsible for determining where, when, and how a person died. Over time, the advancement of scientific knowledge led to death investigation applications, such as the discovery of livor mortis, the settling of blood after death (Sachs, 2001). Unfortunately, the value of these scientific advances has led to misperceptions in the media as to forensic pathologists' capabilities.

SCENE EXAMINATION

Even with the current state of science and technology, estimating the postmortem interval can be problematic. An exact time of death often cannot be derived from an analysis of physical evidence. For this reason the postmortem interval is often given as a range of time, for example twelve to twenty-four hours before the body was discovered. It should also be noted that inaccuracy increases as the postmortem interval increases (DiMaio & Dana, 2007). There are essentially four primary factors that can be identified and assessed at the scene to estimate the postmortem interval: Rigor mortis, livor mortis, algor mortis, and advanced decomposition. Additional indicators of PMI in advanced stages of decomposition include insect activity, skeletal remains, and botanical evidence.

Rigor Mortis

Rigor mortis is the stiffening of the body after death. Before death, or antemortem, muscles contract and relax due to the actions of two fibers, actin and myosin. When a muscle is stimulated, calcium ions are released from the sarcoplasmic reticulum, allowing myosin to bind with actin to contract the muscle. When the stimulation stops, the calcium ions are actively transported back to the sarcoplasmic reticulum. Active transportation of the calcium ions requires a substance called adenosine triphosphate, or ATP. This causes myosin to release its connection to actin, causing the muscle to relax (Saladin, 2010). When a person dies, cellular structures start to break down, releasing more calcium ions into the muscle. At the same time, the body no longer produces ATP. Without ATP, the calcium ions build up in the muscle tissue, causing more of the muscle fibers to contract over time and produce the rigidity we call "rigor mortis" (Ribowsky, 2006).

Rigor mortis is used in estimating the postmortem interval by assessing the degree to which it occurs in the body. Rigor becomes evident approximately two to six hours after death. Even though rigor mortis occurs simultaneously in all of the body's muscle tissues, it will be noticeable first in the smaller muscle groups. It begins in the face and hands and moves progressively throughout the rest of the body. After approximately eight to twelve hours, the entire body is rigid. The body will remain rigid for another twelve to twenty-four hours. Over the next eight to ten hours, rigor will begin to disappear, leaving the body limp (Burch, 2010). The signs of rigor mortis disappear in the same order they appeared, from small muscle groups to larger muscle groups (DiMaio & Dana, 2007). Rigor disappears due to the cells breaking down as a result of decomposition; they are no longer able to maintain the muscular contraction (Ribowsky, 2006). Determining the extent of rigor involves assessing the range of motion of various joints, including the jaw, wrists, ankles, elbows, and knees, and recording the degree of stiffness of each joint (Clark, Ernst, Haglund, Jentzen, 1996).

Livor Mortis

Livor mortis is sometimes referred to as lividity or postmortem lividity. With the heart no longer pumping blood through the vessels, blood begins to settle in the lowest, or dependent,

areas of the body due to the effects of gravity. It can be identified by a reddish, purplish-blue discoloration. However, if the dependent areas are pressed against a hard surface, the blood cannot settle there and results in a pale coloration (DiMaio & Dana, 2007).

Livor mortis can be seen as early as thirty minutes after death. Since lividity results from the heart stopping, it may begin appearing antemortem in decedents who die as a result of cardiac failure. Livor becomes more prominent over time (DiMaio & Dana, 2007).

Lividity is assessed by the degree of "blanching" in dependent areas. This involves pressing on areas where livor mortis is visible. Settled blood will clear the area pressed and leave it pale, or "blanched." The investigator observes how the blood returns when pressure is lifted. If the area does not blanch, fixed lividity is indicated. Lividity becomes fixed when the blood leaches out of the blood vessels and breaks down. This stains the surrounding tissue. Lividity usually becomes fixed eight to ten hours after death (Wagner, 2009).

Algor Mortis

The cooling of the body after death is referred to as algor mortis. Under ideal conditions, the body will have no drop in temperature for sixty to ninety minutes after death followed by cooling at the rate of 1 to 1.5 degrees Fahrenheit per hour (Ernst, 2010). This presupposes that the body was 98.6 degrees Fahrenheit at the time of death and the surrounding environment maintained a constant temperature in the range of seventy to seventy-five degrees Fahrenheit (Dix, 2010).

Assessing algor mortis is done by taking a variety of temperature readings. Body temperature is taken immediately upon arrival. It should also be taken one hour later; a third reading should be taken if possible (Ernst, 2010). The most accurate way to record the body reading is by inserting the thermometer probe into the rectum or the liver after making an incision in the abdomen (McFeely, 1991).

A temperature reading of the environment is important. This reading must be taken as close as possible to the surface of the body. This is referred to as the micro-environment, or "micro temp," reading (Ernst, 2010).

Advanced Decomposition

Rigor mortis, livor mortis, and algor mortis are all examples of the early stages of decomposition. However, their applicability is limited to the first two to three days after death. Beyond that, the body can be assessed based on its condition and the surrounding environment. There are basically two biological processes by which a body decomposes: Putrefaction and autolysis (DiMaio & Dana, 2007).

Putrefaction is the primary cause of decomposition. It involves bacteria, mostly from the digestive tract, breaking down the body's tissues (DiMaio & Dana, 2007). Autolysis is the process where tissue begins breaking down from the action of intracellular enzymes (2007). Within the cells are digestive enzymes that are no longer held in check after death, resulting in self-digestion (Burch, 2010).

Since bacteria from the digestive tract are often the start of the decomposition process, the first outward signs can often be seen in the abdomen as a greenish discoloration. The next stage is identified by a greenish-black discoloration in the face and neck. The features may swell with the eyes and tongue protruding. Reddish purge fluid emerges from the nose and mouth. As the body continues to decompose, gases are produced which can cause the body to swell. Skin begins to slip. Skin color will start changing to green and, eventually, black (DiMaio & Dana, 2007).

