

DRAFT

Comparing kosher, halal and secular practices for the slaughter of mammals. An Essay for Consumers.

Purpose: This document critically evaluates what we know and what we don't know when comparing diverse religious and secular slaughter practices. We provide a short, consumer friendly discussion without references of some of the issues that arise with respect to evaluating different methods of slaughter of mammals, specifically kosher, halal and secular approaches. We suggest where future efforts ought to be focused, both from a practical public policy concern and from a scientific research point of view. The purpose is to recognize that many methods of slaughter are justified on cultural, secular and religious grounds, but that all methods should be evaluated by rigorous, comparable scientific criteria. Under the broad umbrellas of religious and secular methods, there are many practices. Only the best practices of any method, understood as the most humane both to animals and to workers, should be encouraged.

Authors' Backgrounds: the authors are all concerned with improving animal welfare and slaughter industry practices, with respect to both meat animals and workers. They have been active in that area for many years. As a group, the authors are trained both scientifically and religiously in matters related to animal slaughter.

Prepared by an International Group of Scientists and Religious Leaders

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Note: This article was prepared for circulation initially in the UK, so the spelling is British not American English. Further, we are honoring a custom that belongs to some among the Jewish community to not spell out the full name of G-d.

Introduction:

Food is an increasingly contested public issue. Environmental, economic and social impacts force us to question how best to produce, distribute and consume food. Our choices in developed countries are shaped only loosely by biological necessity, but rather by cultural histories, public policies, religious law and a seemingly endless array of personal preferences. That we may all eat well and thrive is a goal of any universal ethical food system, religious or secular.

One of the most contested issues is how animals are slaughtered for food. The issue is not always based on rational ideas, nor must it be. We need not agree about how we justify different forms of religious or secular slaughter, but we should be able to agree on how we study, assess and compare those forms. The different ways in which we take the life of animals embodies the

ways in which we respect life. Whether we are vegetarians or meat eaters, we eat death; we eat that which has lived and died by our hand or failed to grow anew, again, by our hand. With the slaughter of animals, we actively take the life of a living animal and use its flesh to meet our needs for nourishment.

Our purpose in this discussion is to promote more humane slaughter, a slaughter that results in better treatment of both animals and the human workers involved in the process, as evidenced by a reduction in pain, suffering and the frequency of mistakes. We accept the idea that many people will continue to include animals as part of what they “need” for a diet of “good food”. To achieve good food for all, both the animals and workers deserve to benefit from high standards, as they provide this good food for consumers.

Background: Discomfort shapes our thinking about animal slaughter

Many folks really do not want to think about the topic of the slaughter of animals. Yet, we are not concerned about the death of plants or the insects and mammals that die in their harvest. This is partially due to the known sentience of food animals, and our distance from these other deaths. We are often good at segmenting our lives and roles so that we do not have to consider this issue, especially as we eat.

In modern societies, segmentation is so thorough that the reality of slaughter is largely invisible to the average consumer. Where ignorance prevails and there is limited outside concern and oversight, standards for humane slaughter are likely to be lax and poorly enforced. In response to bad practices, righteous reactions to brutality are more likely to fuel attacks against animal slaughter rather than focusing on the development of more humane practices, precisely because we may not have a good idea of what is possible or desirable; thus, wasting an opportunity to promote positive change.

The issue of slaughter evokes our personal reactions about killing. At our emotional core, the practices of killing animals for food produces a primal response that is different only in degree to our reactions to the killing of human beings. All of these animal slaughter methods -- stunning or killing with a bolt, clubbing or electrical jolt, gassing to unconsciousness or death by severing the arteries and veins in the neck to bleed to death -- produce a visceral response in many of us precisely because they evoke a horror that touches us. These various methods have at one time or another been used as a cruel punishment for humans, in legal executions and for the mass murder of humans. Each method evokes feelings of brutality, barbarism or genocide to someone or some group. Yet each method also evokes for different groups feelings of compassion and respect for the efforts they represent to minimize the inevitable pain of death.

To address animal slaughter we must also address the emotions it provokes in human beings as well as understanding the techniques and science by which each method accomplishes its goal and how each method affects the reactions of different animals under different circumstances. Further, as human beings, what we need to sort through is the degree to which there should be a leveling reaction of our human emotions, i.e., to establish clear justification for what we can and will do to animals raised for food that we should not do, and will not be permitted to be done, to human beings. We find these justifications in the teachings of the world’s historic religions and in secular public policies. We find science useful in assessing and comparing these diverse justifications to the extent that the issues underlying the teachings are scientific and technical, and evaluated in a holistic manner.

There is no consensus, nor is there ever likely to be one, on what is the best method for treating animals well under varying circumstances. We need to understand and value a range of

different approaches to slaughter, including religious ones and secular ones. The diversity within both the secular and religious contexts makes writing this document tricky. Standards for evidence and argument vary depending upon the degree of religious observance and the specific religious body within Judaism, Islam and Christianity. Atheists and agnostics may not find theistic argumentation justifiable, but they also have a wide array of standards for evidence in those traditions.

In general, Christians do not place much emphasis on food laws, but there are notable exceptions such as where vegetarianism holds, where the Jewish law is loosely observed, and even one Pauline scriptural endorsement of kosher meat over other forms of meat. And there are self-identified Jews who do not keep kosher and Muslims who do not observe halal, but the purpose of this document is to address the larger groups who may not have any religious food laws, or who may be observant to varying degrees.

We do not anticipate a least common denominator basis for offering evidence or argumentation. It is our failure as a community to find such a consensus that occasions this work. Our practices and public policies need to recognize that there are many ways to do what is moral and humane. We also need to recognize that there is a great deal of unjustifiable, inconsistent and even poor practices within well established religious or secular approaches to slaughter, and even within specific slaughter facilities. The purpose of this paper is to recognize the need for principled differences regarding the justification of diverse forms of slaughter practices, while raising the bar for more humane treatment for all slaughter practices.

