

What your mother always told you

Chewing gum stays in your stomach for seven years. Cold weather makes you sick. You should never wake a sleepwalker. A dog's mouth is cleaner than a human's.

These and other commonly held beliefs go under the microscope in *Don't Swallow Your Gum! Myths, Half-Truths, and Outright Lies About Your Body and Health*, a new book by physicians Aaron Carroll and Rachel Vreeman, both professors of pediatrics at the Indiana University School of Medicine in Indianapolis.

Carroll, who is also director of the IU Center for Health Policy and Professionalism Research, and Vreeman have co-authored two studies on medical myths published in the *British Medical Journal*. "We were shocked at how many people had strong reactions to the beliefs we debunked in the BMJ studies," says Vreeman. "These myths may be things people have heard since childhood. Some people have a hard time letting these beliefs go."

Don't Swallow Your Gum! Myths, Half-Truths, and Outright Lies About Your Body and Health is published by St. Martin's Press and is available online (www.dontswallowyourgum.com). Here are a few debunked myths that may surprise you:

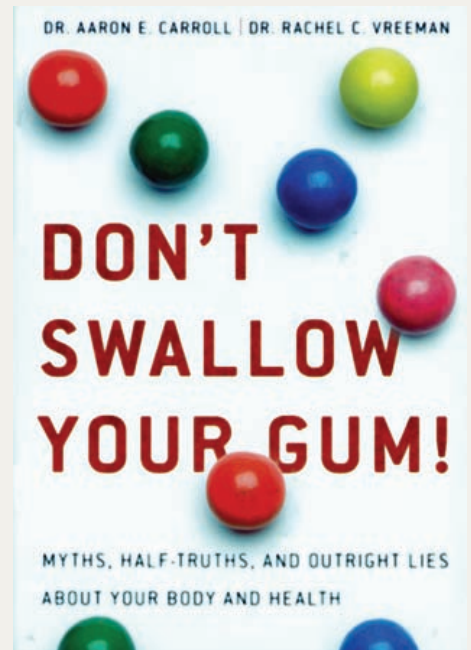
You should drink at least eight glasses of water a day. There is no medical reason or scientific proof for this directive. "In fact, scientific studies suggest that you already get enough liquid from what you're drinking and eating on a daily basis."

If you shave your hair it will grow

back faster, darker, and thicker. "There are great scientific studies that prove the hair you shave off does not grow back any darker or thicker than it ever was. As early as 1928, a clinical trial demonstrated that shaving had no effect on hair growth. ... An optical illusion is to blame. When you slice off the hair with a razor, it leaves a sharp end. Because these shaved hairs lack the tapered look of unshaven hair, it appears that the hair itself is thicker."

Food dropped on the floor is safe to be picked up again if it's there less than five seconds. "Bacteria that can make you sick can survive on the floor or other surfaces for a long time, and they can contaminate other foods that touch them for only a few seconds." For example, food scientists have found that when a piece of bologna hits a tile floor, more than 99 percent of the bacterial cells transferred from the tile to the sandwich meat after just five seconds.

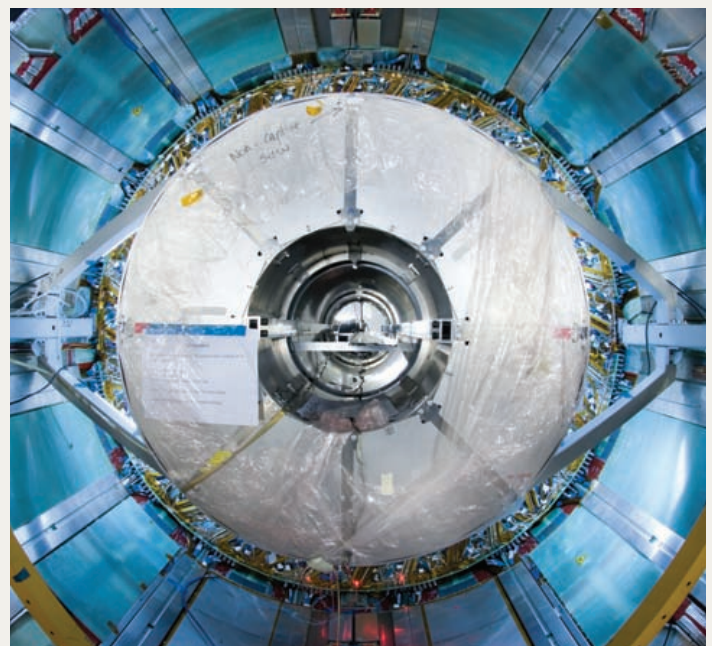
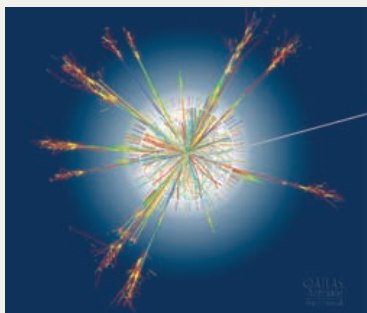
You lose most of your body heat through your head. "If this was true, we could walk around in the cold in just a hat and no pants. ... This myth likely originated with a military study from 50 years ago when scientists put subjects in arctic survival suits (but no hats) and measured their heat loss in extremely cold temperatures. Since the only part of their bodies that was exposed to the cold were their heads, that's the part from which they lost the most heat. ... A more recent study from the army research environ-