Two other occurrences are worth noting, mummification and adipocere. In hot, dry conditions, the body can become dehydrated. Bacterial growth is hampered as it requires a warm, moist environment. The skin becomes dark, dry, and leathery. A mummified body can be well-preserved for years (Wagner, 2009).

Adipocere may occur in bodies that are in high-moisture environments. Fat tissue undergoes saponification, or a change to a soap-like substance. Aside from a white, waxy appearance, there is no discoloration as which occurs with decomposition. An adipocere body can be well-preserved for several months (Wagner, 2009).

Additional Indicators

Insect Activity

Forensic entomology can be used to estimate the time of death when other means, such as rigor mortis, are no longer valid. This generally means a postmortem interval greater than seventy-two hours. By identifying the insect species present, the state of growth of the insect(s) found on the body, and their rates of growth, a forensic entomologist can provide a relatively accurate estimate as to when the insects arrived on the body, which in turn can be used to estimate PMI (Howe, 2010).

Insects found on the body are carefully collected and sent to the forensic entomologist. Two sets of samples are required, one set consisting of live insects and the other set preserved in a 75% ethyl alcohol solution. Additional insect samples are taken from the immediate area of the body, approximately one to three feet away; further away from the body, approximately twenty feet away; and from the soil under the body. Data concerning ambient temperatures, the temperature of any insect masses on or in the body, and weather conditions are also recorded, as well as the condition of the body and any clothing present. The live samples are allowed to feed and grow while their rate of development is monitored. Once the species is identified, the rate of development of the sample insects can be compared with the known rate of development for that species and the environmental data collected to determine how much time had passed since the insects arrived on the body. Insects–particularly blowflies (order Diptera)–are known to inhabit bodies soon after death, so PMI can be extrapolated from this data (Howe, 2010).

Skeletal Remains

PMI estimation is often associated with soft tissue, but skeletal remains can also offer clues. Forensic taphonomy, a subfield of forensic anthropology, is the study of what occurs to organisms' remains after death. This includes the effects of animals disarticulating and scattering the remains as well as biological processes (Ubelaker, 1997).

Animals that scavenge remains often follow a pattern, dependent on the particular species. Examining tooth marks in disarticulated remains can identify the animal species that scattered them. Once the species is identified the disarticulation pattern can be determined. This pattern may include a time component which can be used in estimating PMI (Ubelaker, 1997).

The decomposition of the remains can aid PMI estimation by analyzing both internal and external chemical changes. One of the constituents of bone is citrate, making up approximately 1.5-2.0 wt%. Postmortem citrate levels remain relatively constant for approximately four weeks, after which time the levels decrease linearly over time. By analyzing the citrate content of recovered skeletal remains, it is possible to calculate an approximate time of death (Schwarcz, Agur, Jantz, 2010). Decomposition also results in biological chemicals, such as fatty acids from soft tissue, being absorbed by the soil under the remains. Analysis of the soil may provide data that can be used in PMI determinations (Ubelaker, 1997).

Botanical Evidence

Another field that can aid in estimating the postmortem interval is forensic botany. This method involves careful documentation and collection of evidence regarding the plant life immediately around, and often underneath, a body. A forensic botanist can assess this evidence and may be able to determine a time frame in which the body had been at the scene by comparing the degree of growth of the plant as well as its growing seasons and patterns. While it may not be able to provide an exact time of death, like many of the other methods described, it may be able to narrow the time frame being sought (Wagner, 2009).

AUTOPSY EXAMINATION

Once the decedent has undergone a preliminary examination at the death scene, the body is generally transported to an autopsy facility. A forensic pathologist will conduct an autopsy and, in conjunction with information provided by the investigator from the scene, will determine the cause and manner of death. Part of this determination is PMI. The two primary biological factors involved in PMI estimation based on autopsy findings are gastric emptying and vitreous humor potassium levels.

Gastric Emptying

The rate at which the stomach empties its contents has often been used to estimate PMI. An empty stomach typically has a volume of approximately 50mL but can stretch to accommodate food, anywhere from 1-1.5L for a typical meal to 4L for a large meal.

However, only 3mL of the stomach's contents enter the duodenum at a time to allow for the neutralization of stomach acid. The duodenum can also slow the transportation of food from the stomach to give it time for processing before continuing through the rest of the small intestine. A typical meal will be emptied from the stomach in approximately four hours. However, this can vary depending on the size and content of the meal. For example, a meal high in fat may take up to six hours to digest (Saladin, 2010). By comparing the composition of the decedent's last meal and when it was consumed with the amount and nature of food present in the stomach, a forensic pathologist can estimate when the decedent died (DiMaio, 2007).

Vitreous Humor

Vitreous humor is the fluid inside the eye. Vitreous humor, or intraocular fluid, is obtained by inserting a syringe into the eye and removing as much of the fluid as possible. Saline is then injected into the eye to restore its shape for funerary cosmetic purposes (Jashnani, Kale, Rupani, 2010).

Research has shown that potassium levels increase and sodium levels decrease postmortem. Most importantly potassium levels increase in a linear manner that is proportional to the time since death. This allows for the determination of PMI by analyzing vitreous humor for potassium levels and applying that data to a mathematical formula (Jashnani, et al., 2010).

In addition to vitreous humor analysis, the eyes can provide clues to PMI through changes in their physical appearance. *Tache noir sclerotique* is the appearance of a dark band that forms across the eye. When the eyes are left open postmortem, the corneas can dry out due to exposure to air and the cessation of tear production. The result is a dark area that coincides with the exposed portion of the eyes. Tache noir sclerotique can begin within two hours after death up to twenty-four hours (Clark, 1997).

