American Association of Swine Veterinarians

Alex Hogg Memorial Lecture

A native of Scotland, Alex (pronounced “Alec”) Hogg immigrated to the United States with his family when he was six years old. After reaching adulthood, he served in the US Navy during World War II before entering veterinary school at Kansas State University. He received his DVM degree in 1950, and was a mixed animal practitioner in Iowa for twenty years. Dr. Hogg returned to college – this time, Iowa State University – to complete a Masters Degree in 1972. He spent the following years serving and educating swine veterinarians and producers in his roles as Nebraska Swine Extension veterinarian and professor at the University of Lincoln-Nebraska. Upon “retirement” from the university in 1990, Alex worked as a technical services consultant for MVP Laboratories. Ever an enthusiastic learner, he graduated from the University of Illinois Executive Veterinary Program in 1995.

An active and longstanding member of the AASV, Dr. Hogg joined what was then the American Association of Swine Practitioners shortly after it was formed. He served as secretary/treasurer of the association from 1974 to 1976, and was elected president in 1979. The many awards and honors bestowed upon him over the years included several presented by the AASV: The Howard Dunne Memorial Award in 1985, the Meritorious Service Award in 1996, and in 2005, the first-ever AASV Foundation Heritage Award for a lifetime of achievement in veterinary medicine.

The first Alex Hogg Memorial Lecture was presented in 2007. The lecture is funded by the Alex Hogg Memorial Fund, which was established by a bequest from the Hogg estate.

Dr. Hogg will long be remembered not only for his passion for lifelong learning, but also for his ability to educate, encourage, and elevate those around him. The Alex Hogg Memorial Lecture honors his memory by continuing these efforts for future generations of swine veterinarians.

ALEX HOGG MEMORIAL LECTURERS

2007    Steven Henry
2008    Michael D. Terrill
2009    Lawrence D. Firkins

American Association of Swine Veterinarians

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The misinformation game – Does the villain have a voice?

Peter Davies, BVSc, PhD
College of Veterinary Medicine, University of Minnesota

“Sometimes though, it is not at all easy to draw a line between outright villainy and the standard, legitimate practices of the modern food industry”
Colin Tudge, Biologist

“When one is young, it’s easy to tell the difference between right and wrong. As one gets older, the villains and heroes get all mixed up.”
René Mathis, James Bond ally, in Quantum of Solace (2008)

“My name is Peter and I work with pigs”
I’m sure many AASV members have sparked curious reactions from ‘others’ when revealing that we work with pigs. For me, the evolution of these reactions over time is disquieting, and underlies the theme of this paper. My native country of Australia is a major league ruminant producer, and its small pig industry pales in the shadow of the sheep and cattle industries – an oddity, a little weird! If I stated I worked with pigs, the standard response downunder was giggling, ensued by an embarrassed silence as the perpetrator grasps that they have laughed in the face of a stranger at the mere mention of their profession. When I came to Minnesota in 1991 I was surprised to find a very different reaction, or more accurately a ‘non reaction.’ Garrison Keillor would have forewarned me that the Lake Wobegon reaction to most things tends to be a little understated, but the key factor is that raising hogs is what people do in the upper Midwest – no giggles, just business as usual.

Moving to North Carolina in 1994, I was ‘embedded’ for the release of the Pulitzer Prize winning “Boss Hog” exposé by the Raleigh News and Observer in 1995; the pivotal “Ocean View” lagoon spill in 1996; and the birth of the moratorium on hog farm construction in 1997. The random social reaction had migrated into the range of negative to hostile. The hog industry was being portrayed and perceived as public enemy number one (at least within the confines of Durham, Chapel Hill and Raleigh) and I was somehow complicit – a little less welcome in polite society! But while the chucklers downunder and the impassive in the Midwest were contentedly uninformed about the pork industry, the antagonists of North Carolina came equipped with ‘facts’ dredged from the stream of the popular media. Whereas I once anticipated a social conversation about pigs would contain some mirth, or pleasant curiosity, my default expectation was now that I would be playing defense.