The relationship of stunning to death

Stunning is the act of rendering an animal unconscious. Historically, stunning has been adopted by Western nations because of a widely held assumption that stunning makes for a more humane death. It is believed that rendering an animal unconscious or insensible prior to death makes the experience of death less stressful and painful to the animal. There is, however, no peer reviewed and repeated research to support this claim or to support the counterclaim that rapid exsanguination without stunning produces the same effect as an intentional stun. Stunning has been done prior to exsanguination with death coming from cutting the major blood vessels. However, from an animal welfare point of view, insensibility is the critical factor.

Stunning methods may also produce death on their own, depending upon the specific force, duration or intensity of the treatment. Some advocates in Western nations, without sound research regarding the actual impact on the animal, have promoted using stunning techniques to cause death. As a consequence, some believe that with the heart not beating the process of exsanguination is neither as quick nor as thorough. Again, this has not been properly tested. But, from a religious point of view, the practice of stunning is not accepted by devout Muslims and Jews. Although some Muslims and Jews will say that their method leads to more blood being removed, that is actually not part of either religious requirement.

There are four major formats that are used in Western countries for stunning and/or death.

The first method is a blow to the head. This is normally done in modern abattoirs (slaughterhouses) using a captive bolt gun that may either penetrate the skull or not. In both cases the skull is fractured. Thus, the animal may be unable to recover from this procedure even if it is done poorly and does not lead to instant insensibility.

The second form of stunning in common use is electrical stunning – this also potentially painful method can range from a very mild stun that is sufficient to cause insensibility (sometimes used for Muslim halal slaughter for those Muslim communities where stunning is

accepted) to the electrical stunning normally used in North America to the European stunning, with higher voltages and amperages, that may kill as many as 30% of the animals according to Dr. Grandin and may be aversive for a short time period during the procedure. In fact, some European animal welfare organizations specifically advocate a strong enough stun to cause death.

The third method is the use of various gas mixtures, usually incorporating carbon dioxide and/or one or more of the inert gases such as nitrogen or argon. The idea is to deplete the oxygen necessary to function. Animals are dealt with in batches, and because different animals within a single batch of animals may react differently, it is not clear how aversive any one mixture is to each specific animal. However, the UN's international animal health organization (OIE) indicates in their Guidelines that CO₂ is aversive and does not lead to instant insensibility.

The fourth method, which has become synonymous with the religious slaughter endorsed by traditional Muslim and Jewish practices, requires a quick and deep horizontal cut across the neck of an animal that has not been otherwise stunned, cutting the arteries and veins, as well as the trachea and esophagus, but not severing the spine. The continued functioning of the nervous system permits the animal's heart to beat and to pump blood out. If the cut is done well and aggressively with time provided for the initial blood loss, then the rapid loss of blood leads to rapid unconsciousness and subsequent rapid loss of sensibility. This *per se* can constitute a stun (unconsciousness) followed by death (Ref: Rosen 2004).

To stun and kill any animal well, using any of the four methods described above, requires attention to four pre-requisite conditions: 1) having a relatively calm animal, 2) having a skillful and focused slaughterer, 3) having a physical facility that is designed and maintained to reduce agitation in both the animals and the staff, and 4) having a commitment by management to the continuous application of these standards for animal handling and for labor practices that leads to immediate identification and correction of problems before they create an inhumane environment.

Historically, these conditions may have been met by those who raised and slaughtered their own livestock, whose compassion for the animal and themselves may have made them gentle, quick, and willing to step back when the animal, the setting, or the slaughterer was not ready. More often than not, slaughter would be with a knife to the neck, often of an unstunned animal. In a similar fashion, a local slaughterer would know the animal indirectly by virtue of the care received from the one who raised it, who was often present and would know how to treat the animal well.

But there is no room for nostalgia or a saccharin view of the past. It is just as easy, for those of us who have witnessed slaughter, to remember those who were made uncomfortable and unable to kill what they had raised, so much so that they botched the act, causing pain and suffering to the animal, themselves and to everyone involved. Or in their lack of skill, or proper equipment or ambivalence failed to have the necessary sharp knife or confined space to restrain the animal. Or who worked with too much haste, not really paying attention. We can also remember those who beat, or relentlessly stunned, their livestock, and who may then wonder why their animals were not as good meat producers or compliant as other people's livestock. And we can remember slaughterers whose brutality was only held in control by their need for a paycheck. Still, not everything depends upon human agency. The temperament of an animal varies every bit as much as a person or a physical setting, making each slaughter unique.

In more modern times, and even earlier with the advent of large cities, the restraining judgment of family and neighbors looking on during slaughter has given way to slaughterhouses

that are intentionally located largely outside of the public eye (except for any limited government or religious oversight), that employ persons who will not see the animal until they slaughter it and who will not know its origins. Those who do the slaughter may not share any attributes of culture, religion, economic class or status with those who produced or consume these animal products. All of these unknowns have made it more difficult, but not impossible, to handle well the stunning and killing of an animal.

Fortunately, there is growing interest among religious bodies, consumer groups and large corporate purchasers to establish more humane slaughterhouse practices, enforceable public policies and effective monitoring strategies. Yet what makes the slaughter process particularly difficult to assess is the relative absence of high quality scientific research into each of the component processes associated with stunning and death. We need such research to evaluate stunning and its impact on unconsciousness, insensibility, and death for all four types of slaughter and to identify superior practices within each type of slaughter format.