RESULTS

All of these methods are affected by a number of variables, internal and external. For example, the progression of rigor mortis can be accelerated if the decedent had a fever before death or the body is found in a hot environment (Wagner, 2009). A high level of physical exertion can also accelerate its progression (DiMaio & Dana, 2007). Cold weather, in turn, can slow the progress of rigor (Wagner, 2009).

As with rigor mortis, a number of variables can influence livor mortis and its assessment. Lividity is visible until decomposition discolors the body, but it may be difficult to see in dark-skinned decedents (Wagner, 2009). Pressure from clothing or other objects can prevent livor from appearing in dependent areas, as can movement of the body after death. Compounds in the blood, such as cyanide or carbon monoxide, or cold temperatures can alter the color of lividity, which can impact its visibility (McFeely, 1991). These factors can make lividity appear to be bright red. Extensive blood loss may cause lividity to be light red or, if enough blood has been lost, nonexistent (Dix, 2010). It may also be possible to confuse

livor mortis with bruising, though this is easily rectified with a postmortem analysis of the suspected bruise(s) (DiMaio & Dana, 2007).

While it has traditionally been considered an excellent method for estimating the postmortem interval, algor mortis may be one of the most unreliable methods due to the effects of a wide variety of factors. The decedent's normal, baseline temperature may not be known antemortem and could vary throughout the course of the day. Illness or strenuous activity before death can raise the baseline body temperature. Body composition can also affect the rate of cooling, as well as the decedent's clothing, or lack thereof. Weather conditions and ambient temperatures can affect the rate of cooling, or increase the body's temperature in the event the decedent died where the immediate environment was warmer than his/her baseline body temperature (Dix, 2010). Infection, decomposition, or drug use can raise a body's temperature postmortem (McFeely, 1991).

Advanced decomposition can be affected by a number of different variables. Like the biological processes previously mentioned, body temperature at the time of death, as well as environmental temperatures, can either accelerate or slow the rate of decomposition. Insect activity can also affect decomposition (Wagner, 2009), as well as the activity of animals (Ubelaker, 1997). Both adipocere and mummification can inhibit accurate PMI estimation due to their preservative effects; adipocere can preserve tissue for months while mummification can preserve tissue for years, leaving little evidence of the passage of time (Wagner, 2009). The application of entomology, anthropology, taphonomy, and botany to PMI estimation has been shown to be accurate, but can be lacking in precision. Their findings provide a good approximation of time of death, but the range of time may be too wide to be of use in some investigations.

The analysis of gastric contents is another tool that has been shown to be highly unreliable. Research has shown that gastric emptying can vary widely not only from meal to meal or from person to person but also from day to day in the same person. Stress can also greatly influence gastric emptying, with some decedents having stomachs full of undigested food consumed before experiencing trauma that resulted in hospital stays of several days before dying (DiMaio & Dana, 2007).

Of the methods described thus far, vitreous humor analysis holds the most promise. The method is simple and allows for a simple calculation based on potassium levels (Jashnani, et al., 2010). However, even this method is not completely reliable in terms of accuracy and precision. The rate of potassium concentrations increasing are affected not only by time but also the overall rate of decomposition of the body. The result is that conditions that can accelerate or decelerate decomposition can also increase or decrease potassium levels (DiMaio & Dana, 2007).

CONCLUSIONS

A common thread running through the various biological factors that can influence the estimation of the postmortem interval is, in a sense, unreliability. Methods which have been touted as accurate were found to be highly variable and unable to establish a precise time of death with any kind of scientific certainty. There is no single marker that can be used to accurately determine the time of death (McFeely, 1991).

However, none of these factors should be used in isolation. Medicolegal death investigations are multidisciplinary in nature, not just in terms of scientific disciplines but also in terms of investigative methodologies. A careful investigator will document evidence and conduct a thorough assessment of the body in order to gather as much information as possible. In addition to the biological factors discussed, other types of evidence are valuable to the death investigator. The use of witness interviews can be used to determine when the decedent was last known to be alive. Reconstruction of the events leading up to the decedent's death at the scene can also provide clues as to the time of death. What is required in a thorough death investigation is a careful, deliberate, multidisciplinary approach that will consider all of the evidence, utilizing the skills and knowledge of specialists when needed. By considering all of the available evidence, in context, it is possible in most cases to determine a PMI of sufficient accuracy to assist in medicolegal death investigations.

REFERENCES

Burch P. Estimation of time of death [lecture]. Medicolegal Death Investigator Training Course. St. Louis, MO: April 26, 2010.

Clark MA, Worrell MB, Pless JE. Postmortem changes in soft tissues. In: Haglund WD, Sorg, MH, editors. Forensic taphonomy: the postmortem fate of human remains. Florida: CRC Press, 1997.

Clark SC, Ernst MF, Haglund WD, Jentzen JM. Medicolegal death investigator: a systematic training program for the professional death investigator. Michigan: Occupational Research and Assessment, Inc., 1996.

DiMaio VJM, Dana SE. Handbook of forensic pathology. 2nd ed. Florida: CRC Press, 2007.

Dix J. Time of death [lecture notes]. CD-ROM Supplemental. Medicolegal Death Investigator Training Course. St. Louis, MO: April 26-30, 2010.

Ernst MF. Death scene investigation [lecture]. Medicolegal Death Investigator Training Course. St. Louis, MO: April 28, 2010.

Howe J. Collection of entomology evidence for medicolegal investigation [lecture]. Medicolegal Death Investigator Training Course. St. Louis, MO: April 28, 2010.

Jashnani KD, Kale SA, Rupani AB. Vitreous humor: biochemical constituents in estimation of postmortem interval. Journal of forensic sciences 2010 Nov; 55(6):1523-27.

