They perform choreographed dance routines, engage in lively Tug-o-War challenges with guests, and may even paint a ‘masterpiece’ to be taken home as a souvenir. But they are not members of the entertainment crew at an all-inclusive island resort. They are the Elephants of Thailand - and about two thousand of these five thousand elephants are working in the tourism industry.

Added to the list of tasks these animals are trained to perform for the entertainment of tourists is the ‘elephant ride’ – where one or more people sit in a “howdah” (saddle) atop the elephant while it takes them on a trek. Although this activity provides exercise and enrichment for the elephants and brings in revenue that helps pay for their food and care, it can result in pain and injury related to the design of the saddle.

The majority of elephants used in the Thailand’s tourism industry are kept in camps, where keepers are employed to care for and work with them. Keepers usually construct the howdahs from whatever materials are available – materials that may be heavy or abrasive. Inappropriate materials combined with the overwork of many rides can lead to development of back pain, pressure wounds, abscesses, or rope sores.

This undertaking has the potential to not only measurably improve elephant welfare in Thailand, but increase awareness and appreciation for welfare issues of all animals used by people.

This research is sponsored by Veterinarians without Borders – Canada, the Morris Animal Foundation (MAF), Elephant Family (United Kingdom), Chester Zoo in England, and the University of Guelph.

Tourists ride atop elephants in Northern Thailand
In some cases the elephants are allowed recovery time, but in others they continue to be worked.

Scarlett Magda, a fourth-year veterinary student at the Ontario Veterinary College, traveled to Thailand in summer of 2007 to study this problem more closely. Together with her mentors Drs. Dale Smith and David Waltner-Toews, she wanted to know the extent of the problem — that is, how many animals are affected, what factors are involved in the development of injuries, and what can be done to improve this situation for the elephants and their keepers.

“Saddles have been used to ride elephants for hundreds of years, originally by monarchs, but their design never questioned,” says Magda.

Magda examined 194 elephants at 18 camps, and found that 80% had at least one saddle-related lesion. She also found that when elephants were allowed a break or wore a lighter saddle or a softer saddle-pad, the severity of saddle-related lesions was reduced. This finding and its implications for elephant welfare led Magda to take part in the development of an improved aluminum saddle. Aluminum is lighter than currently-employed materials, and can be ergonomically designed to better fit the elephants’ backs.

Plans are underway to offer a model design of the aluminum saddle through the National Elephant Institute in Thailand. The models will be distributed to local communities in Thailand and, ideally, across all of Asia. “By having the leading veterinary authority for elephant care in Thailand lead the way, the capability to influence riding camps to use more suitable materials is great,” says Magda. “There is also a trend starting with an elephant riding industry in Africa — if this work can show which design and materials to use, we can potentially also help African elephants experience a better quality of life.”

Ideally, Magda would like to see an animal protection organization approve the new saddle design as ‘elephant welfare friendly’ and have it promoted as such by the camps. This would create a greater appeal for tourists to visit those camps that have the elephant’s best interests in mind. This undertaking has the potential to not only measurably improve elephant welfare in Thailand, but increase awareness and appreciation for welfare issues of all animals used by people.

Cleaning cages makes a meal of lab rats own young

As the old adage has it, cleanliness is next to godliness, but it also has sinister consequences for lab rats: they are much more likely to cannibalise their young if their cages are frequently cleaned.

Charlotte Burn at the University of Oxford and Georgia Mason at the University of Guelph in Ontario, Canada, found that nearly twice as many pups were eaten in cages cleaned twice a week as in those cleaned fortnightly (Applied Animal Behaviour Science, DOI: 10.1016/j.applanim.2008.02.005). Cannibalism was most likely if the cages were cleaned soon after the pups were born.

Burn notes that cannibalism in rodents is not unusual; mothers sometimes eat unhealthy young to conserve energy for raising healthy ones. But while this might be normal behaviour, it could be disruptive in a research context.