The question is also more than a matter of scientific evidence. Diverse religious and secular, consumer and business groups have different and often competing interpretations of what constitutes a good, humane slaughter practice. Further, the force of public policy when setting slaughter standards has often been wielded as a tool of coercion by secular or religious majorities to the exclusion of the rights of minority populations. What we have here are competing governance interests that function simultaneously, none of which will disappear or be thoroughly intimidated by the other. The larger question is whether or not there are times when some secular approaches ought to trump some religious approaches, or when some religious approaches ought to trump some secular or other religious approaches. These are only serious questions in settings where there is sufficient political acceptance of diversity to encourage groups to pursue and justify different sorts of lives. For the purpose of this paper, we are limiting ourselves to the tensions between secular slaughter and religious slaughter (noting that there are varied kosher and halal practices). How can the separation of church and state operate when both have profound and different interests in the slaughter of mammals? We live in a world where multiple standards of accountability and justification of practice are at play.

We begin with a description of these interests, and note the inevitable need for multiple standards. We then turn to address the specific scientific questions, both across and within standard formats that will require further research.

Identify requirements for diverse standards for slaughter

What if meat industry standards were set by true consumer demand (i.e., the price consumers are willing to pay for a product produced and processed in a specific manner)? This would have several negative consequences. The absence of both secular and religious interests in a safe, high quality meat supply could lead to more food and health crises. It would become more difficult to identify or promote more humane slaughter standards, either secular or religious, when final sale price alone might be the major determining factor for a large segment of the market.

Finally, markets in which all meat was identified with symbols representing the type of slaughter and/or religious endorsements might create an easy target for a prejudicial backlash against minority slaughter methods and the practices of religious groups. This is especially a concern for consumers of religiously slaughtered meats where, for example, European animal rights activists have been more successful in deriding religious slaughter with an unsubstantiated claim that it is inherently more inhumane than stunned slaughter. As a consequence, religious

slaughter has been used as a wedge issue in a larger effort to altogether eliminate animal slaughter for food.

We must identify and clarify the diverse standards for slaughter if we are to successfully address the health and safety of the meat food system, the promotion of more rigorous standards of animal welfare and worker welfare and the accommodation of differences in moral and religious judgment.

The concerns of Jewish and Muslim consumers for religious slaughter. For people of the Jewish and Muslim faiths who wish to eat meat, the method of slaughtering animals is an important component of their religious belief systems – how the slaughter is done determines whether they are allowed to consume the resulting meat or not. This relationship between slaughter and the ability to eat meat is absolute, regardless of the secular laws or policies of the nation where they live, or the common practices of nearby peoples of other religious or cultural traditions.

Kosher and halal food practices form the basis for much of the religious regulation applied to foods in the United States, the Middle East, Africa and Asia and increasingly, in the rest of the world. Auditing and certifying that food production has followed these religious laws is highly developed within Judaism and increasingly so within Islam. While Jews are only 0.2 percent of the world's population and Muslims 19.6%, their food practices affect food products and food labels around the globe, setting a standard for food product certification processes that may be emulated by other religious and secular groups.

Religious standards are simply a fact of life in the world-wide food industry. When one adds the numbers of adherents of religions that esteem vegetarian or vegan practices, between a third and a half of the world's population honor, at least in part, religious governance practices with respect to food. Many religious laws were actually easier to carry out or were trivial when Jewish or Muslim communities lived in isolation from others. Nowadays, the food industry, in trying to serve these communities' needs, must deal with issues of operating in ways that are acceptable to multiple religious groups, which often present some interesting practical challenges.

The kosher and halal laws have a substantial overlap concerning the details of the actual act of slaughter, including the method of slaughter by severing of the neck except for the spinal cord, the establishment of permitted animals and the prohibition of using blood as food or a food ingredient.

Serious adherents of both religions believe that an animal may not be otherwise stunned prior to slaughter. In the Jewish community, all forms of stunning have been disqualified by the recognized authorities in Jewish religious law. Although in the past a few rabbis attempted to promote other views, these views have been rejected by those whose rulings are taken as authoritative by the majority of Orthodox Jews.

Within the Muslim community, some sectors of this 1.3 billion member group will accept stunning (sometimes based on both scientific and religious misinformation) and a few within the community even advocate stunning. However, it is important as we open this discussion to recognize that there is significant disagreement on this issue and we hope to respectfully discuss key issues reflective of both stunned and non-stunned slaughter.

Unfortunately, some governments and other groups have jumped to the conclusion that without stunning, animals suffer more than with stunning. This conclusion is not supported by well done scientific research. Because good animal welfare is a fundamental requirement of both of these faiths, people from both of these communities find a requirement for stunning

difficult to accept, especially when properly done scientific evidence does not support such an interpretation. A key failure of the scientific literature has been to fail to separate the factors related to the preparation of the animal for slaughter from the actual impact of the slaughter itself when done properly, i.e., to assure that good equipment, good animal handling, and properly trained personnel are used before addressing the impact of the slaughter itself. In many cases, the basic scientific necessity of having a sufficiently detailed description of the process being studied in a particular scientific report has not been met, i.e., it is impossible to even begin the process of duplicating the results. This unfortunately seems to reflect a bias on the part of the scientific journals to accept articles that follow their pre-conceived assumptions and to not challenge the work sufficiently to insure proper peer review.

With respect to kosher mammals, only animals with a full split hoof and which also chew their cud are permitted, i.e., all of the allowed mammals are ruminants. Thus, the focus is on the major red meat animals, e.g., cattle, sheep, goats, buffalo/bison, and deer. This is a fairly small category of animals, making the choice of meats somewhat restrictive. Muslims have a wider range of acceptable animals, but eliminate all of the carnivorous animals and specifically ban the pig. Practically, the most important ban because of its importance in commercial trade is that for the pig – for Jews because it is not a ruminant and for Muslims because it is Quoranically defined as unhealthy.