The path to villainy: A century of change in a decade
“What’s wrong with trying to produce cheap, high quality pork?” A degree of bewilderment exists amongst the swine community at being cast in the role of the villain. Farmers put food on peoples’ plates – aren’t we supposed to be the good guys? In 1900, 40% of the US population was engaged in agriculture, and hogs were raised on 75% of farms. Today, less than 2% of the population work in agriculture and less than 3% of farms raise hogs. This estrangement of livestock industries from the general public has created a void in understanding by the average person about how their food is produced, and why farms are as they are. As trust in farming and farmers has been eroded by distance and misinformation, it has not been replaced by transparency. The pork industry has become a blank page on which others are free to craft our image.

The AASV and its members have been part and parcel of profound structural changes in the pork industry that have achieved significant gains in biological and managerial efficiency, as well as measurably improved pork safety. Concurrently in many developed countries we have seen substantial concentration of ownership and vertical integration of meat industries, together with more contractual production and formation of supply chains. These changes were most striking the USA, where the rate of restructuring of the industry has been phenomenal. Tighter supply chains have enabled the industry to deliver some benefits that consumers claim to want, particularly regarding food safety and traceability. But in the remote eye of the public, the
image painted of modern livestock production is aesthetically less appealing than the ‘Little House on the Prairie’ image that it has largely displaced. For some, it is wholly unacceptable. The channeling of substantial public funding in “too big to fail” rescues over the last 12 months has done little to soften public attitudes towards ‘corporate agriculture’ and ‘factory farming’. Although today’s surge in anticorporate sentiment may have little origin in agriculture, size certainly matters and is an important catalyst for nurturing and perpetuating pejorative perceptions of pork production.

Platforms of opposition to intensive livestock production are multifaceted: sociological (e.g., loss of small farms and impact on rural communities; anticorporate sentiment); ethical (e.g., questioning the acceptability of animal housing conditions, traditional farming practices such as castration, and carnivorous itself); environmental (e.g., odor, pollution, carbon footprint) and sanitary (e.g., zoonotic and emerging disease; antimicrobial use and resistance; occupational health and food safety). Different issues resonate more or less with different people, and the deliberate amalgamation and blurring of disparate issues has been an effective tactic for galvanizing opposition to modern livestock production. CAFO is a four letter word.

All industries need critics and criticism which serves to steer industry practices in the directions desired by the wider community. But to be constructive in a social context, criticism must be founded on accurate and comprehensive analysis that captures the inevitable tradeoffs inherent in changes to, or constraints upon, industry operations. Pressures to reform livestock production currently have considerable momentum via both legislative and commercial avenues, and in the battle to sway public opinion. Inevitably, all parties lay claim to ‘science,’ yet discussions are increasingly ideological and heavily value laden. Several years back I argued that there was a need for more research investment in ‘societal’ issues related to pork production. My presumption was that better knowledge could influence the perceptions of consumers and law makers so that any decisions made could be more science based and rational. Noble sentiments – but not how the battles are waged!

Theaters of engagement and the power of the meme

“In today’s vicious news cycle, lies take on lives of their own on Web sites, blogs and e-mail chains and go viral in seconds”

Earl Blumenauer, Democratic representative from Oregon
November 14, 2009

The ‘PETA video’ of cruelty to pigs on an Iowa farm in 2008 gave AASV members a crash course on the power of the Internet to amplify negative events! The innuendo that those blatant acts of cruelty reflected the practices or attitudes of mainstream swine producers was as misleading as it was damaging. However, this was an example of misrepresentation rather than misinformation. Regrettably those events did happen in our industry, were captured on video and went viral for the world to see. Unfortunately, video footage of what 99% of farmers do to maintain the health and well being of their herds does not capture the imagination. We never see footage of the 50,000 or so airplanes that take off and land every day – but we do see the few that crash every year. For the pig industry among others, only bad news and outrage have real legs in cyberspace.

Such is the level of politicization of discussions about food animal production in general, and intensive livestock production in particular, it is now quaint if not delusional to dream of rational and factual public discourse on these issues. Modern communication has bestowed pandemic potential to misinformation and misrepresentation (both deliberate and accidental). As the political process among our esteemed elected representatives has itself degenerated into a battlefield of misinformation, can we really expect more thoughtful exchanges among the great unwashed?