McFeely PJ. And just how long have you been dead: estimation of time of death. The Masters 4 Course in Death Investigation, Advanced Death Investigation Conference. St. Louis, MO: July 23, 1991.

Ribowsky S, Shachtman T. Dead center: Behind the scenes at the world's largest medical examiner's office. New York: HarperCollins, 2006.

Sachs JS. Corpse: nature, forensics, and the struggle to pinpoint time of death. Massachusetts: Perseus Publishing, 2001.

Saladin KS. Anatomy and physiology: the unity of form and function. New York: McGraw-Hill, 2010.

Schwarcz HP, Agur K, Jantz LM. A new method for determination of postmortem interval: citrate content of bone. Journal of forensic sciences 2010 Nov; 55(6):1516-22.

Ubelaker DH. Taphonomic applications in forensic anthropology. In: Haglund WD, Sorg MH, editors. Forensic taphonomy: the postmortem fate of human remains. Florida: CRC Press, 1997.

Wagner, SA. Death scene investigation: a field guide. Florida: CRC Press, 2009.

Interfaith Dialogues:
A Method to Promote Peace in Southern Thailand
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Abstract

An interfaith dialogue can be loosely defined as a discussion among people from different religious backgrounds who work together in order to achieve a common objective. The appeal behind this peace-building tactic is that such dialogues can be flexible in terms of its purpose and how it is implemented. In addition, because conflicts are often complex and have multiple influencing factors, interfaith dialogues are useful because they provide a multidimensional outlook. One conflict I learned extensively about while studying abroad at Thammasat University in Bangkok, Thailand is occurring in the country's southern provinces. Although religious discord may have been a catalyst in this conflict, other political, socioeconomic and cultural factors also play a significant role. Unfortunately, because of the media's portrayal, many believe the problem stems from differences between the Thai Buddhists and Malay Muslims in this region. However, the origins of this conflict delve much deeper and even date back to when part of the Pattani Kingdom, a former state of Malaysia, was annexed under Thai rule. As a result, harsh assimilation laws have been passed in order for the Malay people to become Thai, thus causing friction that has lasted over a century. Though Southern Thailand has seen cycles of civil unrest and instability, the last decade has experienced the worst acts of violence since the country gained five of the Pattani states.

This paper will explore more thoroughly interfaith dialogues and discuss how such a tactic can be applied to the situation in Southern Thailand. Along with providing a brief historical overview of interfaith dialogues, there will also be a discussion on a mock interfaith dialogue I hosted in an academic setting at Thammasat University. Afterwards, this paper will look at the presence of interfaith dialogues in Thailand since this country's seemingly tolerant outlook juxtaposes with the reality of what is occurring in the southern provinces. Lastly, this paper will address the historical progression of this conflict and then provide nine recommendations if an interfaith dialogue is held in regards to this crisis.

INTERFAITH DIALOGUES: A METHOD TO PROMOTE PEACE IN SOUTHERN THAILAND

Over the past century, the world has seen what Gerhold Becker (2006) calls a *resurfacing of religion*. This powerful shift has challenged what many political theorists have hypothesized about a modern and democratic state requiring secularism (Becker, 2006). Although most countries in the West prefer to divide religion and politics in order to protect individuals' rights, religion continues to play a major role in many countries' governments that strive to be modern and democratic states. One evident example would include several countries in the Middle East that fuse government with religion. However, whether a country is considered secular or has an imposed state religion, religion's influence may be unprecedented because, as many argue, it ultimately satisfies humanity's need for a divine purpose (Becker, 2006). Whether this purpose is fulfilled, religious and cultural differences have nonetheless caused clashes for thousands of years. Unfortunately, such conflicts have also hallmarked the twentieth and twenty-first centuries, from the perpetual conflict in the Middle East to what this paper will analyze: the conflict in the southern provinces of Thailand.

Fortunately, a promising and increasingly popular method to help combat clashes and ease tensions is the concept of *interfaith dialogues*. *Interfaith*–or the coming together of people from various religious backgrounds–officially began with the Parliament of the World's Religions in 1893. This paper will, however, examine how *interfaith dialogue* serves more as an umbrella term for any and all discussions related to bridging religious and cultural gaps and instilling harmony. This analysis will also provide a more detailed definition of *interfaith dialogues* and include a brief historical background. Next, the purpose of *interfaith dialogues* will be discussed, along with a summary of the various types. This paper will then further cite an example of an informal and small-scaled version of an *interfaith dialogue* hosted by the researcher in an academic classroom. Following this will be a discussion on how *interfaith dialogues* can still be used as a tool in solving conflicts, despite some limitations. Next, there will be a historical overview on the present conflict in Thailand's southern provinces in order to provide necessary background for this analysis's proposal. Lastly, the overall current role *interfaith dialogues* play in Thailand will be included, followed by nine recommendations on using *interfaith dialogues* for Thailand's southern provinces experiencing the conflict.

DEFINITION AND PURPOSE OF INTERFAITH DIALOGUES

The definition of an *interfaith dialogue* is a discussion among people from various religious backgrounds who work together in order to achieve a common objective (Bagir, 2007; Brodeur, 2005; Garfinkel, 2004; Maluleem, 2005). Because religious ideology among groups of people can differ substantially, *interfaith dialogues* are implemented in order to create a safe haven for open, thoughtful and stimulating conversation among groups of people who, in other circumstances, may disagree or not show respect (Bagir, 2007; Brodeur, 2005; Garfinkel, 2004; Maluleem, 2005). In essence, *interfaith dialogues* strive peacefully to

advance relationships and interactions with people from different religious groups, and thus foster a coexisting society that does not tolerate prejudice (Bagir, 2007; Brodeur, 2005; Garfinkel, 2004; Maluleem, 2005). *Interfaith dialogues* achieve this by hosting a free-flowing exchange of ideas in a supportive setting. Consequently, they can reduce misunderstandings, break stereotypes, and, as Bagir (2007) cites, "rehumanize" parties involved in complex and volatile disputes.