Both religions view blood as the “life” fluid; it is not to be consumed. Slaughter must be done in such a way that the animal bleeds out and dies in a humane manner. Taking the life of an animal is a privilege that G-d has given to humans with some restrictions (e.g., Thou may take of thy herd and they flock as I have commanded thee. Deuteronomy 12:21). Slaughter needs to be done with respect for the animal and with technical proficiency. Jews assign this important task to specially trained religious male slaughter men. Muslims permit all sane adult Muslims to slaughter. Some Muslim traditions expect every qualified adult to slaughter at least one animal a year.

Both require a prayer before slaughter, i.e., the Jewish slaughter man says the prayer following a format that is used for all blessings in Judaism just as he begins the slaughter. The Muslim says a prayer, referring to the greatness of G-d over each animal at the actual time of slaughter.

For Jews, the rules regarding permitted animals are mainly an issue of their food use. The use of slaughtered animal products for purposes other than food is not an issue. So a leather belt, even from either a non-kosher cow or even from a pig presents no problems. On the other hand, for many Muslims, the strong prohibitions against the pig in the Quoran have led Muslims to prefer an almost total avoidance of the pig products in all shapes and forms. This can be a challenge for a multi-cultural society, where some parts of society, most notably Christians and secularists, have come to use the pig as an important part of their food culture.

Christian food traditions are at odds with Islam and Judaism. In general, Christianity has very little formal concern for religious food laws. While maintaining a core of teachings promoting hospitality around food, feeding the poor and condemning gluttony, much of the rhetoric of Christianity proclaims freedom from any religious law such as the food laws as a spiritual and religious ideal. Obedience to Jesus Christ makes a Christian’s belief in God a matter of Christianity. The early church community replaced the law with obedience to God through Jesus Christ. The assumption was that obedience to the law was a matter of legalistic personal vanity, rather than personal discipline that reflects a mature respect for the Supreme

Being. Many Christians clearly do not understand the role of religious law in Judaism or Islam, and neither is the Christian spiritual discipline well understood by most Jews or Muslims.

In the case of both Judaism and Islam, constant attention to what enters the mouth throughout the day is an on-going part of life and serves to constantly remind adherents of their relationship to G-d. Participants need to constantly strive to meet the religious strictures that are subject to divine evaluation on the Day of Judgment. By way of contrast, because of the early Christian conflicts over authority with Judaism, the moral status of a Christian with respect to the Supreme Being is more dependent upon what emanates from G-d's grace, and from an individual's actions or an absence of actions within one's community, and that community's response, than what enters an individual's body.

Many scholars believe that one of the ways that Christians differentiated themselves from Jews and Muslims from the Middle Ages forward was by making central to the Christian diets foods that Jews and Muslims would have found abhorrent. The eating of pork and blood sausage are two prime examples. On the other hand, Christians and others benefited from the sale of animal products that initially were processed as kosher but were subsequently identified as not acceptable with respect to the post-slaughter religious inspection.

Within Christianity, veneration of blood, as in the blood of Christ, which is remembered symbolically in the Communion service (The blood of Christ shed for you; The body of Christ broken for you) and literally in the Eucharist is an act that is experienced as extremely odd and disturbing to Muslims and Jews (as well as to many secularist and less devout Christians). A more neutral, and dare say, "sanguine" approach to these differences may be the following: to hold something as sacred produces a strong reaction. In Judaism and Islam, the sacredness of blood results in it being kept away from and outside everyday human life. In Christianity, there is an equally strong reaction that runs in the exact opposite direction. Blood, symbolized in either the Eucharist or Communion, becomes central to daily human life and the concept of being in a community with one another. The central issue for Christians is not that food products should be made from blood, such as blood sausage, but rather that the notion of wholeness and community is sanctified by blood. No manner of scientific or empirical research can shake these determinations, because they are rooted in strong and well defined meanings that are different in the different groups.

While profound prejudice runs in both directions, Christian majorities and monarchs, and their governments up through the 20th century have instituted laws to limit Jewish and Muslim practices. Violence towards both Muslims and Jews persists to this day among some fringes of Christianity. But the most virulent anti-Semitism and Islamophobia may be perpetuated by agnostics and atheists of countries that formerly had a Christian majority. But in a more pervasive and perhaps benign way, many Christians simply do not understand the spiritual devotion of Jews and Muslims that produces the revulsion for the idea of eating pork or handling blood.

When slaughter was done locally, in many cases the Christian attitudes toward slaughter were historically closer to Jewish and Muslim practice, i.e., stunning was not the normal practice. Anecdotally, Jewish and Muslim slaughter practices on farms used many of the same basic techniques as Christians until the late-19th or early 20th Centuries. What has happened in Christian majority nations, such as the U.S., and formerly Christian majority nations such as many in Western Europe, is that there has been an effort to make slaughter less intimate and more a matter of establishing a presumed superior, more humane technology than occurs by slaughter with a knife. This process of slaughter becoming less and less visible coincided with

urbanization and the removal of most citizens from closeness to the growing and slaughtering of animals, increasing affluence and a tendency to approach death, in general, in a technocratic way.

The challenge of slaughter practices for public policy in a secular government. Religious slaughter has been an issue of contention in Western Nations for over a century. Most Western nations explicitly endorse the practice of first stunning the animal prior to slaughter, and have often entertained bans on religious slaughter. The policies are based on an assumption that stunning is more humane than a religious slaughter. The relevant scientific research remains to be done; the policy is not supported by sound evidence as discussed earlier.