In the way that ‘bad data are worse than no data,’ misinformation is more dangerous than pure ignorance. The misinformed can harbor strong convictions that they know the truth and the whole truth. And many will hear nothing but their truth! For forming or steering public opinion, scientific literature (presumably our most valid source of information) is impotent alongside the Internet meme, or even its frail cousin the newspaper OPED. According to the venerable Wikipedia, a meme is the propagation of a digital file or hyperlink via the Internet (e.g., email, blogs, social networking sites, instant messaging, etc). Memes can be expressions or jokes; rumors; offbeat or false news stories; urban legends, fraud schemes, or slander. Memes may be planted deliberately, evolve by mistake or rumor, or jump from an offline source to the Internet. Earl Blumenauer made the following observation about efforts to combat misinformation related to ’pulling the plug on Grandma’ memes:

“Some sincerely believed what they were saying to be true, but that only made them more indignant when others challenged them or tried to give them correct information”

The conviction with which ideas are held has little correlation with whether they are true. But it is correlated
with the indignation induced when the ideas are challenged. If we hope to correct errors of fact or perception, or inject science into public discourse on complex and emotional issues surrounding our industry, we need new ways to do it. Before highlighting some examples of egregious misinformation propagated about our industry, I want to touch on another lamentable (though hardly novel) aspect of the contemporary theater of engagement – the willingness (if not eagerness) to ‘play the man and not the ball’ to discredit information at odds with the dogma *du jour*. As an example, about a year ago considerable criticism was made of a study that reported higher prevalence of some foodborne pathogens in ‘alternative’ versus confinement pigs. Although this was a peer reviewed paper in a respected biomedical journal (and not the first to report such information), the following quote exemplifies the impunity with which the anonymous (and questionably credentialed) can dismiss such ‘unwelcome’ information.

“In other words, don’t draw any conclusions from this study funded by the National Pork Board. Any quality scientist knows to first look at who funds a study, prior to referencing it. Therefore, one should question what the motives of the National Pork Board are in the first place.”

The critics ignore the fact that the authors of the cited study have published numerous peer-reviewed papers on pork safety, not all of which have yielded information favorable to modern swine production. Credible and well intentioned researchers with any involvement with industry (i.e. funding) must expect their independence and objectivity to be aggressively challenged (if not totally dismissed) whenever studies yield findings contrary to the ideological mindset of our blindest critics. Perversely, the ferocity of *ad hominem* attacks will be directly proportional to a researcher’s knowledge and understanding of the industry they study - the more they know what they are talking about, the less they will be believed! To the incorrigible, any funding of research by commodity groups is *ipso facto* evidence for dismissal of its findings and, while you are at it, grounds to question the motives of the organization. The pork industry would likely attract a share of criticism if it neglected to support research into improving pork safety. However, any information generated by this research will be deemed invalid whenever it does not conform to the expectations of the public’s self appointed protectors. ‘Any quality scientist’ knows these are the rules!

**The misinformation game: Never let the facts get in the way of a good argument!**

**Bearing the badge of ignorance - modern pork production and foodborne pathogens**

*“How do you make industrial meat safe? You can’t!”
Robert Paterson’s Weblog*

Pork safety in the USA is now demonstrably safer than at any time in the past. Period! The prevalence of several historically important porkborne pathogens has declined markedly in recent decades.

- By far the most damaging porkborne pathogen in the world, *Taenia solium*, does not occur in the US commercial swine industry. Estimated to infect 50 million people worldwide and cause up to 50,000 deaths per year, it is also largely responsible for the fourfold higher rates of epilepsy in developing versus developed countries. This parasite thrives where sanitation is poor and traditional, free-range/scavenging pig production is practiced.
- The biblical scourge of *Trichinella spiralis*, previously a prevalent foodborne pathogen in US pork which caused substantial human illness and death, is now little more than an historical footnote in the annals of US public health and the commercial swine industry.
- *Toxoplasma gondii* is one of three pathogens responsible for three-quarters of fatal foodborne infections in the United States. Some 400 to 4,000 US children are born with congenital *T gondii* infection each year, and the societal cost of congenital toxoplasmosis alone was estimated to be up to $8.8 billion annually. Just 25 years ago *T gondii* occurred in 40% of US sows and 20% of market hogs, and undercooked pork was considered an important source of human infection. Its prevalence has since been reduced by over 90% in today’s commercial industry.
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As with *Trichinella*, the biological inevitability that pigs with outdoor access will be at elevated risk of *Toxoplasma* infection is consistently reflected in studies from various countries. Such is the reliability of *Toxoplasma* infection in free-range chickens that measuring *Toxoplasma* prevalence in chickens is an established method for quantifying soil contamination with *Toxoplasma* oocysts. The inherent trade off between parasite risk and the desired attributes of non-confinement livestock systems is captured in the following quotation about the potential for producing *Toxoplasma*-free meat:
“Modern production technologies have shown that this is feasible and have led to a marked decrease of *T. gondii* infections in meat producing animals such as pigs. Conversely, demand for animal friendly production systems may however lead to a re-emergence of *T. gondii* in pork and poultry.”