VARIOUS TYPES, STRUCTURES, AND OBJECTIVES OF INTERFAITH DIALOGUES

The phrase *interfaith dialogue* is more of an umbrella term because there are many ways to carry out a dialogue, and reasons for holding one can vary (Bagir, 2007; Garfinkel, 2004). For example, they can include formal panels, workshops, or conferences held by, or composed of, government or religious leaders (Bagir, 2007; Garfinkel, 2004; Maluleem, 2005). Conversely, it can even include informal meetings with religious group members, non-religious group members, and civilians of any social or economic status. The number present at a dialogue can be as few as two people having a conversation. *Interfaith dialogues* can even take place in an academic setting, such as hosting one at a university in a classroom or public forum.

The purpose and content of the dialogue varies as well. For some dialogues, the objective is to focus on secular issues typically political or social in nature, such as healthcare or education (Bagir, 2007; Brodeur, 2005; Garfinkel, 2004). There have been dialogues in the past focused on broad topics, such as peace-building in particular regions of the world, and on specific issues, such as HIV/Aids awareness or environmental issues like global warming.

Interfaith dialogues are used for a variety of issues chiefly because their collaborative nature provides a multidimensional outlook on major world issues (Bagir, 2007; Garfinkel, 2004). This analysis focuses on utilizing *interfaith dialogues* in order to tackle a complex conflict with a variety of factors that are social, political, and religious in nature.

HISTORICAL BACKGROUND OF INTERFAITH DIALOGUES

Although there has always been interreligious dialogue throughout the ages, the most official *interfaith dialogue* on a global scale and in modern times was during the World Columbian Exposition in 1893 set in Chicago, Illinois (Brodeur, 2005; Seagar, 1993). During this exposition–which commemorated Columbus's discovery of the Americas in 1492– several organized parliaments covered different topics (Seagar, 1993). The most famous was the Parliament of Religions, in which delegates from various religions–though most were only from different Christian denominations–met to deliver papers and hold panels on the time's current religious issues (Seagar, 1993). Admittedly, by today's standards this conference would be considered heavily biased with very few representatives from religions hailing from the East and absolutely no representation of Islam (Seagar, 1993). However, this event in terms of *interfaith dialogue* on a global scale is still considered by

many religious scholars as a monumental achievement hallmarking the turn of the twentieth century (Brodeur, 2005; Seager, 1993).

During the 1970s and 1980s, according to Bagir (2007), there were increased numbers of *interfaith dialogues*. However, these dialogues were initially imposed by governments in order to influence religious leaders into agreeing upon political agendas, like family planning (Bargir, 2007). Then in the 1990s, a shift occurred in which the majority of *interfaith dialogues* were organized by nongovernmental agencies (Bagir, 2007). Interestingly enough, as the world saw a rise to *interfaith dialogues*, religious conflicts increased (Bagir, 2007).

Another historical moment for *interfaith dialogues* was the second meeting of the World's Parliament (Brodeur, 2005, Young, 2005). Again, it took place in Chicago and was held in order to hold a global panel of *interfaith* discussions as well as pay tribute to the centennial of the first parliament (Brodeur, 2005; Young, 2005). In contrast to the previous parliament, the 1993 assmebly produced a document called "A Global Ethic," which highlights major themes various religious officials agreed were pertinent in terms of religion's role in modern society (Young, 2005). Such themes included self-accountability, absolute disregard for violence as a problem-solving tactic, selflessness, equality, and many more. (Young, 2005).

These revolutionary moments have acted as catalysts for several other major and more religiously inclusive World Parliament meetings, some of which were held in locations such as Cape Town, South Africa in 1999 or Barcelona, Spain in 2004 (Young, 2005). According to Brodeur (2005), the technology revolution has also played a systematic and integral part to the rise of *interfaith dialogues* hosted by nonprofit organizations. Because of the "network culture" that has been linked to the information systems on the internet, organizations in modern society can communicate faster and coordinate more *interfaith* movements (Brodeur, 2005).

A SMALL-SCALED EXAMPLE OF AN INTERFAITH DIALOGUE

The researcher of this report held a mock *interfaith dialogue* in April, 2011 in order to further educate students at Thammasat University about not only the current conflict in Thailand's southern provinces, but also the concept of *interfaith dialogues*. The setting for this dialogue was a classroom, and the course was entitled *"Islam in Thailand,"* taught by Dr. Jaran Maluleem. The researcher proposed that by hosting her own simulated dialogue, she could not only teach others about the purpose and benefits of *interfaith* but also gain personal insight and experience.

The setup of this dialogue was to analyze two other major religions, Christianity and Buddhism, in the context of an academic class, which was mainly studying the religion Islam. The dialogue was divided into three parts: first, an overview of defining religion and outlining the importance and implications of religions; second, a summary of Christianity and Buddhism; third, a discussion on *interfaith dialogues* and how they can be applied to the southern provinces of Thailand.

Part I of the Mock Interfaith Dialogue

In order to explain why it is critical to study religions before analyzing conflicts associating with religious discord, the researcher gave a broad definition of religion. The definition she gave was consistent with that of Young (2005), who states that religion is loosely and collectively defined as providing people with a purpose and rationale for the present life and an account for the afterlife, or next phase. It typically includes general guidelines for behavior and can be related to the actuality and presence of angels, demons, spirits, or even spiritual ancestors (Hopfe & Woodward, 2007; Young, 2005). Next, the researcher discussed how there are different methods of studying religion, such as examining religions historically, socially, analytically, etc., followed by a discussion on why people are religious. As mentioned earlier, the researcher discussed how religion satisfies mankind's needs (Hopfe & Woodward, 2007; Young, 2005). To elaborate, religion provides a sense of "ultimacy" in which individuals' psychological needs for identity and purpose are met since religion gives them a reason that transcends him or her to the next phase after this present life (Young, 2005). Additionally, religion fulfills basic social needs in which strong relationships and groups are formed, thus granting an added layer of belongingness (Hopfe & Woodward, 2007; Young, 2005).

