

Virtual Ink

REMEMBER WHEN THE INTERNET WAS STRANGE? Using a credit card online was a scary prospect, your computer squealed when you dialed for access, and that dancing baby was about the most interesting thing to look at. That was around the same time we started to take a hard look at *LSA Magazine* and began a cover-to-cover transformation to make it more interesting and more readable.

This year, we started to take a similar no-nonsense look at the College of LSA website, thinking about how it might benefit from the same kind of soup-to-nuts overhaul we'd first given the magazine in the early 2000s (and twice more in the twelve years since). To that end, we've changed the College's homepage to create a digital platform that complements the magazine, to better share our stories and appeal to our evolving readers who want content delivered in multiple formats.

Each week, we'll be updating the site, now called LSA Today, with a variety of pieces grounded in the ways our faculty, students, and alumni are improving not just campus but the world. We're doing more than slapping magazine-length text onto the Internet, though. We're telling stories beyond the written word: creating videos of faculty mini-lectures, recording students talking about life on campus, and assembling photo slideshows of our storied past, for example. Each piece encourages comments so you don't have to write a letter to the editor every time you want to contribute your own thoughts and remembrances.

You can expect to find a familiar structure for all this. We've modeled our content after *LSA Magazine*, employing the same language — Campus, Spin the Cube, the Michigan Difference — for categorizing our stories. It's basically our magazine with a search box.

If you take a tour of LSA Today, you'll find that there are always three timely features at the top of the homepage, below which are all of our interactive stories. Worried you'll miss something interesting? No problem. Subscribe via our RSS feed, or give us your email address, and we'll send you a wrap-up of our best stories four times each year.

The Michigan Difference and the liberal arts are everywhere, every day. Check out what we mean at **WWW.LSA.UMICH.EDU**. And we promise, no dancing babies.



SPRING 2012

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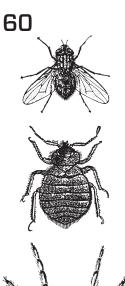
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Twenty-Two Ways to Think About Food

when two professors collaborate on a single research topic, the output and quality of their scholarship often increases. Similar collaborations happen in the classroom, through interdisciplinary teamtaught courses. But imagine what might happen if 22 professors came together to teach collaboratively on a single topic. That is precisely what occurred this past semester when LSA Associate Dean of Undergraduate Education and Professor of History and American Culture Phil Deloria invited 22 of the College's best professors to examine the topic of food from 22 different disciplinary perspectives.

Each week, a new professor stood in front of a class of 70 sophomores, discussing a new food theme and offering students a new lens through which to view it.

The class investigated a wealth of subjects including industrial food processes, the ethics of meat consumption, the physics of cooking, cannibalism, the economics of dairy production, food on television and in film, food and social inequality, and many more.

One of the course's missions was to offer sophomores a quick picture of the different disciplines in the College of Literature, Science, and the Arts. Another was to build critical thinking skills across

the broadest possible range — putting math, biology, and neuropsychology in dialogue with political economy, anthropology, and humanities disciplines such as comparative literature and art history.

Twenty-Two Ways to Look at Food offered a clear picture of the power of a broad liberal arts education. "What I realized over the course of the semester," Dean Deloria recounted, "was that when we say 'critical thinking skills' we are talking about specific ways of thinking. Some of my colleagues built models and plugged in data. Others sought out patterns, or created categories for ordering information. Some forged knowledge by counting things. Others focused closely on specific instances and sought to generalize; still others started at the level of the theoretical and looked for case studies." The course made these differences visible, Deloria continued, but as the semester progressed, students began to see commonalities across the disciplines. "By the end of the course, we were able to identify the elements that quite literally allow one to think systematically about problems and their solutions. The students experienced a big toolkit of different approaches. When you add them together? You get the liberal arts and sciences."

The class is geared for sophomores, who are in the process of choosing a course of study from the more than 110 majors and degree programs and 87 minors in the College. At this point in their academic careers, sophomores begin looking toward graduation and the world beyond. The next few years of their academic lives — not to mention the post-graduation future — can weigh heavily. Twenty-Two Ways gives students a sampling of the disciplines they may wish to explore in putting together their plan for a rich liberal arts experience that will be the foundation for their future success.