Apparent obliviousness to the substantial and consistent body of peer reviewed and government data documenting impressive reductions in the occurrence of porkborne pathogens over the last two decades, the denialists continue unabated in blaring out sermons about modern pig production increasing risks of foodborne disease. This is a monumental fallacy, and a badge of ignorance or bias sufficient to discredit any who espouse it as serious intellectual critics of our industry. There are several thorny and contentious issues related to modern intensive pork production – food safety, it happens, is not one of them. That said, the ritual umbrage at this point will be provoked by my failure to mention antimicrobial resistance. Genes that code for antimicrobial resistance (which is one of those thorny, but distinct issues) are not foodborne pathogens. Pork safety in the USA is now demonstrably safer that at any time in the past. Period!

**H1N1 Influenza A/2009: Guilty until proven innocent – and even then!**

The least surprising feature of the novel H1N1 ‘swine flu’ (nH1N1) pandemic was the spontaneous chorus of condemnation of intensive animal production emanating from the customary sources. Barely was the RNA sequenced before the choir was in full voice delivering its well rehearsed refrain. The ardor of allegations was fomented by early reports of the ‘index case’ occurring on April 1, 2009 – Edgar Hernandez, an angelic 5 year old Mexican boy in the town of La Gloria near Veracruz. Juxtaposed to Edgar in the flurry of early reports was his purported nemesis - a large intensive swine farm (or more derisively a ‘CAFO’) owned by Smithfield Foods Inc, the world’s largest pork producer. Powerful imagery!

Early media offerings such as ‘For years, leading scientists around the world have worried that large-scale, indoor swine “factories” would become breeding grounds for new pathogens that could more easily infect humans and then spread out rapidly in the general population - threatening to become a global pandemic,’ reverberated far and wide. For many, the evidence far exceeded the threshold for condemnation and the less high-minded opponents of intensive livestock production did little to disguise their schadenfreude. These are serious charges that have a basis in logic if not in fact, and that one would hope could be addressed with...
some calm, balance and rigor. But calm and balance is not the milieu that industry opponents seek to create. It is vitally important to question whether production practices have influenced the risk of human influenza outbreaks, and how. Unfortunately a peer-reviewed publication addressing this interesting and intricate question was essentially prosecutorial, combining a comprehensive treatment of ‘fears’ with a sadly selective portrayal of ‘facts’ and a dearth of serious analysis.\(^{28}\)

Investigations of the spring outbreak of ‘influenza like illness’ in Edgar Hernandez’s home town of La Gloria indicate it was of mixed cause and only four patients were confirmed positive for influenza viruses (two A/H3N2; one influenza B; and one, presumably Edgar, with nH1N1). No severe cases or deaths occurred and there is no evidence of significant nH1N1 circulation in the area at that time.\(^{29}\) No evidence was found of nH1N1 infection of pigs or workers at the Smithfield farm near La Gloria, nor in other pigs in the area.\(^{30}\) More tellingly, retrospective studies indicate that the earliest nH1N1 cases in Mexico occurred far away (350 miles as the crow flies) in San Luis Potosi, with an infant diagnosed on February 24 now being the first known case. That child had no known exposure to swine. Three other confirmed cases occurred prior to March 11, none of whom were in the area of La Gloria or linked to pigs. In response to questions on the origin of the virus, multiple media outlets have quoted Dr. Celia Alpuche (Instituto

**Figure 1:** Salmonella prevalence on market hog carcasses in large, small and very small plants (1998-2009)
of MRSA in animals, coupled with events of epidemiology of human MRSA. However, a spate of reports considered of no significance in the epidemic. The pig has uncertainty and some fear regarding the public health of MRSA and its implications for human or animal health. However, for those lusting to find a smoking gun, no such effort is needed to rush to judgment and launch the verdict across the blogosphere.