The next topic in the mock-dialogue was a more in-depth review of why religion should be studied. The researcher's reasons included the strong influence religion has over social, economic, political and even artistic spheres, all of which overlap and consequently complicate any and almost all conflicts associated with religious discordance (Hopfe & Woodward, 2007; Young, 2005). Aside from religions having an overwhelming impact on the world, the researcher also stated how religion is important for individual growth (Hopfe & Woodward, 2007; Young, 2005).

Next, the way in which religions perceive themselves and one another was addressed in order to give a perspective on how Islam, Christianity, and Buddhism relate. The first definition that was discussed was *exclusivism*, which is when member of a religious group ultimately views themselves as the only religion accurate and worthwhile to follow (Bishop, 1969; Young, 2005; Yusuf, 2003). On the other hand, *inclusivism* is where an individual believes that either there is an absolute truth amongst the religions that has yet to be formed or that in essence, all religions in the end adhere to one purpose (Bishop, 1969; Young, 2005; Yusuf, 2003). Lastly, *pluralism* is the concept of acknowledging that though religions may differ, respecting one another is key to establishing a peaceful and cooperative society (Bishop, 1969; Young, 2005; Yusuf, 2003).

Part II of the Mock Interfaith Dialogue

The second part of the presentation included a historical overview of Christianity and Buddhism as well as a general summary of both religions' basic principles. This included discussing how Christianity focuses on the birth, life, and death of Jesus of Nazareth and how this religion is an extension of Judaism, yet for Christians, Jesus of Nazareth is the prophesized messiah and the ultimate sacrifice to God for humanity's sins (Hopfe &

Woodward, 2007; Young, 2005). In this discussion, there was mention of the major beliefs of Christianity. However, because there are over 34,000 denominations, the researcher emphasized how Christianity is difficult historically to analyze, especially given the time limit of this particular dialogue (Young, 2005).

Next, the major tenets of Buddhism were summarized, along with a historical overview of its founder, Prince Siddhartha. The researcher mentioned the Four Noble truths, the difference between the two branches–Theravada and Mahayana–and the significance of the Eightfold Path (Hopfe & Woodward, 2007; Young, 2005).

Part III of the Mock Interfaith Dialogue

The third portion of the mock dialogue included what was mentioned earlier in this analysis: the definition, purpose, and background behind *interfaith dialogues*. Lastly, the researcher gave recommendations for Thailand when implementing *interfaith dialogues,* those of which will be discussed later in this analysis.

Demographics and Feedback

The audience of those at the mock dialogue included six exchange students studying abroad at Thammasat University–three of which were from California in the United States, two from Japan and one from China. The other audience members present were three local Thai students, along with the professor of the class, Dr. Jaran Maluleem. Oral feedback from the class included compliments and a growing interest in *interfaith dialogues*. Two students in particular noted that they had never heard of this type of conflict-solving strategy before but appreciated how it strives for tolerance and religious pluralism.

Conclusion of the Mock Interfaith Dialogue

One objective of this small-scale version of an *interfaith dialogue* was to demonstrate how complex and arduous religions can be, much like the conflicts that involve religious differences. The mock dialogue demonstrated this by discussing two major religions, Buddhism and Christianity, and how there are many different ways to analyze religions. This dialogue, for example, mainly examined these religions' historical backgrounds. Another objective was to educate the class about how there are many types of *interfaith dialogues*. One such type the researcher tried to demonstrate was an informal method–but in an academic setting. Acknowledging that there are many types of *interfaith dialogues* is important because a dialogue's context and setting can affect what is being discussed, who is guiding the dialogue, the participants' comfort level and the participants' willingness openly to join in the discussion. If any of these components are negatively affected, then an *interfaith dialogue* will most likely not yield a successful outcome.

INTERFAITH DIALOGUES' LIMITATIONS

Though *interfaith dialogues* serve as a peaceful means for solving conflicts, there are still three major limitations this analysis will address. First, despite popular belief, *interfaith*

dialogues cannot instantaneously resolve conflicts or function as a panacea (Bagir, 2007). As many social and political theorists will explain, most conflicts, including the one in Thailand's southern provinces, are *multidimensional* and often times deal with more than a simple religious disagreement. Because religion, culture and politics heavily intertwine with one another, using *interfaith dialogue* as a way to handle only the religious aspect of the conflict will not lead to long term success (Bagir, 2007). *Interfaith dialogue* can instead be utilized as a public tool to start engaging people in discussions and inspiring change, especially at a grassroots level (Bagir, 2007; Brodeur, 2005).

The next limitation of *interfaith dialogue* stems from the first. One major barrier that *interfaith dialogues* cannot directly change is the political structures or governmental policies that can oftentimes sustain conflicts (Bagir, 2007). Though *interfaith dialogues* can undoubtedly ignite social movements or bring about grassroots organization within a society, they do not typically encourage political leaders to direct a structural change (Bagir, 2007).

Lastly, one limitation that must not go unnoted is *interfaith dialogues'* difficulty–or perhaps inability–to measure success. Though *interfaith dialogues* are capable of empowering people, there has been little concrete evidence to suggest they are infallible or an absolute impetus for change or a resolution for modern conflicts (Bagir, 2007). However, as Bagir (2007) suggests, perhaps the lack of regularity of *interfaith dialogues*, along with other factors, may be the root cause as to why this type of peace-building method has not been widely acclaimed or cited as a standard problem-solving strategy. Factors such as a lack of regularity will be discussed further in the *Recommendations* section of this analysis.