mental lab confirms that there is nothing special about the head and heat loss—any part of the body that is left uncovered loses heat."

Eat your spinach to grow strong like Popeye. "In 1870, Dr. E. von Wolf ... accidentally reported that the iron content of spinach was 10 times higher than the real amount. It was probably because of these mistaken findings that Popeye's miracle food in the 1930s was spinach. ... Yes, for a vegetable, spinach is a relatively good source of iron. ... However, the body has harder time using non-heme iron, the type of iron found in spinach. ... Spinach is a great vegetable; it just doesn't deserve any extra credit for its iron content."

More than a dozen scientists in the Indiana University Bloomington Experimental High Energy Physics program are working on the ATLAS experiment taking place at CERN, the world's leading laboratory for particle physics with headquarters in Geneva. IUB's High Energy group has had a leading role in building the Transition Radiation Tracker for the ATLAS detector, which will begin collecting data after the Large Hadron Collider at CERN starts colliding beams this fall. Scientists around the world believe new discoveries about the fundamental nature of matter may result from experiments at the LHC. [FAR RIGHT] The completed TRT barrel is ready for cosmic tests in its final position in the ATLAS detector. [LOWER RIGHT] In this simulation of a black hole in the ATLAS detector, the tracks would be produced if a miniature black hole was created in a proton-proton collision.



Photos courtesy The ATLAS Experiment at CERN, <http://www.atlas.cern>



What kind of owner are you?

From Michael Vick to the cat lady next door, people differ widely in their behavior toward the pets they own. But why?

Indiana University South Bend assistant professor and cultural sociologist David Blouin conducted in-depth interviews with Midwestern dog owners to find out. In research presented at the American Sociological Association meeting in August, Blouin says he wanted to “make sense of the variations in how dog owners socially construct, relate to, interact with, and treat their animals.

“Numerous cultural scripts for understanding and relating to animals are acted out between people and their dogs every day,” he writes in his study. “And each is sociologically interesting because of what it has to say about how people live and interact with animals as well as the relationship between culture, attitudes, and action.”

Blouin classifies owner-behavior into three types — humanist, dominionist, and protectionist. Humanist owners think of their dogs as their children, sometimes dressing them in miniature clothing and accessories. They cherish their pets (but usually their own pets only) for the entertainment and affection the animals provide. “They’re our kids, and I treat them like family, protect them like family. Everything I do that I would do for a child, I would do for them,” says one dog owner interviewed by Blouin.

Dominionists, on the other hand, have little attachment to their animals. Instead, they view them in terms of the uses the pets serve, such as hunting or protection. “When I was growing up on a farm, animals were utilitarian,” the owner of two farm dogs told Blouin. “They have a use, you know, you eat cows, you ride horses. So animals or dogs have their place, and that’s how I relate to them.”

Protectionists form intense emotional bonds with their pets, whom they consider “best friends.” In the protectionist orientation, animals are not surrogate persons, however, but have an inherent status and value all their own. Passionate adopters and rescuers of animals, protectionists think of themselves as their pets’ stewards, not parents.

Blouin argues that our orientations toward dogs, and other pets, are determined by multiple factors, from family structure to cultural norms. Personal experiences with animals, particularly during childhood, affect how we relate to our future pets. So do demographic characteristics such as race, class, gender, and whether there are human children in the house. “The presence of young children diminishes the status of dogs,” says Blouin.

Broader cultural influences also distinctly affect how we treat our pets. The dominionist orientation is connected to the Judeo-Christian point of view, which invokes human dominion over nature. Humanist orientations relate to a sentimental view of pets that has roots in the late 18th and early 19th centuries, when the rise of reason and scientific views made nature seem less threatening. Protectionist points of view are rooted in the modern animal rights movement that began in England and the United States in the late 1800s.