Because slaughter is largely a non-issue for Christians and to the best of our knowledge there are no Christian movements that have ever condemned religious slaughter on religious grounds, i.e., based on theology, it is not clear whether the bans initiated by heavily secular governments reflect actions that are primarily anti-religious in nature or are more narrowly anti-Semitic and Islamophobic. The most virulent anti-Semitic and Islamophobic actions, both anti-Jewish and anti-Muslim policies, have been unleashed by avowedly secular governments in nations with majority secular populations, from the early mid-20th century to the present.

Clearly, since the relevant research has not been done, favoring one method over another would seem to violate the notions surrounding sound policy-making in a democracy. And even if there are clearly better methods than others, within a democracy it is quite imaginable that different standards might obtain to meet the fundamentally different needs of different communities as long as each worked to optimize the animal welfare aspects of their requirements.

Yet, a third concern exists which promises to reconcile the prior two. The formal governmental interest is in setting universal, national standards. Yet there will always be a governance role for religious or cultural communities or groups of consumers that band together to meet their own needs. The government has a serious interest in the quality of the meat supply and in promoting the humane treatment of animals, as well as of slaughterhouse workers. If a roughly equal level of humane treatment of animals and workers can be obtained by different methods, then the government ought to be indifferent to which method is used, as long as the standards are maintained and each standard for each method is clearly researched and documented to show that animal welfare has been optimized.

Focus on research-based standards, regardless of slaughter method

A key component of good animal welfare for humane slaughter is to present an animal that is not stressed at the time of slaughter. This takes a lot of effort, starting with the animal husbandry of the animal from birth through to the time it is ready to be taken to slaughter, the transport, holding and moving of the animal to slaughter, and then the actual set up for moving and handling animals in the slaughterhouse. To do this well requires an on-going commitment of management, continual training and monitoring of workers, and the proper selection and maintenance of equipment and facilities.

Compassion, stress-reduction and animal welfare prior to slaughter. When an animal is not comfortable, it will respond both behaviourally and with changes in its biochemistry. These can be measured, but the interpretations of these measurements are not always clear. Obviously, stress is a part of life for all humans and animals, and the question of what constitutes unacceptable stress remains to be more carefully defined. Although this is only part of the answer, it is important to note that in most cases, production decreases with obvious stressors,

e.g., too cold, too hot, bad air quality, etc., so that in many cases animals can indicate their stress by decreases in production traits, which from a farmer's point of view means that they usually do not want to see such stresses. In some cases, however, economic benefits may outweigh the stress-induced production losses for the individual animals. For these situations, it is necessary that everyone involved work together to eliminate these situations by creating appropriate industry standards that require all producers to avoid such situations. In most cases, thankfully, good animal welfare is actually more productive.

Pre-slaughter handling of animals is common to **all forms of slaughter**, so that deficiencies in pre-slaughter animal welfare are common to **all forms of slaughter**, both stunned and non-stunned. The British Farm Animal Welfare Council has stated the principle that the greater the number of animals affected, the greater the extent to which animal welfare is compromised – i.e., each offense is treated by them as essentially additive and a separate “charge” is leveled against the perpetrators for each infraction. Because pre-slaughter handling affects almost all food production animals, it is all the more important that animal welfare during pre-slaughter handling be optimized for all forms of slaughter.

Dealing with all of these issues are major topics in their own right, but will not be discussed here, although references for additional reading/listening will be provided. A great deal of the current governmental and non-governmental organizational efforts in the area of farm animal welfare are focused on improving how these details are dealt with across the board, from farm to slaughterhouse. The quality of pre-slaughter handling, in turn, will affect the outcome of the slaughter.

In this area there is nothing different about preparing for religious or non-religious slaughter and excellence in pre-slaughter handling is strongly supported by all religious communities. (Jewish, Muslim, and Christian scriptures, for example, all have very strong animal welfare statements.). Yet the current literature on different methods of slaughter, especially religious slaughter, does not assess clearly the animal welfare of the animals and care taking with them leading up to the time of the slaughter in different facilities. Animals destined for different slaughter methods may need to be handled in different ways. This needs to be researched, evaluated and accounted for, i.e., how were all the other steps up to slaughter or stunning carried out and, therefore, what is the emotional and physical state of the animal at the time it is presented for slaughter or stunning. Do variations in preparation for slaughter lead to differences in outcomes? How are these objectively evaluated and quantified? Everyone involved with animal agriculture should support such research properly done in accordance with scientific standards for detailed descriptions of the systems used.

The variables associated with mal-stress need to be isolated and studied before the effect of a method of slaughter is studied. It is also important that the various plants and the various methods that are actually used for religious slaughter be carefully identified and evaluated separately and against each other. Without that information we cannot determine which methods are preferable or optional and what specific problems may need to be addressed with each different method.

The people who work with animals are also part of the animal environment and the workers experiences of stress may directly result in increased prodding and agitated behavior towards the animals, increasing animal stress. While there may well be generally optimal environmental conditions for workers when handling animals, there may be a need to recognize the specific limits of individual workers whose reactions become compromised either with extended time or at different points in the process, and in different ways in different types of physical facilities or

with different animals. Worker orientation, training, evaluation, retraining, compensation and bonuses need to be evaluated relative to their impact on animal welfare at the processing plant and during transportation in addition to the farm level, but without government interference.

Key issues to assess when evaluating methods for stunning and slaughter: Evaluating a process that is rapid and, in the end, irreversible, is difficult but not impossible. The challenge with respect to assessing **stress** is that it requires further research, as measuring stress at the actual time of stunning and/or slaughter becomes more complicated to measure accurately at that time because the blood volume is changing dramatically and nervous function is rapidly changing.