The findings suggest that cleaning their cages disrupts the rats’ ability to recognise their kin, according to Volker Rudolf at Rice University in Houston, Texas. Burn says that scent is the key to rats being able to recognise their pups. She suggests minimising the handling of very young pups to avoid interfering with the scents that bond their parents to them.

It is also important, she says, to avoid introducing foreign scents into the rats’ cages.

Finally, Burn advises, cleaning the rats’ cages should not “stress the parents with loud noises or physical disturbance”.
A Rose (and Non-rose) by any other name...might be treated differently? Well, maybe not, but a 'human-animal' and a 'non-human animal' just might. This was one of the points that Dr. Karen Houle, Professor in U of G’s Department of Philosophy, made at the Campbell Centre’s Animal Welfare Research Symposium this spring.

She presented the idea that the use of such terms, and consequent habits of speech, has the potential to undermine the attitude of respect and acknowledgement of moral consideration that animal welfare proponents intend toward beings other than human beings.

Along parallel lines, Dr. Anne Milne, Professor if the School of English and Theatre Studies, shared her thoughts on the ways in which authors give voice to animals, and how this shapes our views on them from a very early age (read more in the following article.)

These were just a few of the many facets of animal welfare research presented by faculty and students at the Symposium, which followed a theme touching on considerations being made with respect to Early Life, The Daily Grind, Mating and Motherhood, and The End of the Line.

Topics were far-ranging – with researchers (24 in all) working toward answering questions that many of us have likely never even considered. For example: Do weaned piglets have enough (or any) teeth to chew their food?; Are inactive mink actually “depressed”?: Are dogs undergoing cancer treatment experiencing improved quality of life? If so, at what point?: How do various transport conditions affect the welfare of pigs and cattle?

The day’s thought provoking line-up included Keynote Speaker Dr. Ron Swaisgood, Associate Director of the Centre for Conservation and Research for Endangered Species, San Diego Zoo. Dr. Swaisgood discussed behavioural research aimed at improving breeding success and welfare of the endangered giant panda, and some of the successful strategies that have panda numbers on the rise.

The Campbell Centre would like to thank all who presented their ideas and research. A special thanks goes out to the organizing committee Drs. Georgia Mason and Susan Nance, and Laura Dixon, and to the sponsors, the Universities Federation for Animal Welfare and the Canadian Farm Animal Care Trust.

To re-live our symposium, visit our website!
The abstracts are posted at: www.uoguelph.ca/csaw/AWRSAbstracts
Animal weaning, mating and motherhood, transportation of food animals — and British literary texts? No, there hadn’t been a conference mix-up. Among the biologists and animal and veterinary scientists on the bill at last month’s first-ever research symposium hosted by U of G’s Campbell Centre for the Study of Animal Welfare, there was room for insights from Prof. Anne Milne, English and Theatre Studies.

Milne has spent about a decade studying how writers — particularly 18th-century writers — depict and give voice to animals. When she learned the conference organizers were looking for speakers, she believed she had something to say. But it was hardly a one-way street.

“I also thought it was a good opportunity to learn what some agricultural people are thinking about,” she says.

At the conference, Milne discussed two literary works during her talk on “The Power of Testimony: the Speaking Animal’s Plea for Understanding in a Selection of 18th-Century British Literary Texts.”

The Mouse’s Petition, a poem by Anna Letitia Barbauld, is a lament by a trapped mouse to Joseph Priestley, who conducted experiments on air and oxygen. Reading excerpts from a children’s book by Dorothy Kilner called The Life and Perambulations of a Mouse, Milne also discussed views of children’s and adults’ behaviour and values.

Those works may seem removed from the hands-on topics in animal husbandry discussed by other speakers and conference attendees. But she believes people’s views and treatment of animals — livestock, lab animals, pets — develop out of ideas ingrained early through cultural practices and products.

Do you think of The Wind in the Willows, The House at Pooh Corner, Stuart Little and Charlotte’s Web as benign storybooks for kids? Think again, says Milne, who read all those children’s classics while growing up in Guelph. Nothing is just a story. “Stories have a powerful effect on who we are.”