The myth of the missing epidemic: MRSA in Camden, Indiana

Methicillin resistant *Staphylococcus aureus* (MRSA) was long seen as a problem limited to human medicine. Furthermore, clinical MRSA infections of people were predominantly confined to hospitals (i.e. ‘hospital acquired’). The global emergence of ‘community acquired’ MRSA, since the mid 1990s was described as a ‘quantum change in the biology and epidemiology of a major human pathogen.’ Until recently, animal reservoirs were considered of no significance in the epidemiology of human MRSA. However, a spate of reports of MRSA in animals, coupled with events of apparent animal-to-human transmission, have introduced uncertainty and some fear regarding the public health significance of animal reservoirs of MRSA. The pig has been front and center in this discussion, with reports from a growing list of countries documenting MRSA colonization of pigs and pig industry workers. Recovery of MRSA from retail pork products has added another dimension to the angst about ‘livestock associated’ MRSA. At the pessimistic extreme, it was speculated that the risk posed by MRSA in livestock constitutes ‘an epidemic waiting to happen’.

It is now clear that MRSA colonization of healthy pigs is not uncommon in many countries. There is also considerable occupational risk of nasal colonization of pig farmers and swine veterinarians with the specific strains of MRSA that are found in pigs and other livestock. The reality is still unfolding but current information does not suggest that ‘livestock associated’ MRSA represents any imminent risk beyond the occupational arena. Increasingly, the data suggest that it also may not present a major health concern even for those working closely with pigs (including us). However, this is clearly a troubling development for pork producers (and veterinarians) with respect to their own health, and for perceptions about the industry. Similar to nH1N1, much time and effort are required to understand the biological underpinnings of any emerging pathogen and its implications for human or animal health. However, for those lusting to find a smoking gun, no such effort is needed to rush to judgment and launch the verdict across the blogosphere.

Nicholas Kristof is a dual Pulitzer prize winning journalist who wields his pen across an impressive range of issues. In 2009 he shared the Dayton Literary Peace Prize for Lifetime Achievement in recognition of work chronicling human rights in Asia, Africa, and the developing world. Historically, I am a fan, and had been impressed by his journalistic breadth. But in most things, breadth can be the enemy of depth, and relatively recently Mr. Kristof has ventured into writing about food and the food industry. He stands among the opponents of confinement livestock production, and true to type is inclined to romanticize farming in the past (including fond remembrances of Brunhilda, the one sow kept on the farm where he grew up). On March 11, 2009 he wrote an Op-Ed article in the New York Times chronicling an epidemic of MRSA occurring in the small town of Camden, Indiana, and implicating large pig farms in the area. Kudos showered in epic proportions on the excellence of Mr. Kristof’s article as it echoed through the blogosphere. However, the Camden MRSA epidemic was a myth.

Mr. Kristof’s source was a local doctor, Dr. Tom Anderson, who had died suddenly several months previously.
The article, conveying posthumously the premise of Dr. Anderson, blamed large swine farms in the area as the source of the outbreak and even insinuated that the doctor’s death itself was due to the ST398 strain of MRSA found in livestock. As I have followed the ST398 issue since its beginning, I contacted Kristof for clarification, believing his account to be highly improbable based on my understanding at that time of ST398 MRSA epidemiology in Europe. He confirmed that no formal investigation of the alleged outbreak had been conducted, nor was the existence of any outbreak verified by a single health professional beyond the deceased Dr. Anderson. There is no evidence that ST398 MRSA infection occurred in even one solitary case in Camden, Indiana.