Terrence J. McDonald

Arthur F. Thurnau Professor, Professor of History, and Dean



INSIDE LSA



PHOTO (Right) Philip T. Dattilo

*entry*points

MORE CONTENT ONLINE.

Visit LSA Today for weekly web exclusives plus in-depth magazine-related content.

www.lsa.umich.edu



Wherever this symbol appears in the magazine, you can find expanded content on the LSA Today website.



MOBY-DUCK

Alumnus Donovan Hohn embarked on a quest of literary proportions by uncovering what really happened to 28,800 rubber bath toys lost at sea.



NOW YOU'RE TALKING

Beyond mama and dada: LSA Linguistics Professor Carmel O'Shannessy offers five ways to help kids learn new words.



BRINGING CROPS TO CAMPUS

Our freshly picked video shows the inaugural MFarmers' Market (p. 37) trucking a fall harvest to students' tables.



ROAD TRIP

Two alumni in an RV log 24,000 miles in 400 days to attend a sporting event in each of the 48 contiguous states.



Read past issues of LSA Magazine: www.lsa.umich.edu/ alumni/magazine



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yourwords

Improbable Issue

The cover illustration gave me quite a chuckle. It could be reinterpreted to conclude that by winning the \$30 million, buying a lifetime football ticket might be affordable. As a first-year student in 1965, a full season student ticket was \$12. Now, at \$70 per game general admission, \$30 million might not be that improbable.

Gary Marsh ('69)

Fact or Myth?

I found your facts ("Fact or Myth?") entertaining. When I graduated in 1970 the UGLi was called the UGLi for the obvious reason of being ugly. This was, of course, long before Harold Shapiro [was U-M's president]. Post renovation: still ugly.

Dave Scott ('70)

My teacher friends report that asking students "true

or false" questions (or "facts or myths") leads some students to recall false information as fact. So, for those of us who are true-false/fact-myth impaired, could you give it to us straight, just the facts? I've enjoyed LSA Magazine for years, and that's the truth!

Ann Risman Haendel ('57)

Editor's note: How about questions of "which is greater?" We have a new quiz this issue, but no true/false questions. Let us know how you like it (p. 60).

The Return of Rail?

I want to mention how much I enjoyed the article "The Return of Rail?" I have lived in California for

almost 10 years, the last four in San Francisco without a car. I manage to get to work and around town on my bicycle, the BART subway, streetcars, and buses. It's great to have so many alternatives to driving.

I think the Detroit area, although it is and always will be the Motor City, could greatly benefit from alternative transportation as long as it's done right and takes people to places where they want to go, like the airport and major neighborhoods and towns in and around downtown Detroit.

Keith Mieczkowski ('00)

To have mass transit you need not only "transit" but "mass" as well — i.e. people to ride it. Your article was strong on pushing the physical elements, but ignored the human part. Unless you have easy access to the rail line and want to go where it is going, the millions of dollars paid to the construction companies is wasted money.

Daniel Waldron ('51)

I just finished reading the "Improbable" issue. What a fabulous treat! So much there of so much interest! It'll be interesting to see if you can top this one.

Steve VanderVoort ('62, M.B.A. '65)



It's Cool if I Use This, Right?

I work in the Albion College Library and often have to talk to students and faculty about copyright issues. Your article was a good overview of the current state of copyright. Your diagram will be very helpful to explain [to patrons] about when to request permission.

Allie Moore (M.L.S. '88)

Stevens T. Mason

I think Fritz Swanson's portrait of Michigan's Boy Governor, Stevens T. Mason, would have been better served if he had dated Michigan statehood to 1835, as it appears on the Great Seal of the State of Michigan. By the time Washington got around to granting Michigan statehood (January 1837), Mason already was a veteran in the job. And he served as *ex officio* on the first U-M Board of Regents.

Don Faber, author of *The Toledo War: The First Michigan-Ohio Rivalry*

Editor's note: The date on the Seal reflects when Michigan voters approved a state constitution. While an important milestone, we went with January 1837, when Michigan was admitted to the Union. You're absolutely right that Mason had been in the job and serving the Michigan people long before Washington let us into its club.