To assess whether a slaughter experience was humane, we must address and define several concepts: **conscious** (and the opposite, unconscious), **sensible** (and the opposite, insensible) and **living** (and the opposite, dead). The last of these pairs is often the hardest to deal with and in fact, it is often controversial in modern times with respect to brainstem versus heart versus sensible death. Our capacity to measure death is more precise than our ability to simply recognize it. The recognition of death will be dealt with later, in the section on cultural and religious meaning.

Conscious is a state where the brain is aware of what is happening and can react. An unconscious animal is not aware of what is happening. This means that although the pain receptors may be activated, i.e., the initial biological sensing of something that is unpleasant, the signal from the site where the pain is occurring is not processed at the highest levels of the brain, where “consciousness” resides. From a scientific point of view, an unconscious animal is not dead, and is still giving off some signals as measured by various brain wave techniques, but has lost the ability to perceive these signals.

Insensible, which is a deeper stage of unconsciousness, although similar in meaning to unconscious, operationally means that the animal is not able to respond and it is assumed that the pain is not processed at all through the upper brain to an external signal. It is the term used to reflect a testable state. For maximum insensibility in animals, which should focus on the head, the lack of an eye blinking response following a “tap” near the eyes is often taken as the point of full insensibility. However, the response to an external poke on the other parts of the body is believed to be coming from a lower level of the brain, so that it remains measurable long after upper brain function where consciousness resides may have ceased to function. Therefore, the only responses that are relevant are those applied to and responded by the nose or eyes.

What this means is that an animal may become unconscious relatively rapidly and yet remain “sensible” for longer. To the best of our knowledge, the perception of pain is tied more closely to consciousness than it is to insensibility, but more research work is needed in this area. Operationally (i.e., practically in a slaughterhouse), insensibility is often used as the definition of when further processing of an animal can take place.

Pain is another concept that needs to be considered. Pain is probably best defined as a negative physiological response to an outside signal; i.e., to a noxious stimulus. Pain is the stimulation of the 'pain receptors'. However, there is evidence that with a very sharp knife, the cut itself does not trigger these receptors, or, at least you will trigger a minimal number of pain receptors and it is possible that endorphins, an opiate associated with runner's high may be released and overwhelm the limited pain receptors activated. Again, more research work is needed in this area.

Addressing pain, consciousness and insensibility when using different slaughter methods. Efforts are already under way to render diverse slaughter practices more humane, even if the

confirming research has yet to be done. Many of these efforts have focused on the obvious needs for improving the technology of the slaughter stunning or killing equipment.

With captive bolt types of equipment (those that either fracture or penetrate the skull), the more stringent animal welfare standards being proposed in the US at this time would permit a certain percentage (around 5%) to be missed on the first try. This can be very stressful for an animal that was missed and it is not clear at this time what level of failure leads to what degree of pain and it is not clear if there is any short-term pain in the realm of less than a second associated with the successful procedure, which leads to immediate insensibility. This needs to be studied further.

While fracturing or crushing the skull is presumably painful, it is not known how the pain of this method compares with others. It is known that one form of penetrating captive bolt has been banned because it led to brain tissue entering the blood stream, which might then transmit BSE (bovine spongiform encephalopathy; i.e., what is commonly referred to as “mad cow disease”). So the evaluation of the stun/kill method may need to include other concerns, as well.

Temple Grandin has also noted anecdotally that the person operating the captive bolt equipment can work at a high level of accuracy for possibly up to five, maybe six hours, but after that point, in almost all cases fatigue sets in, accuracy diminishes and the person’s attitude becomes one of just pushing himself to get through to the end of the shift. Stress on the worker likely leads to additional stress on the animal and a higher failure rate.

Electrical shock stunning, which in its mild form is approved by some Muslim authorities, but in the less mild forms may kill up to 30% of the animals, which is not acceptable to Muslims. Questions that can be asked include: Is preparation for electrical stunning more stressful? What is the rate of ineffective stuns? What are the individual animal’s differences in their response? What are the consequences of re-stunning? What impact might improvements in equipment make? What are the effects of this process on workers? (Obviously, some of these questions also need to be asked in great detail for the other methods being discussed.)

Use of CO₂ gas would presumably lead not only to stunning but to asphyxiation. How painful is asphyxiation? What is the temporal sequence of these events and how does that impact the evaluation? What would the addition of other gases do to the process and to the meat from the slaughter? Again the same questions asked for electrical stunning can be asked here. It is known that the use of gas for some breeds of pigs is much less successful than for other breeds.

Historically, both Judaism and Islam provided far more humane guidelines for conducting slaughter than existed for the other techniques being used when the rules were promulgated hundreds and thousands of years ago. The other slaughter techniques of today may have become more comparable to those of religious slaughter over the centuries. Rapid exsanguination may induce a rapid loss of consciousness similar to stunning and be followed by death. This claim needs to be studied to ascertain the time it takes to reach both unconsciousness and then insensibility and to determine how these times can best be realistically minimized.

In reality, today we must recognize that the actual practices of religious slaughter are extremely varied among religious groups and from facility to facility. This requires that each facility and each technique be independently evaluated against a standard that respects the religion and is deemed by the proper experts to be “best practices.” The American Meat Institute standards for slaughter, which includes religious slaughter, is a widely accepted standard that is accepted by almost all of the animal activist groups. To meet religious slaughter standards, the animal is directly cut at the neck and allowed to bleed until it becomes insensible. In most cases it is preferable from an animal welfare point of view that the religious slaughter be done in the

upright position, which is the preference of the American Meat Institute slaughter recommendations although upside down is recognized while shackling and hoisting is not.