She believes people can reveal attitudes by looking more closely at how stories, art and even products like those stuffed animals on a shelf in her office represent animals.

“The question I’m interested in is, how much do we need to listen to these kinds of representations? When humans speak for animals or use animal voices, what inaccuracies or problems come out?”

Milne says these are ethical questions that need to be considered in treating animals, as difficult as it may be for people to think about animals as “stakeholders” in their own welfare.

People’s views and treatment of animals — livestock, lab animals, pets — develop out of ideas ingrained early through cultural practices and products.

“It’s a hugely complex question,” says Milne — not just for animals but for humans as well.

She suggests that it also shades into our views of environmental issues. Do we see ourselves as a part of nature or apart from it?

“If humans separate themselves from their reality as animals, then do they also separate themselves from nature?”

Viewing literary works through an environmental lens is ecocriticism, another keen interest for Milne. She thinks there are ethical lessons in varied books, from anything by Thoreau to works by Utah naturalist-author Terry Tempest Williams to the “dystopian” Oryx and Crake by Margaret Atwood.

For Milne, thinking about the environment involves being conscious of your own place in it. Simplistically, writers and critics call that “setting,” alongside character, plot, dialogue and other elements. But it’s deeper than that, she says. You develop environmental awareness through your own experience. She admires authors who can summon that sense of place in their works.

Hoping to underline that connection for Guelph students, she is developing a course for the fall that will take undergraduates on walking tours, perhaps historical walks on campus or a nature jaunt through the Arboretum. She credits Thoreau’s essay Walking as part of the genesis for that idea.

She’s also taught the introductory literature course called “Reading the Past” and fourth-year seminars on ecofeminism and on the animal in 18th- and 19th-century literature.
Milne arrived at U of G in early 2007 from a faculty position at McMaster University’s Centre for Leadership and Learning. After growing up in Guelph, she completed three English degrees at McMaster. She still lives in downtown Hamilton, where she’s an artist and enthusiastic gallery-goer. Milne marries text and photographs for installations that often comment on the nature of art itself. Her 2004 project about the development of a downtown mall raised questions about how citizens engage in urban design and politics. That’s a topic that she acknowledges resonates with her current interest in lending a voice to the voiceless.

This year, Bucknell University Press will publish a book based on Milne’s PhD thesis, which looked at labour and class issues in the 1700s. Borrowing from a line by poet Ann Yearsley, the book is called Lactilla Tends Her Fav’rite Cow: Ecocritical Readings of Animals and Women in 18th-Century British Labouring-Class Women’s Poetry. Milne smiles. “That’s in keeping with 18th-century literature — they liked long titles.”

Prof. Georgia Mason, Animal and Poultry Science, says the humanities faculty brought a different perspective to the symposium. “They are much more comfortable about asking unsettling questions like: Are we consistent in how we treat different species? If not, why not? And how much of what we do to animals is simply morally wrong?”

This article was originally published in @ Guelph.

Barbering in mice as a model system, and its implications for human health and animal welfare

By Kimberly Sheppard

“The laboratory mouse is unquestionably the most widely used and completely understood animal available to biomedical scientists today for testing and teaching purposes.” – Canadian Council on Animal Care

In fact, the lab mouse is so heavily used that in 2006, approximately 410,000 were used in Ontario alone, and 1,000,000 within Canada. These lab mice commonly express a variety of behaviour that could be considered “abnormal” such as repetitive bar-mouthing or repetitive digging.

A particularly peculiar behaviour is ‘barbering’, wherein a mouse develops a habit of chewing the fur of its cage-mates, often in distinct patterns – and sometimes its own fur. Barbering also happens to looks very similar to a disorder in humans called trichotillomania, which involves the pulling out of one’s own hair. It affects women more than men, and is the world’s second oldest described disorder.

Dr. Joseph Garner, Assistant Professor of Animal Behaviour and Well Being at Purdue University, began studying this bizarre behaviour after a genetics researcher asked him “Do you have any idea why my mice have mohawks?” That was seven years ago, and Garner had no idea at the time, but has been trying to find out ever since! He told us about his research in the Animal Behaviour and Welfare Seminar Series.