Most popular letter-generating article:
"It's Cool if I Use This, Right?" by Mary Jean Babic

TALK TO US

We invite your feedback on LSA Magazine content or on topics related to the College. Letters for publication may be edited for style, length, and clarity.

Email: lsamagazine@ umich.edu

Or write to:

Editor LSA Magazine 500 S. State St. Suite 5000 Ann Arbor, MI 48109-1382

inshort



Oh people
came from
miles around /
Searching for
a steady job /
Welcome to the
Motor Town /
Boomin' like an
atom bomb

LYRICS FROM MAYER
HAWTHORNE'S ('02) SONG
"A LONG TIME." DEEMED AN
ODE TO DETROIT, THE SONG
WAS NAMED THE #3 SONG
OF 2011 BY TIME MAGAZINE.

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U-M's national ranking for admitting 5,995 international students in 2010-11, according to the Institute of International Education's Open Doors report.

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The number of LSA students receiving Fulbright grants for the 2011–12 academic year. With 29 grant recipients total, U-M tops the list of U.S. institutions for the fifth time in the past seven years.



No Butts About It

Teens who see movie characters using cigarettes are quicker to try smoking than their peers who did not watch the same scene, according to a new study led by **Sonya Dal Cin**, assistant professor of communication studies.

@EmilyJCarpenter

Got my first blue

book back and I

ally stepped on

passed! So I casu-

the M for the first

time with no fear!

#michigandiffer-

ence #goblue

@erinpage3

"I want you to find a job that will last longer than the @KimKardashian marriage" -U-M prof #michigan difference \$6,000

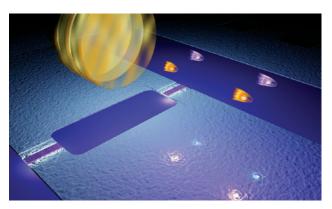
The cost to rent out the football field at the Big House for an hour-long wedding ceremony.



@Chris1Rock1

Coach Hoke is around campus sitting in our classes. #coachof theyear for many years to come

Follow the College of LSA on Twitter @UMichLSA



Let There Be Light

U-M physics researcher **Franco Nori** was part of a team recognized in *Physics World*'s list of top 10 breakthroughs of 2011. The physicists directly observed, for the first time, the long-predicted quantum mechanical phenomenon known as the dynamical Casimir effect—essentially squeezing light particles from the vacuum of space.

fundafundamentally
defines
what
it means
to be
human
and
governs
how
people act,
interact,
and
think.

MARLYSE BAPTISTA,

PROFESSOR OF AFRO-AMERICAN AND AFRICAN STUDIES AND PROFESSOR OF LINGUISTICS, WHO IS ALSO THE CO-DIRECTOR OF LSA'S WINTER 2012 THEME SEMESTER, LANGUAGE: THE HUMAN QUINTESSENCE.

voices. buzz. intel

14,698

The number of students using "clickers," or electronic voting devices, in 41 of LSA's classes during the 2011 fall semester, according to AnnArbor. com. The devices are used to promote inclass interaction.



Oh, You Shouldn't Have

A study by **Stephen Garcia** and **Norbert Schwarz** of the LSA Department of Psychology, along with Kimberlee Weaver of Virginia Tech, reveals that adding a less expensive gift to go along with a pricier present reduces the impact of the nicer gift. In other words, loved ones will appreciate an expensive present more if it's the only one they get.



Cherry Picking

Baylor University has named LSA chemistry professor **Brian Coppola** as the 2012 recipient of the Robert Foster Cherry Award for Great Teaching, the only national teaching award — with the single largest monetary reward of \$250,000 — presented by a college or university to an individual for exceptional teaching.



The Wheels on the Bus

Four diesel-electric hybrid buses were introduced to U-M's Ann Arbor campus in January. The 40-foot buses use a roof-mounted battery system to supplement their diesel engines, allowing for better fuel mileage and lower emissions. Officials expect an improvement of 30 percent over a conventional bus. Plans are in the works for additional buses to replace those that run on diesel fuel.



LOCATION, LOCATION, LOCATION

The origins of several stories in this issue and on LSA Today:

Chicago Cleveland Santa Monica Washington, D.C. New York City Detroit Mexico
Chile
Australia
Japan
Portugal
Thailand

LSA Magazine survey results

Turns out you love us, you really love us!