I personally contacted a family practitioner and two AAVS members serving the Camden area, as well as a nearby medical diagnostic laboratory to which Dr. Anderson sent patients. These health professionals had been uniformly surprised by Kristof’s article. None had any professional or private experiences suggesting there was an MRSA epidemic occurring in the area. The doctor’s experience with MRSA was an estimated 20 to 30 sporadic cases scattered over six years. He could not recollect a single MRSA case in a swine farmer, despite serving many patients from that sector. He also confirmed (as had Kristof) that no MRSA cases were reported to county health authorities over the relevant period. Neither veterinarian had seen or heard of health problems in swine farm workers (theoretically the group at greatest risk) suggestive of MRSA. Data shared by the diagnostic laboratory revealed only 9 outpatient clinical diagnoses of MRSA in the year to March 2009 (compared with 89 cases from health care institutions). None of these sources support the existence of the community acquired epidemic of MRSA as portrayed in the Kristof OPED article. Mr. Kristof’s explanation to me was that Dr. Anderson did not pursue laboratory testing if patients were uninsured. This is plausible, but also means that definitive diagnoses of MRSA infections were never made for these patients.

A further source of incredulity about Kristof’s tale was the sheer scale of the outbreak (supposedly around 50 cases in a community of 500) relative to experiences with ST398 MRSA in Europe. Although ST398 has been endemic in pig populations of Holland and Denmark for several years, there is yet to be a single community disease outbreak linked to ST398 MRSA in either country or elsewhere in the world. A recent community based study in a pig dense area of Germany indicates that such an event is indeed unlikely. During 2007, Denmark (with a human population comparable to Indiana, but a pig population 5 times greater and 10 times more concentrated) recorded six clinical infections with ST398 MRSA (all people with known pig exposure and all minor superficial infections). Even if we were to attribute just half of the alleged 50 cases in Camden (population 500) to exposure to pigs, the incidence would be 50,000 fold that of ST398 infections in Denmark. That is a very big number in epidemiology – and a particularly hard one to swallow given the complete vacuum of supporting evidence!

Mr. Kristof, with whom I had a series of cordial exchanges, told me he did not see a need to issue any retraction because he did not believe his article was ‘wrong.’ I submitted both a letter and an Op-Ed article to the New York Times questioning the validity of the article. Both were rejected without comment or feedback. As I contemplated where to voice my doubts about the validity of the Camden ‘epidemic’, the world was overrun by nH1N1, and the issue of MRSA in pigs faded in the hysteria. This account illustrates that engaging tales with questionable, if any, foundation in fact can travel far and fast. Provided they are ‘on message’ they will rarely be questioned, regardless of credibility, and attempts to call them to account may struggle to be heard. Conviction in the public mind does not require a hearing.

**Death by a thousand sound bites**

These examples share a characteristic common to the communications challenges confronted by the swine industry. Accusations are simple. Realities, and their explanations, are complex. Like an uneventful airplane landing, an account of the advances in pig production and health over the last 20 years lacks ‘memetic’ potential. But a sound bite like ‘modern hog factories crowding large numbers of animals together are breeding grounds for disease and pestilence’ is likely to have legs on the Internet. Any serious attempts to respond to such sweeping generalizations will be too complicated for the era of sound-bite politics - few will attempt to follow it, and fewer still to understand it (swine housing comes to mind). In a recent political scandal in the United Kingdom, MPs were broadly accused of misusing expense allowances and some were forced to resign. Although many of MPs could demonstrate that they were technically innocent (their expenses had been officially approved) public outrage was unmoved. Detailed technical explanations do not get listened to, which leaves us trying to stop stampeding rhinos with a feather duster. The bombardment of negative sound bites will continue, yet a complex defense is practically no defense - no matter how misinformed the accusations.
Denialism and science – ours and theirs

“Every man, wherever he goes, is encompassed by a cloud of comforting convictions, which move with him like flies on a summer day.”

Bertrand Russell

The author Michael Specter recently published a book titled ‘Denialism,’ which he describes as when ‘an entire segment of society, often struggling with the trauma of change, turns away from reality in favor of a more comfortable lie.’ Much of its origins he attributes to the rate of change in society and growing inability for the average person to understand the world around them. Denialism is strongly rooted in distrust of science and technology, and often characterized by conspiracy theories and romanticism of the past and things ‘natural.’ When the facts don’t comply, the denialists will attack the science or the scientist (see above). Some examples he uses include the incrimination of vaccination in autism; the ‘alternative’ medicine and dietary supplement industries; and what he describes as the ‘organic fetish.’ Denialists tend to conflate separate issues and resort to charges of collusion when scientific consensus does not conform to their ideas.