The turning of the animal upside down for some religious slaughter that is currently being done will have to be researched and may have to be phased out over time or at least brought up to the highest animal welfare standards consistent with the method and might only be permitted where it is a religious requirement of those for whom the meat is intended. Some methods, such as shackling and hoisting and its variants, do not reach a reasonable level of animal welfare and will have to be phased out. A well trained religious slaughter-person can do the slaughter properly, quickly and repeatedly to minimize the time to both unconsciousness and insensibility. Some slaughter-persons may not be able to meet this requirement and should probably be assigned to other activities.

A key to both good Shechita (Jewish) and good Halal (Muslim) slaughter being painless seems to be that the knife used to make the cut be VERY sharp and that rapid blood loss occurs along with assuring the absence of any “ballooning” of the severed ends of the neck arteries. Such “aneurysms” might increase the time to unconsciousness and insensibility by slowing blood loss. While the idea of a painless cut may seem odd, most of us need only think about the discovery of blood, even copious blood, from a previously unnoticed cut.

Each of the methods for slaughter requires well trained slaughterers. The quality of a religious slaughter may be more highly dependent upon people skills than other methods. With poorly trained slaughter men, no slaughter may be acceptable. But with well trained slaughter men using a very sharp knife with the proper design of the knife and the equipment for holding a calm animal, religious slaughter may in fact be superior to the other methods. This needs to be more fully and objectively researched. The key point is that when evaluating slaughter systems, bad systems (incorporating all of the above types of issues) need to be improved. What is inherent to each type of slaughter can only be evaluated on the best systems.

By way of illustration, the following is a statement by Dr. Grandin about a kosher slaughter plant that is doing things right, partly thanks to her practical work with the plant:

“Recently, I participated in a ritual kosher slaughter -- in this ritual, the way it was meant to be done, I must say. This was at a plant where the management really understood the importance and significance of what they were doing, and communicated this to their employees -- and to the animals as well, I believe. As each steer entered the kosher restraining box, I manipulated the controls to gently position the animal.

After some practice, I learned that the animals would stand quietly and not resist being restrained if I eased the chin-lift up under the animal’s chin. Jerking the controls or causing the apparatus to make sudden movements made the cattle jump... Some cattle were held so loosely by the head-holder and the rear pusher gate that they could easily have pulled away from the rabbi’s knife. I was relieved and surprised to discover that the animals don’t even feel the super-sharp blade as it touches their skin. They made no attempt to pull away. I felt peaceful and calm.” (Regenstein and Grandin 1992)

Work for precise, humane slaughter standards across and within respective communities

Death is the minimal acceptable outcome of a successful slaughter process. Death with as little pain and suffering as possible, for the animal and all the people involved in

watching/participating in the process, is most desired. While we may disagree about the best methods to achieve the result, humane professionals will agree with the desired objective and promote all procedures that achieve that outcome.

Minimizing pain and suffering: With this goal, in this context, it is understandable that some groups, who at this point are from the most affluent societies of Northern Europe, are promoting the anesthetization of animals prior to slaughter. Whether this is primarily to relieve the pain of the animal or to relieve the guilt and sympathetic suffering of meat eaters and workers is an open question. This is particularly true if these concerns are expressed in secular overtones (e.g., “an animal has a right...”). (Without specific and detailed knowledge of the impact of such interventions on the animal and the meat, it cannot be said whether it is a fool’s errand or an expensive, but perhaps legitimate option.) Both human and animal concerns are important. Yet the idea of gassing or anesthetizing groups of animals provokes in other people the memories of horror from the Holocaust and the use of poisonous gas in warfare. This in addition to the fact the process may carry some degree of danger to humans, pollute the environment, and, depending upon the gas, may be aversive to and traumatize the animal.

With 10 billion animals slaughtered every year in the US and Europe (8 to 9 billion of them poultry), there is a huge industry in animal death. It is hard to conceive of death on such a scale. What we are trying to show is that there may be as many ways to be careful in death as there are ways to be careless in death. Christians, secularists, Jews and Muslims and others may all end up making very different judgments regarding humane slaughter, whether it is possible or how it is possible, as we do with the respect for and the use of blood. And we may substantially agree as to what denotes more, as opposed to less, humane practices, in the same way that we may agree about the scientific requirements for the biologically safe handling of blood and blood products.

Suffering: On the issue of suffering we can do much more research, but the framing of the issue is largely one of giving it meaning in the context of moral values, religious law and faith. Suffering is the experience of loss. It is a complex response that assumes expectations or hopes that are not met and will not be met in the near future if ever; it is an affective response and, as such, it requires a degree of brain function that requires integrating knowledge and looking into the future and being able to recognize that there are longer term consequences. We know very little about the affective life of animals, especially in terms of the higher order emotions. However, it is not mere anthropomorphism that allows empathy for an animal in obvious pain or otherwise suffering.

Clear proof that any of the animals subject to commercial slaughter have this level of comprehension with respect to the slaughter process has not been shown to date, so for now it appears that they do not suffer, specifically with respect to slaughter, including with regards to their own deaths. We do know that animals that have lived lifetimes or years together react to the sudden absence or death of another in a way that implies suffering or grief. Except for the after-birth, most livestock are not routinely in contact with blood, neither would they associate it with death. Stresses can be perceived by animals, so careful handling will contribute to their well-being during the pre-slaughter and slaughter processes. It is known that cattle will lick the blood of a recently slaughtered animal. It is also known that sheep will jump to “get ahead” of the animal in front of them at the slaughter point! Unless the animal had witnessed death before, we would not anticipate that an animal would have any association with the surrounding chaos, except that flight may be a response to anxiety, when going forward is the only available option.