Percentage of respondents who want us to publish more often than our current twice-ayear schedule:

91%

Percentage of respondents who want to receive LSA Today email quarterly or more:

83%

Winners of our random drawing:

Alice Rhein ('84, M.S. '86) Tom Aronson ('01) Paul Berman ('59)



CRIME AND PUNISHMENT

The new Travel Channel series Hidden City examines how crimes and criminals from the past have shaped the cities where they took place. Among the crimes host Marcus Sakey ('96) has investigated: Harlem drug dealer Nicky Barnes, Atlanta's "Great Locomotive Chase," and The Boston Strangler.



Kalisha McLendon grew up in a single-parent home in Detroit, with a mom who aspired to send her daughter to U-M. Finances were strained, but with LSA scholarship support Kalisha became the first in her family to attend college. "I made my mom's dream come true as well as my own," she says.

Today, Kalisha is an LSA senior with plans to attend dental school after graduation. She wants to practice pediatric dentistry in Detroit or another urban area and hopes to make oral healthcare both

Give a gift today to help Kalisha and countless U-M students like her make the Michigan Difference.

Move forward. Give back.

EVERY GIFT MAKES A DIFFERENCE.



www.lsa.umich.edu/alumni/giveonline

THE FOOD ISSUE

WHAT WE PUT INTO OUR BODIES IS AN EVER-INCREASING SOURCE OF CONFUSION AND CONTROVERSY.

The first U.S. food guide, Food For Young Children, was published in 1916 by the U.S. Department of Agriculture (USDA), and devoted more than half of its pages to milk. In fact, it recommended a quart of milk a day for a child.

These days, government recommendations focus less on dairy and more on fruits and vegetables. In First Lady Michelle Obama's rehashed "food plate" (a take on the old food pyramid), dairy has a relatively small role—off to the side—and prescribes two cups of dairy

Dairy's reduced importance in a USDA-recommended diet showcases how information about food consumption evolves, and how it's critical that consumers

Within the last 10 years, for example, the National Dairy

Council (NDC), a dairy industry lobby group, funded questionable research that was used to promote claims questionable research trial was used to promote of of weight loss through dairy consumption. After a lawsuit, the NDC was forced to stop using slogans such

Today, consumers are clamoring for disclosure not just about how much to eat and drink, but about what's in

what we eat and drink: How many pesticides are on a nonwridt we eat and urink. How many pesticides are on a non-organic green pepper? What kinds of toxins are present in organic green pepper: vyrial kinds of Loxilis are preser groundwater? Is it dangerous to eat hormone-treated beef? Do labels really tell us what's in our food?

There are those who also question whether the entire food system is broken. One in six Americans faces hunger, while more than 33 percent of Americans race. nunger, writte more than 33 percent of American adults are obese. Meanwhile, nearly 30 percent of adults are obese. adults are obese. Meanwhile, nearly 30 percent of food produced in the United States is wasted, according to the United States is wasted.

IT'S A COMPLICATED FOOD WORLD OUT THERE. HAVE A SINGLE SERVING OF DAIRY OR MAYBE NOT - AND PROCEED CAUTIOUSLY.





THE RESERVED TO SERVED TO

LSA alumni who have played an integral part in the rise of farmers' markets across the country give us a firsthand look at where farmers' markets have been and the possibilities for what's next. Eating local might be the latest craze, but is there a tipping point at which it's no longer beneficial? These alumni discuss the distance from farm to fork.

by Colleen Newvine





REAL TIME FARMS HAS AN AMBITIOUS GOAL:

To map the country's entire food system so consumers can see where their meal originated and find food they feel good about eating.

"We want to create the consumer expectation that people can know where their food comes from," cofounder Karl Rosaen (U-M'03, M.E. '04) says.

The Ann Arbor startup sprang from a blend of personal and professional motives. Karl and Cara Rosaen ('03) grew up in Ann Arbor and aspired to get back home from Silicon Valley, so they began cooking up a plan that could help them relocate.

"I thought what would be the coolest thing I could do is a startup around something I really care about," says Karl, who read Michael Pollan's food manifesto *The Omnivore's Dilemma* and felt inspired to tie his tech skills with his new food passion.