Garner uses psychiatric approaches to study abnormal behaviour in animals. He’s been comparing the similarities between trichotillomania and barbering – both as a means of modeling human mental disorder, and in hopes of understanding what the disorder says about mouse well-being.

So far, Garner’s group has found that barbering is quite similar to trichotillomania. Trichotillomania affects more females than males – so does barbering – and estrogen seems to play a role in both. Trichotillomania tends to begin during puberty, and in the presence of social stress. Barbering shows a similar pattern, with those animals closer to human activity being more likely to develop barbering, presumably because these mice are more stressed.

This work shows that barbering in mice may very well be a good model for the study of trichotillomania in humans, and provides a starting point for potential management of the problem in mice. Future work by Garner’s group will be focussed on identifying exactly what causes the behaviour to develop, and studying preventative interventions for humans and animals.
Almost all hens kept by farmers for egg production in North America are raised in cages (called “battery” cages), sparking a huge debate about the animals’ welfare. These cages aren’t big enough to let the hens engage in some natural practices, such as perching, nesting, wing-flapping and dust-bathing to keep their feathers fluffy and less oily (fluffiness helps the birds retain heat). Cage opponents say high-density, high-production cooped-up chickens end up with osteoporosis and other maladies.

But many farmers think the cages are efficient. Cages keep manure in one spot (it drops through the cage bottoms and is taken away by a conveyor) and eggs in another, as they roll forward on the slanted cages’ floor for collection. Overall, that means chickens and eggs are cleaner, so the chance of disease affecting the birds is reduced, and there’s less bacteria being passed from birds to humans.

However, some nations have decided cages are inhumane, and have to go. For example, in 1999 the European Union proclaimed it would banish cages by 2012.

That’s huge. Some European countries decided not to wait, and already instituted a ban. Swiss, Swedish and Finnish now live in other types of group housing, such as larger cages, and aviaries.

You can only wonder if the writing’s on the wall for North America. Will farmers here be forced by law to make their hens happier? And are we pretty sure they’re not so happy now?

Difficult questions like this helped propel a highly informative presentation last week at the University of Guelph by renowned animal scientist Dr. Joy Mench of the University of California, Davis. Mench was this year’s speaker for the F.W. Presant Memorial Lecture, an event supported by the Ontario Agricultural College Alumni Foundation and the University’s Campbell Center for the Study of Animal Welfare.

Mench is not an extremist, but she’s not a battery cage fan, either. Rather, she likes what’s called furnished cages, those in which the chickens have more room and amenities, such as a nest box. In her presentation, she discussed a gamut of housing options including conventional battery cages, free-run housing (where chickens are relegated to structures but allowed to move about on the floor), and free-range environments, which gives the birds routine access to an open-air farmyard or pasture.

To an extent, all these options are possible. Farmers know how to raise animals in a variety of ways, or can learn.

But all production practices come with a price. Farmers who raise chickens that lay eggs keep the birds in battery cages because it’s a least-expensive option, and it’s easier to stave off or contain disease. In fact, disease prevention and dirty eggs are what compelled farmers to get their chickens off damp floors and straw in the first place, back in the 1950s when battery cages started gaining popularity.

To me, farmers have given us just what we’ve asked for – a way to produce reasonably priced eggs that are safe and nutritious. But if we decide through consensus that’s not what we want, we need to tell them. Then, they can figure out other ways to raise their animals, and tell us how much it will cost.

Whether or not battery cages are banished in North America remains to be seen. But it’s not hard to envision a scenario where animal welfare practices are used by importing countries as a barrier or a condition. If your practices are deemed inhumane, forget about exporting there.

In that case, North America may be forced to make massive changes. And if that’s a likelihood, isn’t this the time to start an open dialogue involving farmers, researchers, consumers and governments about what’s wanted, needed, affordable and safe?