At the root of denialism lies a very human trait - to embrace information that conforms to our beliefs and values and resist information that does not. Rather than beat upon the conspicuous denialist traits among critics of our industry, I want turn the mirror on ourselves. As one example, there is widespread scientific consensus about global warming and the likely contribution of human activity to it. That said, it would amaze me if there were not a substantial number of AASV members who would dispute the science and even cite the possibility of a global conspiracy among climate scientists. I expect I could identify other contentious issues where our members hold divergent opinions, and eventually find that all of us are willing to reject prevailing scientific opinion on one or more issues. The turmoil created by the AVMA’s criticism of the Pew Commission on Industrial Farm Animal Production, involving HSUS and other groups, is symptomatic of the difficulty of the terrain. There are statements in the PEW report that can I agree with, but many that I consider wrong or partially misinformed. I concur with the AVMA position that the PEW process was flawed from the moment its membership was chosen. But the PEW commission is a credentialed group dominated by professional scientists (if sadly lacking in representatives who produce livestock or diagnose and treat animal diseases). Am I guilty of ‘denialism’ if I dispute the PEW findings that do not conform to my ideas, and consider the document to be more political manifesto than scientific consensus? Or, do I adopt Michael Specter’s view that when experts are recruited to represent a single point of view, they become cheerleaders rather than scientists. Regardless, cheerleaders tend to be noticed.

We are likely all denialists, so can we really condemn the denialism of opponents of intensive hog production if we display the same behaviors on other issues? Recognizing that denialism is prominent among critics of livestock production is to no avail - the essential point is that it cannot be combated with facts or ‘scientific’ debate. Our energies need to be channeled into efforts to establish accurate, informed and appropriate perceptions of our industry among ‘normal and reasonable’ people.

Are we lunatic fringe?

What do normal, reasonable people think, and is that who we are? Recently, I heard a medical ethicist, Dr. Michael Goodman, speak on how modern medical databases are blurring the separation between clinical medicine and research, and introducing new ethical issues regarding privacy and confidentiality. Dr. Goodman works in Florida and spoke briefly about (and has published on) the Terry Schiavo case. A comment he made was that in the end, decisions regarding ethical dilemmas should be guided by what ‘normal and reasonable’ people (NRP) think. His point, expressed somewhat flippantly, was that NRP do not see a persistent vegetative state to be a desirable quality of life, and that the debate was largely an effort to inject extremist values into mainstream culture. Perspectives on the contentious issues surrounding meat production in general, and confinement hog production in particular, are deeply influenced by personal values. How normal and reasonable people view our industry is probably one of the pivotal factors that will influence the future of the industry.

From time to time at AASV and like gatherings you will hear colleagues (myself not exempt) utter ‘uncomplimentary’ remarks about the noisier opponents of modern swine production. We certainly do not view them to be ‘normal reasonable people,’ as they are a group that seems largely refractory to reason or evidence. But how is our industry perceived by ‘normal and reasonable people’ and who are they? One hundred years back, when perhaps a third of the population had some first hand experience of rearing pigs, values of mainstream society were clearly much more aligned with those of the livestock rearing community – we were mainstream! Today, most ‘normal and reasonable’ people have minimal if any livestock experiences.
and mainstream social values have migrated away from those retained by the agricultural community. Food animal veterinarians and livestock producers have an experiential base that is essentially unchanged, but now makes us the ‘outliers.’ For example, 100 years back a large proportion of the population had either seen or performed castration of a food animal, and therefore had some understanding both the purpose and the process. But today’s NRP have no such experience and we must expect their values and perspectives to differ from our own on many issues (e.g., castration, euthanasia, tail docking, gestation crates…). We cannot expect mainstream society to move forward and embrace modern livestock production, yet somehow retain traditional values that were founded on experiences of a bygone era. Many swine veterinarians and pork producers might be reasonable, but we are no longer normal. We are prisoners of our own experiences, which are largely unshared by the vast majority of society. We have to demonstrate that our systems and practices of pork production are consistent with contemporary values and therefore acceptable to the bulk of normal and reasonable urban consumers. We also need the wisdom to realize when they may not be, in order to avoid being on the wrong side of history.