Today, Real Time Farms includes map-based directories of farms, food artisans, restaurants, and farmers' markets, all aimed to help people see "food isn't just a commodity. We want to help people fall in love again with what they're eating," Cara says.

"For many people, farmers' markets are

where the desire for transparency starts," Karl says. "A farmer can passionately tell you why their tomatoes are different."

The U.S. Department of Agriculture's (USDA) National Directory of Farmers' Markets listed more than 7,000 farmers' markets in 2011, up 17 percent from 2010 and four times as many as when the USDA did its first count in 1994.

University of Michigan alumni including the Rosaens are helping fuel that dramatic growth, motivated by concerns ranging from the nation's obesity epidemic to the practices of large-scale industrialized farming, as well as the passion of foodies seeking better-tasting ingredients and the desire for a more personal shopping experience.

A MARKET BOOM

RUTH GOLDWAY ('65) HELPED PIONEER

the modern farmers' market expansion in the United States.

Goldway was a young mother in California in the 1970s when a huge jump in food prices sparked protests around the country, largely by housewives. Goldway was energized and got involved in political advocacy, quickly moving from the price of food to the quality of food, such as calling for better food labeling.

In spite of the abundance of fruits and vegetables grown in California, Goldway learned that regulations established during the Great Depression to protect farmers were preventing farmers from selling produce directly to consumers.

Goldway first pushed for Governor Jerry Brown's administration to pass legislation enabling farmers' markets in 1978, then she became mayor of Santa Monica in 1981 and helped start what has grown into the four-day-a-week Santa Monica Farmers' Markets.

"It became a community scene and a gourmet food scene," Goldway recalls. Chefs developed relationships with farmers, and other cities followed suit with similar markets. Young people who traveled abroad wanted more of the open-air markets and cafés they saw in Europe.

California Certified Farmers' Markets now includes more than 700 weekly markets.

"It wasn't rocket science to come to these



ideas. It was commonplace around the world for hundreds of years," Goldway says.

MICRO LEADS to MACRO

MARY HOLMES ('70) WASN'T INSPIRED BY EUROPEAN MARKETS

but by Ann Arbor's own farmers' market. When she moved to Cleveland in 1990, she was surprised to find it lacked a farmers' market, so she set about starting a nonprofit organization to establish one.

"I began to understand why it was so hard to find farmers," Holmes says, when she learned much of Ohio's farmland had been sold off for real estate development, and those farmers who remained primarily grew large-scale commercial row crops like corn and soybeans rather than direct-to-consumer produce. "I started reading and understanding what had happened to agriculture nationally."

Leading the North Union Farmers Market, Ohio's largest and most successful farmers' market, put Holmes on the path to developing a course she teaches at Case Western Reserve called Food, Farming, and Economic Prosperity. In that class, Holmes aims to get undergraduates interested in topics like the funding priorities of the federal farm bill and what it takes to raise enough food to feed the world's growing population.

She prompts her students to think critically about the American food system, asking them, "Are we really so lucky that we've gotten rid of all these farmers?" and discussing the industrialization of farming, including moving from laborintense processes to using machines that run on fossil fuels.

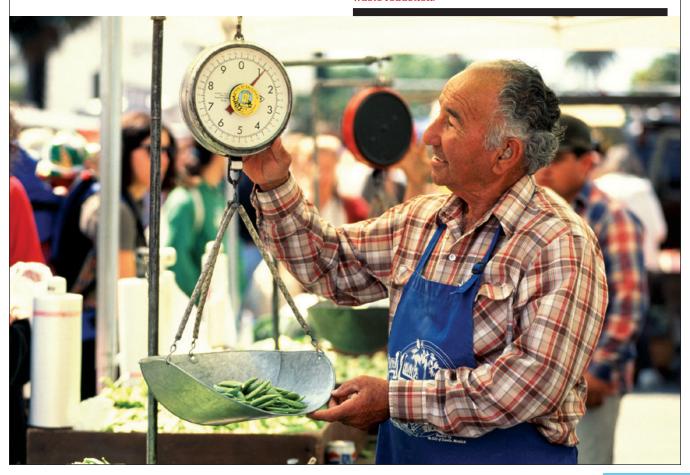
Holmes said she talks to students about the societal functions of food and shopping, as the experience of gathering and eating food connects people and that's part of what she thinks farmers' markets do better than commercial grocery stores.