I think so. We can already agree on certain things, like the fact that there’s no price that can be put on inhumane practices. They’re simply unacceptable, at any price. We can also agree that carefully measured decisions are more likely when your back isn’t against the wall, like it is for some farmers in Europe.

To avoid that situation, let’s keep supporting animal welfare and production research, present study results and issues at rural and urban forums such as the one hosted at the university, and try to reach accord. When it comes to raising eggs and chickens – as well as many other aspects of farming – it’s time to talk.

This article was originally published in The Guelph Mercury.
Dr. Temple Grandin Brings Down the House!

There was not a free seat to be had - the audience was hushed and captivated – as Dr. Temple Grandin, Professor at Colorado State University and world renown expert on the humane handling of livestock, delivered a talk on “Decision making during transport, sale and slaughter - The Role of Animal Welfare and the Veterinarian.”

This topic is increasingly drawing attention due to implications for food safety and animal welfare. Veterinarians play a key role in this area and must often make tough decisions regarding animal fitness for transport, sale or slaughter.

Grandin’s talk resulted in a better understanding of how improved welfare can be achieved, and prompted open and frank discussion on behaviour that is indicative of pain and distress, as well as options for humane handling.

Dr. Temple Grandin’s talk was hosted by the Campbell Centre for the Study of Animal Welfare and the Ontario Ministry of Agriculture, Food and Rural Affairs, and sponsored in part by the Putting Animal Welfare on the Agenda Project: www.livestockwelfare.com

Miss the talk? Like to see it? Visit our website to see the video! www.uoguelph.ca/csaw

Where are they now?

Kristopher Chandroo, MSc., DVM

Graduate’s interest in fish welfare continues...

Kristopher Chandroo attained his masters degree in 2000 under the guidance of Professor Richard Moccia, and Dr.’s Ian Duncan, John Leatherland, and R.S. McKinley. His thesis entitled “Assessing the Welfare Status of Rainbow Trout with Electromyogram Telemetry” was focused on determining the use of radio signals derived from muscle activity to assess the behaviour of fish in aquacultural environments. The flexible and creative environment provided by Chandroo’s graduate committee allowed him to further expand the work, sparking new questions and insights into the ability for conscious cognition and pain perception in fish.

After graduation, Kristopher was contracted by the Aquaculture Centre at the University of Guelph, where he continued to develop his work examining the evolution of conscious traits in early vertebrates, with application to the question of pain perception in fish. In 2001, Kristopher entered the Doctor of Veterinary Medicine Program at the University of Guelph. As a veterinary student, he designed and organized an original study examining fish cognition, and published several works on consciousness, cognition, and pain perception in fish.

In 2002, Kristopher received the Humane Society of the United States student travel award, and he was able to present and discuss his pain research at the ISAE International Congress in the Netherlands. During the DVM program, Kristopher pursued freelance animal welfare assessment contracts, and was able to speak at several conferences across Canada. He was also fortunate to train and run competitively for the University of Guelph Gryphon cross country varsity team.

After graduating from the DVM program in 2005, Kristopher relocated to Vancouver Island, and established a new veterinary practise. Just recently, Kristopher has re-located to Ottawa, where he is pursuing additional veterinary and research collaborations, and is involved in the launch of several studio and art projects. He continues to publish work related to the welfare of fish species.
Teeth – we tend to take them for granted; It seems they’ve always been there, ready to chew when we are. But humans – like most mammals – transition onto solid food slowly, ingesting only what we can adequately chew as our teeth begin emerging. However, for commercial piglets this isn’t the case; for them, the transition to solid food is abrupt and occurs sooner than if they were allowed to choose. Which begs the question: Do piglets even have teeth by the time we expect them to chew their food?

In the North American swine industry, piglets are weaned from their mothers between 17-21 days of age. At this time they must begin consuming solid feed (a specially formulated crumbled dry pellet) exclusively. Piglets often experience difficulty transitioning onto this solid food, eating less than they should for optimum growth and health. Failure to consume food sufficiently during this critical period can exacerbate other stressors, leading to weight loss and health problems. Although the swine industry has grown with leaps and bounds with regards to genetic potential for growth, improvements in diet formulation, and better feeding systems – little consideration has been given to the ‘hardware’ required to consume that feed (i.e. teeth).