ROLE OF INTERFAITH DIALOGUES IN THAILAND

Internationally

Because Thailand has a seemingly pluralist society that tolerates all religions, the country has been active in hosting countless i*nterfaith dialogues*. Thailand participates annually in the Asia-Europe Meeting's (ASEM) Interfaith Dialogue, and in 2008, the nation even co-hosted the fourth annual meeting (Asia, 2008). To show further support of *interfaith dialogues* and religious tolerance, Bangkok hosted ASEM's Interfaith Cultural Youth Camp in February, 2009 (Asia, 2009).

The allure of Thailand possessing an overall pluralist society has even drawn other countries to host *interfaith dialogues* in order to hash out their own political conflicts. For example, religious officials from India and Pakistan met in October, 2010 in Bangkok to host an *interfaith dialogue* discussing peace-building strategies in that particular region (Interfaith, 2010).[1] Another example is when in 2010, a Japanese, Buddhist-based nonprofit organization Soka Gakkai International (SGI) also hosted its *interfaith dialogue* in Bangkok (Soka, 2010). The purpose of this nonprofit is to build stronger connections with Buddhists across the world, and according to their website, the dialogue included

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1 See Figure 1.

thirty members representing Christianity or Buddhism and concentrated on issues such as the responsibility religion has in light of the current economic situation happening globally (Soka, 2010).

Figure 1. *Indian and Pakistani religious representatives at an interfaith dialogue discussing peace-building tactics ("Interfaith," 2010).*

Nationally

Within Thailand, the presence of *interfaith dialogues* is varied and can be seen on a public or private scale. Though it is difficult accurately to ascertain when *interfaith dialogues* launched in Thailand, they at least began to increase in the 1990s with the rise of nongovernmental organizations increasing (Bagir, 2007; Brodeur, 2005).

These dialogues hosted by NGOs, such as the Thousand Stars Foundation or the International Network of Engaged Buddhists, are considered to be the most common type of interfaith dialogue in Thailand (Sukrung, 2010). As with the nature of interfaith dialogues, these types cover an array of topics. For instance, in 2006, leaders representing Buddhism, Islam and Christianity met in Bangkok in response to the political upheaval and protests against Thailand's former Prime Minister, Thaksin Shinawatra (UCA News, 2006).

Another example of Thailand hosting different types of dialogue occurred in 2009 when religious leaders from Burma, Thailand and Sri Lanka met in Bangkok to talk about and promote more peaceful strategies in this particular area of the world (Sopaka, 2009)[2].

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2 See Figure 2.

Figure 2. *Religious leaders from Myanmar, Sri Lanka and Thailand meeting in Thailand to discuss religious tolerance and practical methods to strive for peace in the surround region (Sopaka, 2009).*

Interfaith dialogues occur even on a private scale in Thailand, during which churches, mosques, and temples regularly schedule meetings with the religious community in order to sustain peace within Thailand's pluralist society. For example, the president of Bangkok's Foundation of Islamic Centre of Thailand, Dr. Pakorn Priyakorn, stresses the importance of *interfaith dialogues* and claims "it is an absolute must" (P. Priyakorn, personal communication, April 22, 2010).

Though these examples may indicate that *interfaith dialogue* is a successful method for reducing conflicts and building peaceful societies, there is still room for improvement. According to the *Bangkok Post*, the public and those not regularly affiliated with religious organizations have little access to these dialogues, and the media does not assertively report their presence (Sukrung, 2010).

HISTORICAL BACKGROUND OF THAILAND'S SOUTHERN PROVINCES

Before one can address resolution building methods in the South of Thailand, it is important first to explain how the current conflict began and how it has progressed. On a surface level, the conflict is thought to be a religious clash between the Malay Muslims and the Thai Buddhists (Bajunid, 2006; Becker, 2006; Yusuf, 2006). However, that notion is premature and does not address several other critical factors that must be considered. The conflict in the South is one social, political, ethnic, linguistic, cultural, and religious in nature (Bajunid, 2006; Becker, 2006; Yusuf, 2006). Although the media produces the view that the conflict surrounds only two religious groups, it ultimately comes down to pressure placed on an ethnic minority, past assimilation policies imposed by the Thai government, and a long history between Thailand and Malaysia's borders (Bajunid, 2006; Becker, 2006; Yusuf, 2006).

Figure 3. *Map of Thailand's Southern provinces. Before the Anglo-Siamese Treaty, the Kingdom of Pattani consisted of Satun, Songkhla, Pattani (the capital at the time), Yala, Narathiwat, Perus, Kedah, Perak, Kelantan, and Trengganu.*

To explain further, in 1909, Thailand signed a treaty with Great Britain called the Anglo-Siamese Treaty (Yusuf, 2006). This agreement allowed Thailand to control five new Malaysian provinces that were once under the Pattani Kingdom: Yala, Pattani, Narathiwat, Songkhla, and Satun (Yusuf, 2006)[3]. Since this critical point of redefining demarcation lines between countries, and thus affecting cultural groups and ethnicities, there have been countless uprisings over the past century from the ethnic Malays against the Thai government (Bajunid, 2006). The revolts increased during the 1930s and 1940s when the Thai government, headed by General Luang Pibulsonggram and Field Marshall Sarit Thanarat, tried to enact strict assimilation laws that infringed upon the ethnically Malay-Muslim identity (Bajunid, 2006; Yusuf, 2006). Such laws included unfair and apparent targeting tactics, such as switching the language of the religious school–*pondoks*–from Malay or Arabic to Thai (Bajunid, 2006), which resulted in unrest. However, the Thai evolution towards a democratic state in the 1970s and 1980s, produced general calm (Bajunid, 2006; Yusuf, 2006). Unfortunately, when former Prime Minister Thaksin Shinawatra came to power, tensions began to resurge at the turn of the twenty-first century due to implementing laws that again targeted the Malay-Muslim ethnicity (Bajunid, 2006; Yusuf, 2006).