"It's a very healing kind of environment," Holmes says.

Responding to local initiatives like those led by Holmes and Goldway, the U.S. Department of Agriculture created the Farmers' Market Promotion Program in 1976, and expanded it under the leadership of Dan Glickman ('66), U.S. Secretary of Agriculture from 1995 to 2001.

Glickman recalls that several people in the Department of Agriculture came to him and said farmers' markets were going to be big, asking what could they do to help.

Alumna Ruth Goldway helped launch the popular Santa Monica Farmers' Market, which opened in July 1981. Today, more than 9,000 people shop the market on Wednesdays, Saturdays, and Sundays, year-round, making this one of the nation's largest farmers' markets. Market-goers may also attend a variety of workshops with topics such as water conservation and waste reduction.





"Our role was to support and foster," Glickman says, noting that markets gave farmers an opportunity to sell their goods directly, keeping more of the money themselves while creating a direct relationship with consumers. "It's helpful that people who don't grow food connect to people who do. They'll recognize that food comes from the soil, raised by hardworking people."

Glickman thinks farmers' markets are part of a broader change in how people think about what they eat.

"More Americans are asking, 'Do we really want so much of our food to come from 1,500 miles away?" he says, adding that some farmers are asking the related question of why they should sell their product wholesale when they could keep a bigger share if they sell direct to local customers.

Glickman helped grow the Elder Farmers' Market Nutrition Program to feed low-income seniors and other groups with food from farmers' markets. Glickman says he's pleasantly surprised to see markets play a role helping low-income Americans eat better. From 2007 to 2010, redemption of food stamps (now known as the Supplemental Nutrition Assistance Program) at farmers' markets increased by 365 percent, according to the Farmers Market Coalition.

CHOICE AND MORE CHOICE

KAREN KLONSKY ('74), EXTENSION SPECIALIST at the University of California, Davis, thinks the growth in farmers' markets is motivated in part by food scares, such as the outbreak of E. coli poisonings from spinach in 2006, or the 2008 recall of millions of pounds of beef. Klonsky says she thinks such events make consumers acutely aware of the distance between them and their food's origins.

Klonsky, a math major, uses her expertise to estimate farmers' costs of production, including farms' use of pesticides and cover crops (the plants farmers use to assist the growth of their primary crops). She notes that many lettuce and spinach farmers are moving away from organic techniques because they want to reduce their plants' contact with manure to cut down the risk of another E. coli outbreak.

So buying greens at a farmers' market gives shoppers a choice: Do you want to meet the person producing your food and know where it comes from, or do you want to buy food from a grocery store that sources worldwide? Not everyone thinks the local foods movement associated with farmers' market growth is such a positive thing.

For example, the popular Freakonomics website posted an article in November 2011 criticizing the inefficiencies of local food and pointing out, for example, that grapes and almonds grow better in California and potatoes grow better in Idaho.

"Amid heightened concern about global

climate change, it has become almost conventional wisdom that we must return to our agricultural roots in order to contain the carbon footprint of our food by shortening the distance it travels from farm to fork, and by reducing the quantity of carbon-intensive chemicals applied to our monocropped fields," Steve Sexton wrote.

"But implicit in the argument that local farming is better for the environment than industrial agriculture is an assumption that a 'relocalized' food system can be just as efficient as today's modern farming. That assumption is simply wrong. Today's high crop yields and low costs reflect gains from specialization and trade, as well as scale and scope economies that would be forsaken under the food system that locavores endorse."

Efficiency, however, is only part of the equation.

Ari Weinzweig ('78) says establishing a Thursday evening market in the parking lot of Zingerman's Roadhouse was a result of the Zingerman's visioning process. People from all levels of the organization created a plan that included building community on the west side of Ann Arbor, giving farmers another opportunity to sell, and providing shoppers more access to farm-fresh food.

"It's win-win for everyone," Zingerman's cofounder Weinzweig says, noting the aim of the market is not to generate profit for Zingerman's. It's volunteer run and more about their commitment to small-scale agriculture.