The complexity of death: The whole issue of when death occurs may be definable with a scientific precision that is more exact than what the experience and practical aspects of slaughter may allow. The issue of post-slaughter activity must be considered. Some authorities, in both the Jewish and Muslim religious communities permit post-slaughter stunning of animals. While this action may seem odd or unnecessary to those for whom slaughter simply means death, it is an important concern to those who recognize death as a process. Stunning after religious slaughter may lead to more rapid insensibility, although rapid bleeding if the cut is done properly will lead to rapid unconsciousness. Beyond this, the Muslim community does not permit anything further to be done to the animal until it has fully expired, until it is dead. However, there is also a category in Jewish law of “religious death”, i.e., once the animal’s throat has been slit, the animal is “dead” and one may do anything to the animal – except for eating it. This is an area where the rabbis will need to work with the animal welfare community to define what is and is not acceptable during this interim period. For example, when is the eye reflex and other meaningful reflexes gone so that further processing can proceed?

Putting death in perspective: Participation in the larger commercial marketplace, which encompasses many different slaughter methods will require both the religious community and secular communities to work together to assure that all of their different practices take advantage of the best available methodology and equipment while still remaining faithful to their unique religious requirements or secular sensibilities.

We mentioned earlier the history of anti-Semitism and Islamophobia that led to efforts to ban religious slaughter in Europe. But some methods of permitting religious slaughter have been used toward anti-Semitic ends, such as when Jews were not permitted sell animal products that failed some aspect of kosher inspection as non-kosher. By singling them out for special labeling, the aim is to put market pressure to inhibit the purchase of these meats. This action took away an essential market for non-kosher meats and undermined market integration across religious differences while producing great waste and increased food costs for Jews. While different communities are going to value different methods of slaughter, any system of labels that might simply indicate the method by which any animal was slaughtered may be used as the basis for prejudice against the community that favors that type of slaughter, specifically Jews or Muslims. While labeling has proven useful in educating consumers about some aspects of their food supply, in the case of slaughter labeling, it might not just be the method that is being evaluated. The point is to recognize that addressing slaughter techniques using labeling with an eye to educating consumers and the public raises challenges of historic prejudice that are extremely complex to address. Other mechanisms such as this educational piece might be more appropriate.

Because so much of our food industry is a death industry (technically, all are thus except animal products such as milk, eggs, honey, although the producing animal eventually becomes part of the “death industry”), we need to recognize how the technology for animal slaughter may or may not relate symbolically to or be used in times of war and unrest to carry out human slaughter. This may seem trivial, but much of what makes the topic of animal slaughter so horrid, beyond its own violence and messiness, is the implicit threat that we humans, too, could be slaughtered.

Yet more importantly than these associations, we need to reconsider the role of meat in our diets. Not that this discussion is meant to suggest that we need to abandon meat or animal products, but rather that we may need to more fully respect the life of animals that we encounter in death, and whose death brings renewed life to our bodies.

Conclusions:

First, while there are many religious, secular and cultural approaches to slaughter, we have very little evidence based on rigorous, comparable evaluations of general methods and specific practices evaluating each approach. In a world of religious, secular and cultural diversity, we should expect that many methods of slaughter will be justified. Both stunned and non-stunned slaughter is justified to significant, and usually different, groups, for different types of reasons. The goal that we hope would be accepted at this time is to try to work together to improve slaughter in all of its aspects, both with stunned and non-stunned slaughter.

Second, regardless of our preferred methods, we all need to learn to accept the documentation of bad outcomes based on agreed upon scientific measurements that show that an entire integrated system may not be working properly. There are many slaughter systems, both religious and non-religious that are currently being evaluated that are not animal welfare friendly. There is work to be done to improve all of these systems. It is vital to stress that the humane treatment of animals from start to finish in the meat industry does not depend upon getting the rabbis or Muslim clerics to endorse stunning.

Third, much of the work for humane slaughter may well need to focus on all the other things that need to be improved prior to the actual aspects at the moment of slaughter. At this point in time, there remains a lot of work to be done to improve animal welfare, but those involved in this paper believe strongly that the evidence strongly favoring any one system or approach does not exist.

Fourth, much greater attention needs to be paid to the details at the point of stunning, where this procedure is done, or the actual unstunned slaughter, where this procedure is done. In fact, there may be factors related to religious slaughter that would make it favorable, at least in some settings, when compared to slaughter with stunning. Researchers and policy makers should remain open minded to the fact that when done right, religious slaughter may actually be better in terms of animal welfare than slaughter with stunning. Yet stunning, as a method, may be justified as well, on other grounds, for cultural or secular reasons.

Fifth, with respect to non-stunned slaughter, important segments of both the Jewish and Muslim communities are committed to working with the scientific animal welfare community to optimize the process and to replace some of the methods currently used to restrain animals that are totally unacceptable from an animal welfare point of view. New equipment, better knives, and better training are all aspects that are being explored and seriously worked on by the Jewish and Muslim community in conjunction with the scientific community.

Finally, any effort to engage the religious communities on this issue will require fluency in the specific governance practices of each group to develop the proper procedures for processes prior to and after the actual slaughter. There must be clear guidelines that are accepted within the Orthodox Jewish and Muslim communities about how to harmonize humane slaughter with the ritual requirements of each religious community. Many of the people involved in this discussion paper are working on these efforts.

References and Reading Material:

Kosher and Halal Rules: Regenstein, Chaudry, and Regenstein: www.ift.org

Animal Welfare and Animal Agriculture: www.cybertower.cornell.edu

Talks by Dr. Regenstein and Dr. Grandin

Religious Slaughter: S.D. Rosen, Physiological Insights into Shechita. *Veterinary Record* (2004) **154**, 759-765.

Specialized Materials for Halal Slaughter: www.spiritofhumane.com

Slaughter Guidelines: www.meatami.org

Animal handling guidance: www.grandin.com
Including an article on kosher and halal slaughter

Auditable Animal Welfare Standards: www.fmi.org

UK Shechita Board: www.shechita.co.uk