The zenith of unrest was during 2004, which included the Krue Se Mosque and Takbai events (Bajunid, 2006; Becker, 2006; Yusuf, 2006). The Thai government subsequently initiated the National Reconciliation Commission in 2005 to investigate these incidents, yet unfortunately, the report remains futile and few of the suggestions made have been considered (Yusuf, 2006). Additionally, with the recent political outbreak in 2006, the Thai

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3 See Figure 3.

government remained distracted from properly addressing how to solve the uprisings and violence. Because of the Thai government's enacted martial law and strong presence of military power in the South, tensions still remain strong between the insurgents and the opposing side. According to Omar Bajunid (2006), since 2004, there have been "over 3,000 violent events" and countless tragic deaths related to the conflict in Southern Thailand.

Lastly, it is important to note that the nature of this conflict is highly complex and consists of years of governmental policies and political turmoil, and the account here is merely a brief historical description. The main concept to underscore is that the issue lies within the people's ethnicity in addition to their religion. Several factors of the Malay-Muslim identity challenge the Thai nation, and these factors primarily include the people's language and religion (Bajunid, 2006; Yusuf, 2006). The language is first a challenge because most of the citizens in the South are ethnically Malay and in turn speak Malay, not Thai (Bajunid, 2006; Yusuf, 2006). Consequently, this ethnicity cannot assimilate fully or effortlessly into Thai society, which is considered to be united by the Thai language. Next, the Islamic religion factor, as mentioned earlier, can at times indirectly challenge the constitutional-democratic Thai state. For example, because the insurgents practice Islam, their allegiance to political leaders is a sensitive matter since their allegiance is always first toward *Allah*. Being asked to alter certain modes of their belief system in order for the ethnic Malays to assimilate into Thai society almost always causes tension (Bajunid, 2006; Yusuf, 2006). Nevertheless, the key concept to focus on is the "ethno-linguistic" feature of this conflict, and not just the religious aspect.

RECOMMENDATIONS FOR THAILAND'S SOUTHERN PROVINCES

According to Becker (2003), in order to practice fairness within a society and thus keep the peace, the ruling powers are required to give the public a *voice*. *Interfaith dialogues* can achieve this necessity because they simply grant individuals the option to speak their opinion in a safe and nurturing forum of free-thinking discussion. In turn, *interfaith dialogues* can empower individuals, shape movements, and create the change that people in Southern Thailand want to see (Bagir, 2007; Garfinkel, 2004). However, in order for *interfaith dialogues* to work, especially in the context of Thailand's southern provinces, this analysis suggests nine specific recommendations that will be addressed below.[4]

Recommendation One

First, when considering who should be present at an *interfaith dialogue* that addresses the crisis in the South, the answer is simple: *everyone* (Bagir, 2007). Although religious leaders and government officials are typically the ones present, it would be beneficial to include a vast range of participants because this situation includes an array of people

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4 It is important to acknowledge that although interfaith dialogues are naturally associated with solving religious conflicts, as previously mentioned, in this instance, where using interfaith dialogues would be a tool to reduce conflict in the South, the situation is entirely religious in nature. As mentioned previously, this conflict is politically, socially, and religiously rooted. Therefore, interfaith dialogues would be used to address all factors, not just the face-value "Buddhism vs. Muslim" aspect.

spanning generations. This includes everyone from all socioeconomic backgrounds and, as Bagir (2007) suggests, those with all types of jobs, such as the fishermen, police, and others. This recommendation is critical because it provides a voice not only to those in power presiding over the decisions on the matter; this recommendation hints that those directly affected by and included in the conflict must be involved.

Recommendation Two

Building on the first recommendation, the ideal location for hosting an *interfaith dialogue* would not be in Thailand's political capital, Bangkok. Given the significant distance from the South, in order to include all of those affected by the conflict, it would be logical to host it in a central location. Again, the objective is to make sure all parties are equally given an opportunity to speak of their grievances, build relationships, and reduce tension.

Recommendation Three

A substantial number of those present at an *interfaith dialogue* should be from the South. Again, it is a matter of providing opportunities to build peace with the parties that are feuding. Therefore, not having a considerable number would be futile. Along with this, there should be an even number of ethnic Thais and Malays in order to keep representation balanced. However, it is important to note that there should undoubtedly be representatives from the national Thai government so that those parties, too, can learn from firsthand accounts about the conflict and determine what political measures need to be considered.

Recommendation Four.

When hosting an *interfaith dialogue*, each party needs to have a clear objective of what it would like to accomplish (Garfinkel, 2004). Without outlining a clear purpose for each meeting, there is the risk of not effectively addressing major concerns or issues at hand as well as instilling confusion if each member is not comfortably on the same page (Garfinkel, 2004).

Recommendation Five

This recommendation calls for each party to possess a deep and most sincere level of honesty (Maluleem, 2005). If any member has ulterior motives or deceptive plans at an *interfaith dialogue*, there is a great possibility for one party to instill more distrust, suspicion, negativity, and animosity. This may cause a greater divide between those feuding in the South, which is the antithetical purpose of an *interfaith dialogue*. The aim is to move forward through peaceful means and not regress.

Recommendation Six

Because the subject matter that would be addressed at these particular *interfaith dialogues* would be sensitive in nature, it is crucial for each member to possess strong levels of maturity. Each member should be able to handle hard facts and criticism so that they may learn and grow from the *interfaith dialogues* (Maluleem, 2005).