While Blouin recognizes that animal owners do not fall neatly into one or the other group, he argues that it’s important to examine how our treatment of animals is part of culture and changes over time. “People don’t usually make this stuff up themselves,” Blouin says. “They learn how animals should be treated.”

Birds of a feather flock together ... or not

What can bird brains tell us about being social?

A lot, according to neurobiologists at Indiana University Bloomington who study social behavior systems in the brain.

In a recent report published in the journal *Science*, lead author James Goodson and colleagues showed that if the actions of the neurochemical mesotocin are blocked in the brains of zebra finches, a highly social songbird, the birds shift their social preferences. They spend significantly less time with familiar individuals and more time with unfamiliar individuals. The birds also spend less time with a large

group of same-sex birds and more time with a smaller group. But, if the birds are administered mesotocin instead of the blocker, the finches become more social and prefer familiar partners.

Perhaps most striking is the fact that none of the treatments affect males — only females. According to Goodson, who joined the College of Arts and Sciences’ Department of Biology in 2007, sex differences in birds provide important clues to the evolutionary history of oxytocin functions in humans and other mammals.

“Oxytocin is an evolutionary descendant of mesotocin and has long been associated with female reproductive functions such as pair bonding with males, giving birth, providing maternal care, and ejecting milk for infants,” says Goodson.

Goodson speculates that oxytocin-like neuropeptides have played special roles in female affiliation ever since the peptides first evolved. That was sometime around 450 million years ago.

But if all vertebrates possess similar neuropeptide circuits, why don’t they all live in big flocks or herds? The second part of the *Science* study provided a possible answer to that question. The authors speculated that the behavioral actions of mesotocin may differ across species depending on the distribution of “receptors” for



Photo by Graeme S. Chapman

CONTINUED FROM PAGE 3

the chemical in the brain — that is, places where mesotocin can attach to brain cells and alter their activity.

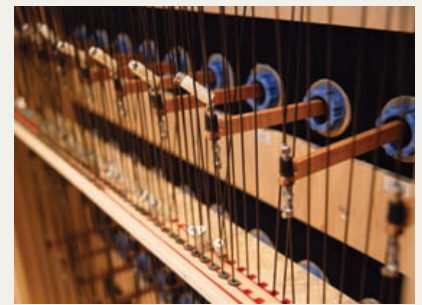
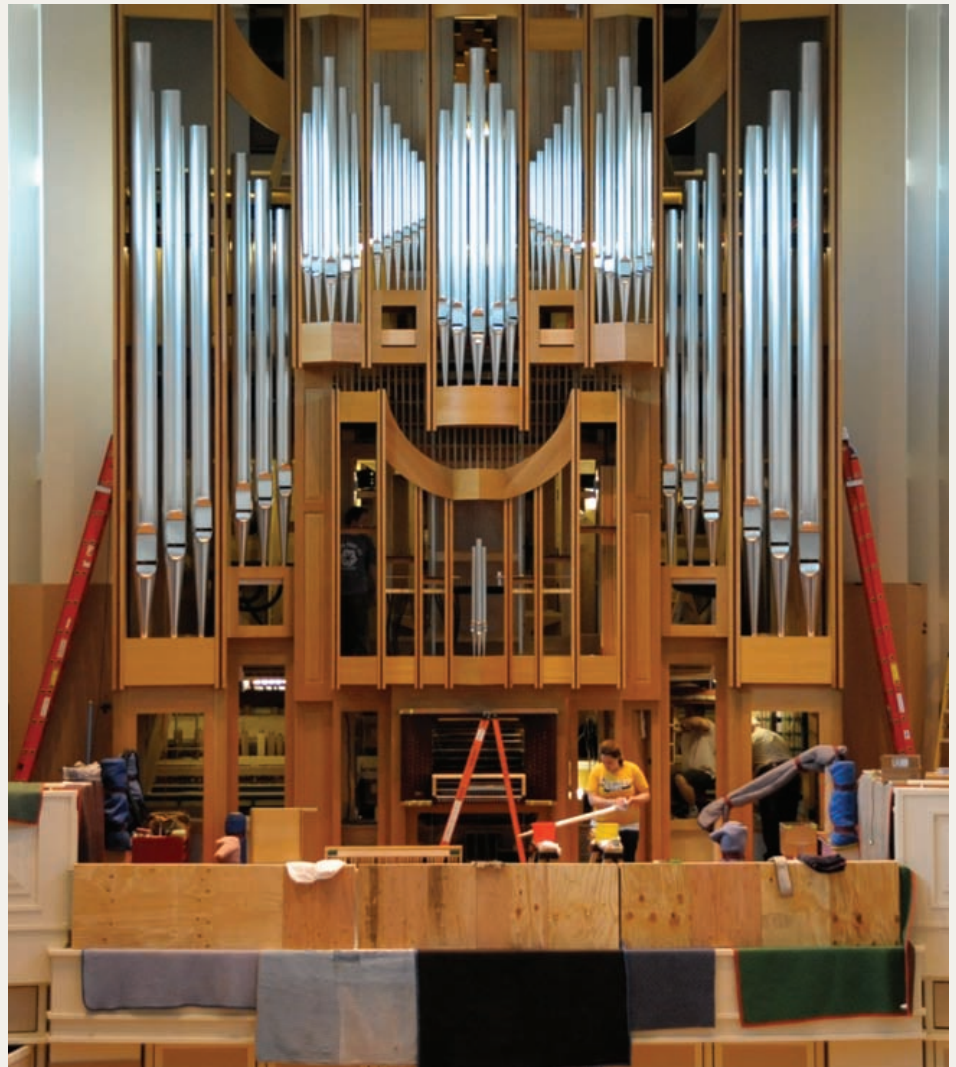
Using a radioactive compound that attaches to oxytocin-like receptors, the researchers mapped the distribution of receptors in three finch species that form flocks and two species that are territorial and highly aggressive. What they found was that the flocking species had many more receptors in a part of the brain known as the lateral septum. And when those receptors were blocked in female zebra finches, the birds became less social.