The Westside market is similar to many of the new markets around the country, and Stacy M. Miller, executive director of the Farmers Market Coalition, says markets still have room to grow before they realize their full potential.

"I think the rapid expansion in the growth of farmers' markets is itself a thing to celebrate, but it's also a symptom, I think, of growing disenchantment with our financial paradigm in the United States, and a desire to invest in what matters: healthy land, healthy people, and healthy communities that are all part of a more direct and transparent economy," Miller says.

"That said, I don't think growth in the number of markets in communities large and small is justification for hanging a 'mission accomplished' banner. The fact is that a high proportion of farmers' markets are young, volunteer-dependent, and have very few opportunities to learn best practices and avoid reinvention of the wheel. The sector is nascent, and still evolving, and we as a society should commit to growing farmers' markets' capacity to positively transform our relationships to food and agriculture."

Colleen Newvine (M.B.A. '05) is a marketing and communications consultant based in Brooklyn, New York. Her business, Newvine Growing, focuses on farms and farmers' markets: newvinegrowing.com.





A LOOK INSIDE A FEW OF THE COUNTRY'S OLDEST (AND MOST IMPRESSIVE) FARMERS' MARKETS

Lancaster Central Market

(Lancaster, Pennsylvania)
began in 1730, when plans
for a public marketplace
were drawn into the original
town blueprint. Located in
the heart of Amish country,
the market features a host
of area food specialties,
such as Pennsylvania Dutch
sausage, a mix of pork
scraps and cornmeal called
"scrapple," and "chowchow,"
pickled vegetables canned
in spicy mustard.

Soulard Farmers Market

(St. Louis, Missouri) began modestly in 1779 as a meadow where local farmers could congregate to sell vegetables, fruit, dairy, and livestock. Since then, Soulard has survived a host of notorious events, including a lengthy land battle in the wake of the Louisiana Purchase and multiple tornadoes. It is the oldest farmers' market west of the Mississippi River.

Eastern Market (above)

(Detroit, Michigan) began as the Detroit Farmer's Market in 1841. The market gained its current moniker in 1891 when it moved from its downtown location to the city's near-east side. In addition to being the world's largest bedding flower market, the market is estimated to distribute 70,000 tons of produce per year, and attracts as many as 45,000 shoppers each Saturday.

Pike Place Market

(Seattle, Washington) has been open since 1907 and is one of the oldest continually operated public farmers' markets in America. Born out of consumer outrage over the middleman markup on onions, Pike Place's current nine acres boast farmers, craftspeople, commercial businesses, street performers, and musicians, as well as more than 300 apartment units.









All-Natural Doublespeak

a Good Source of Confusion

Amount Per Serving

% Daily Value*

Food labels often use language to make people think they're eating one thing, when really they're ingesting another.

Consumers are hungry for the truth about food, especially meat, but can't trust what they're reading.

Labels such as "free-range," "pasture-raised," and "humane" have murky definitions at best.

Here, alumni and faculty chew on the issues surrounding the consumption of things that **cluck**, **moo**, **and baa**.

*by Mary Jean Babic

Meat is different.

Before it lands on our plates, meat walks around and breathes and vocalizes. Its prefood form can inspire affection as no other comestible; who has ever cooed over an adorable bunch of broccoli? Some meat, prior to becoming meat, may even be named and kept as pets.



Meat also is different in the way it's treated under food safety and labeling regulations. The Food and Drug Administration, which is in the Department of Health and Human Services, sets requirements for the labeling of nonmeat food, but meat regulations fall under the Food Safety and Inspection Service, which is part of the Department of Agriculture. And food laws don't always apply across the board. For example, the nutritional box — with its rundown of calories, fats, carbohydrates, sugar, and vitamins per serving — has long been a mainstay on all manner of foods, but those panels began appearing on meat packages only in January 2012.