**Finding our voices: the messages, the messengers and the mechanisms**

Despite more than a decade of alarmist clatter about the perils of modern pork production, per capita domestic consumption of pork has remained stable (but not grown) and exports have increased remarkably. The evidence suggests that many normal reasonable people have not been sufficiently persuaded to alter their consumption preferences regarding pork. This does not mean that damage has not been done, and the drumbeat of industry criticism grows steadily louder. There is no silver bullet or quick fix for correcting misinformation propagated about the swine industry and the erroneous perceptions that it creates. But, there is need for engagement at multiple levels to ensure that the industry has an honest hearing. Important considerations are the messages, the messengers and the mechanisms.

Our industry representatives, particularly the NPB and NPPC, have been increasingly consumed by ‘issue management,’ and have developed strong and timely responses in the face of many challenges and considerable pressure. From crafting messages, such as in Operation Main Street, to video releases via the Web on multiple issues, these groups have striven to convey a professional and science oriented countenance to the industry. I think they do a terrific job in representing the industry to legislators and government authorities, but can never be the best messengers for the broader public. AASV initiatives to promote media training for swine veterinarians are also on the mark, and we all need to engage. Engagement needs to be more than reciting the party lines – it also means listening and trying to understand alternative points of view. We cannot summarily dismiss any negative critiques of our industry as misguided, and we may be most vulnerable on issues where we agree. One of the biggest dangers is that our pork industry/swine veterinary community becomes an echo chamber where we hear only our own voices and not those of others. We learn from divisiveness and must expect and welcome ‘internal’ disagreement on how we address contentious issues. We need to build our capacity for self criticism not self affirmation.

Those of us in academia have particular responsibilities that have been largely unfulfilled. Tainted as we may be through affiliation with industry, we are still best positioned, in the eyes of normal and reasonable people, to communicate credible and balanced views on issues. But this privilege is fragile and can rapidly be forfeited if we are not indeed credible and balanced. But perhaps more importantly, we need to be visible. The research community needs to be less passive and react more publicly to combat myths and misinformation. The fact that our impressive advances in pork safety are practically a secret from the general public is a travesty. We need to redirect how and where we use our voices, and grasp that web-blogs and media contributions will do more to inform and appropriately guide our society than whatever we may publish in the ‘scientific’ literature. Energy channeled in these endeavors will not necessarily be immediately valued or rewarded in our institutions – but we need to remember why we are here!

Our industry cannot afford to be either a mystery or a blank slate, to which there is no alternative but transparency. And with transparency comes the concern that in the eye of the public we will only be as good as our worst performance! We cannot avoid embarrassing video footage of animal handling by screening employees and farm visitors for PETA membership. This can only be avoided by instilling a culture of zero tolerance of mistreatment of animals, including recruitment and training of staff to ensure appropriate care and handling. We need to say what we do, and do what we say, and embrace the reality of expectations for continuously improving standards. The image of our industry is largely dehumanized, and we need to find ways convey the humanity and general good intent of pork producers.
They want to be the good guys, but unfamiliarity breeds contempt. An example of ‘humanizing’ an embattled livestock industry is the “Peter’s Farm” enterprise within the Dutch veal industry. The following bullet points from their website illustrate the underlying principles:

- “Open information
- We provide user-friendly accessible information about Peter’s Farm on our website.
- Look behind the scenes and ask your questions.
- Would you really like to experience Peter’s Farm, then click below at Peter’s Farm. You can even see ‘live’ pictures of calves at the farm, go to Peter’s Farm Live, on the website.
- Click on The Farms if you want to find out where the farms are situated and who is taking care of the calves.
- Peter’s Farm organizes open houses frequently. Would you like to visit a Peter’s Farm, then subscribe to one of the open houses somewhere in Holland.
- Would you like a brief, complete impression of Peter’s Farm, simply click on Peter’s Farm Film.”

If a consumer buys Peter’s Farm products, they can go to the website, enter the farm code and read about the farm and farmers where the animals were raised, complete with pictures of the house, kids, and pets. The farmers show their faces and tell their stories. Similarly we need strategies to demystify our industry and develop a base of normal and reasonable consumers who can both understand and advocate for what we do. We are an embattled industry with energetic opponents. We will have to make or accept some changes to which we are, or have been, opposed. But we need to use our voices to constructively mold the process of change so that it converges toward compromises that are acceptable to producers and consumers of pork. Normal and reasonable people will listen.

References