According to Goodson, these findings suggest that it is actually the concentration and location of receptors that determine whether an individual prefers spending time in large groups. If Goodson's discovery holds true for other birds and even mammals, the concentration of receptors for mesotocin (and oxytocin) in the lateral septum could accurately predict whether an individual is naturally gregarious.

"The lateral septum is structurally very similar in reptiles, birds, and mammals," Goodson says. "To our knowledge, it plays an important role in the social and reproductive behaviors of all land vertebrates.

"We still don't understand why mesotocin and oxytocin are so potent in females, but not always in males," Goodson continues. "And we also don't fully understand how the lateral septum functions to influence sociality." But he is convinced that his group's ongoing studies of songbirds will soon provide the answers.

Postdoctoral fellow David Kabelik, research associate Sara Schrock, and Ph.D. student James Klatt also contributed to the research, which was funded with a grant from the National Institutes of Health.



Photos courtesy of the IU Jacobs School of Music

[TOP] Workers install the Opus 135 organ in Auer Concert Hall at the IU Jacobs School of Music. [BOTTOM LEFT] Installation of one of the organ's keyboards. [BOTTOM RIGHT] Detail of the organ's Kowalshyn Servo-pneumatic Lever, which provides a pneumatic assist to the keyboard when using multiple sets of pipes.

A magnum opus

In June 2009, the Opus 135 organ, made by C.B. Fisk Inc., of Gloucester, Mass., arrived on the Indiana University Bloomington campus to be installed at the Jacobs School of Music. Organ students and faculty from the Jacobs School along with employees of C.B. Fisk spent two days moving parts of the 3,945-pipe organ into Auer Concert Hall.

Assembly and tuning of the organ's various pieces will likely continue until the debut of the organ in fall 2010. Named after donors Maidee H. and Jackson A. Seward, the organ's debut performance will mark 100 years since the Indiana University Department of Music was first established. The organ has been a long time coming. Installation of an organ in Auer Hall began in the early 1990s, but the project stalled. The Jacobs School contracted with C.B. Fisk in 2007 to complete the organ.

Mr. and Mrs.

We may be in the 21st century, where gender-neutral language is widely accepted, but one form of gender-specific language remains firmly entrenched — a woman’s adoption of a man’s surname when they marry.

Despite the gains women have made since the 1970s in the workplace and other areas of American society, 71 percent of respondents in a recent national survey agreed it is better for women to change their names upon marriage, with only 29 percent disagreeing (just 11 percent strongly disagreed). Surprisingly, respondents split fairly evenly in their support of government regulation requiring a name change. Researchers from Indiana University and University of Utah say these findings come despite American society’s clear shift to more gender-neutral language.