The majority of information regarding commercial pig teeth was gathered during the 1970’s, prior to many of the genetic advancements seen in today’s swine industry. This study is part of my PhD work with supervisor Dr. Tina Widowski, and is the very first to study the modern pig in terms of dental development. Like most mammals, pigs have both a deciduous (baby) and permanent set of teeth, and just like humans, they have a prolonged period where these two sets of teeth are mixed. A pig’s deciduous dentition is complete with 28 teeth and is erupted by about 6 months of age. Their permanent set is the most complete of all mammals (44 teeth) and isn’t fully erupted until 2 years of age.

In a preliminary study I looked at normal dental eruption in Yorkshire piglets at ages 0, 1, 2, 3, and 4 weeks of age and found, surprisingly, that the modern piglet has molars erupting much later than previously reported. Molars are the teeth used for the grinding and crushing of feed, making investigations into dental development an important area of study, particularly with regards to feed intake.

My most recent project looked at how molar eruption influences the onset of feed ingestion and feeding behaviour in piglets under 28 days of age. Results indicate large variations in eruption time for all molars. With regards to feeding, I found that piglets 14 days of age and younger who do have molars erupting are not spending as much time at the creep feeder compared to those piglets without molars. However, when piglets reach 21 days of age and have molars in opposing jaws touching (in occlusion), they are spending more time at the feeder than piglets without occlusion. No relationship was found between feed ingestion and molar eruption. These were very interesting findings and suggest that the oral stimulation of molars erupting may cause an aversion to feed in the younger piglet, while molar-molar contact in the 21-day old piglet appears to attract them to solid feed. The fact that feed ingestion was not influenced by molar eruption suggests that there may be a more central motivational or psychological shift occurring in piglets with regards to the shift to solid feed intake. The next step in my research will be examining the role dentition plays in the immediate post-weaning period. It is surprising to think of how much time and money have been spent on researching the digestive system of piglets for the development of highly digestible feeds when we really haven’t taken a good look inside the piglets’ mouth. This is really an exciting and novel area of research and I hope it broadens our view of how many aspects need to be considered when studying feed intake in the young pig.

**Mona Campbell (1919-2008)**

Readers of this Newsletter will be greatly saddened to hear of the death of Mona Campbell. Mona was a very generous supporter of CCSAW, which was named in memory of her late husband, Col. Kenneth Campbell. Mona’s summers were spent on her farm in Puslinch and her winters in South Carolina. During many pleasant visits to her farm, I would be grilled about what was going on in the field of animal welfare. Mona would have newspaper cuttings from the past few weeks about animal cruelty cases, about changes to the law, about new husbandry techniques, and all of these would have to be discussed and analysed. The same sharp intellect that had made her such a successful business woman, was brought to bear on animal welfare matters. No visit to the farm was complete without a visit to her horses, which she adored, and her small herd of Red Poll cattle of which she was extremely proud. On these tours, we would always be accompanied by her beloved Black Labs. Mona was a lovely lady who was truly passionate about the welfare of all animals. She will be sorely missed. - Ian Duncan, Professor Emeritus, Chair in Animal Welfare, Department of Animal and Poultry Science

Ian Duncan first took me to meet Mona Campbell not long after I arrived at UofG as the OVC Dean. My daughter and I became good friends with Mona over the past few years. Mona had such a love for dance and music and fine dining – whether it be at the Envers near her home or going to see ‘My One and Only’ in Stratford last summer. She was always very encouraging to me and fully understood the challenges of leading organizations and moving initiatives forward. I miss her can-do attitude and her willingness to take on the world to improve the welfare of animals. – Elizabeth Stone, Dean, Ontario Veterinary College

**Open Wide! A closer look inside the pig’s mouth**

By Anita Tucker

To learn about how you can support the centre or to join our e-mail list, go to: www.uoguelph.ca/csaw or write to:

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