The survey tapped 815 people and asked both multiple choice and open-ended questions. It was part of a larger survey probing

public opinion on a range of gender- and family-related topics. Laura Hamilton, a doctoral student in the Department of Sociology, College of Arts and Sciences, IU Bloomington, presented findings from the study “Mapping Gender Ideology with Views toward Marital Name Change” at the American Sociological Association annual meeting in August.

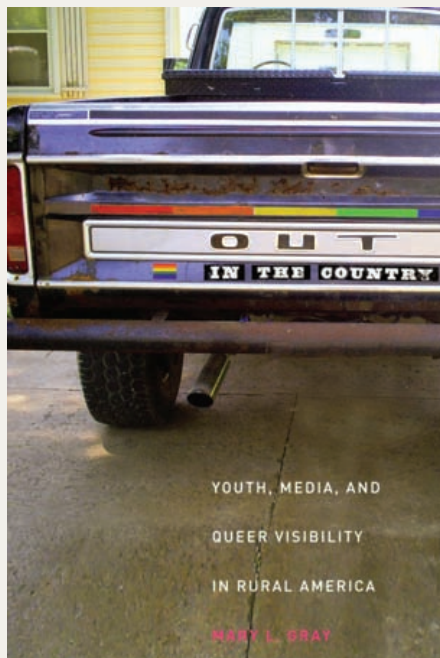
“The figures were a bit sobering for us because there seems to be change in so many [other] areas. If names are a core aspect of our identity, this is important,” says Brian Powell, professor of sociology at IU Bloomington and one of the study’s co-authors. “There are all these reports and indicators that families are changing, that men are contributing more, that we’re moving toward a more equal family, yet there’s no indication that we’re seeing a similar move to equality when it comes to names.”

Almost half the people surveyed said it

would be “OK” for a man to change his name to that of his wife, but male name change seemed so implausible to respondents that they off-handedly agreed it would be OK. For example, Powell says, one man laughed as he responded: “Sure, why not. Hey, in America, anything goes!” Others said it was OK because “a man should be able to do it because he’s a man.”

Advocates of women changing their names emphasize family and marital identity for women, indicating that a single family name makes more sense from a societal point of view. They invoke religion and tradition as authoritative reasons for women to change their names.

Name-change critics focus on the importance of women preserving independent identities and the ways they benefit by keeping their own name. They also think the choice should be left up to women.



Out in the country

“THE RURAL UNITED STATES OPERATES AS AMERICA’S PERENNIAL, TACITLY TAKEN-FOR-GRANTED CLOSET.”

That’s one of Mary Gray’s observations of small-town America in her new book, *Out in the Country: Youth, Media, and Queer Visibility in Rural America* (NYU Press, 2009). A former queer-youth activist born in California’s agrarian Central Valley, Gray is now an assistant professor in the Department of Communication and Culture, College of Arts and Sciences, at Indiana University Bloomington, where she studies the relationship between uses of media and queer social action. She spent 19 months traveling more than 40,000 miles along the backroads of rural Kentucky to gather information for her book, which is the first ethnographic study to focus specifically on queer rural life in the United States. Gray says she gathered her information through informal conversations, extensive interviews, and “tagging along to see what I might see out in the country.”

What she saw were young people figuring out how to lay claim to lesbian, gay, bisexual, and transsexual identities in places where “the operative assumption is that one has never met a stranger.” While gay visibility in the media has exploded over the last decade, those depictions are largely cosmopolitan and city-based. Even LGBT organizers and movements share the bias that big cities are the only place to effect change.

“Many of the youth I met struggled with reconciling the deep connection or pride they feel for their hometowns with the popular representation of their communities as backward, ignorant, and unlivable,” Gray said in a September online interview about her book in *WireTap Magazine* (wiretapmag.com). “They feel they’re not supposed to see their communities as viable options and are being told they need to choose between being queerly out of place in the country and moving to a big city to find legitimate visibility.”

Gay youth in rural America find it particularly difficult to recognize themselves in the “metro-centric” popular culture seen on TV and in movies. Instead, Gray found, they turn to peers, local resources (such as their schools), and, especially, the Internet to help them come to terms with their sexual identity and a rural lifestyle, using new media to find people like them.

“They were looking for representations that talked about living out in the country,” Gray says. “It validated the possibility of living in a rural community. There are quite literally youth who would show these coming-out stories to their family and friends, saying ‘There are kids like me living in places like this.’”

Although Gray conducted her research between 2001 and 2004, before the rapid growth of social media, she is using new media to construct “part 2” of her work. In July, she started the blog *Queer Country* (<http://queercountry.fromthesquare.org>) “to create a space for rural queer and questioning youth to share their stories with each other and those who value their take on life out in the country.”