But the nutritional boxes are going to satisfy only part of the craving for information about meat. More and more people want to know how the animals lived before they became meat. Did the cows munch grass on an open pasture their whole lives? Did the chickens peck around to their hearts' content, or were they crammed into small spaces for a short, miserable existence? Were the animals, or the food they ate, pumped with hormones and antibiotics? As just one indication of this increasing awareness, sales of organic beef grew from about \$100 million in 2003 to \$600 million in 2008, according to the Nutrition Business Journal. It's a fraction of the \$50 billion spent each year on beef, but it's a fast-growing fraction. Labels such as "organic," "free-range," and "pasture-raised" are cropping up with more frequency, trying to claim the increasing number of omnivores who want to believe that even if they are eating an animal, it at least had a good life.

Because that's the most profound way that meat is different: It strikes at our moral faculties. The mundane act of eating meat touches off philosophical argument, religious restrictions, ethical debate. A life ends. For some, any label is pointless; there can be no such thing as humane meat. But for those who arrive at a different conviction, knowing that they can trust labels attesting to ethical treatment

is imperative. The question is: Do the labels mean anything?

Slap it On; Maybe it Will Stick

The history of food labeling is rife with examples of companies trying to pass off a product as something it isn't, with new laws often emerging in the aftermath. In 1906, the Meat Inspection Act was passed after Upton Sinclair's The Jungle exposed the horrific sanitary conditions of the meatpacking industry. Mid-century swindlers attempted to sell cheap margarine as butter, resulting in a requirement for prominent labeling on margarine to distinguish it as such. In 2008, infant formula that had been tainted with melamine led to the deaths of six babies in China and the hospitalization of nearly 900 more. It's a safe bet the word "melamine" never appeared on any label.

So, do labels mean what they say? Or at least, what consumers think they mean?

Yes and no. "When it comes to nutrition, I think you can trust them," says Ellen Haas ('60), who's been a consumer advocate for more than 25 years. She was a five-term president of the Consumer Fed-

and bring them to slaughter sooner, typically by 14 months. Grass-fed cattle, however, eat grass (or, during winter, alfalfa or hay) their entire lives, which last a little longer than their grain-fed counterparts - slightly more than two years - because they don't gain weight as fast. Advocates of grass-fed beef say that it is lower in saturated fats and calories and higher in omega-3 fats, antioxidants, vitamins A and E, and beta carotene. It also avoids the need for antibiotics so commonly given to grain-fed cows, which often get sick because their stomachs can't tolerate grain. Grass-fed beef, however, costs more and sometimes lacks the coveted marbling of fat that Americans have become accustomed to. Some skeptics maintain that since grassfed beef requires lots of acres for pasture, it can hardly be called environmentally friendly, and that its health benefits are overstated.

For years, the label "grass-fed" was not heavily regulated by the U.S. Department of Agriculture (USDA); growers who wanted to make that claim needed only to submit documents. However, in 2007, with interest in grass-fed beef increasing,

and antibiotics and requires continuous access to pasture.

If "grass-fed" is a complicated label, "humane" is dizzying. It goes well beyond what an animal is fed, encompassing an entire approach to raising livestock, from birth to death. How densely are animals packed together? Are their horns removed? When and how? Are they castrated? When and how? Does the animal have shade? Protection from wind? What's the transportation time to slaughter? Can one label take all such things into account?

The answers to these questions depend on the label. The USDA has some standards on these issues, mostly as part of its National Organic Program, which, according to its website, champions "practices that foster cycling of resources, promote ecological balance, and conserve biodiversity." And all meat producers in the United States are subject to the Humane Slaughter Act, which applies to cattle, calves, horses, mules, sheep, and swine (and famously excludes poultry). The act requires that animals move through chutes in ways that don't upset them, and that they be stunned senseless before slaughter. The American

So, do labels mean what they say? Or at least, what consumers think they mean?

eration of America, and served four years as undersecretary for the Food, Nutrition and Consumer Services area in the U.S. Department of Agriculture, during which time she oversaw a revamping of school lunch programs. She's testified before Congress many times regarding labeling and other food safety issues.

But with other claims, she says, it varies. A good example: "grass-fed." The label can be misleading, because *all* cows are grass-fed for at least part of their lives. Cows, as ruminants, are built to eat grass; their four-compartment stomachs convert cellulose into protein and fat. Under contemporary agricultural methods, after three to six months of grazing, cows are moved to feedlots and given grain in order to fatten them up quickly

the USDA introduced its "USDA Process Verified" shield. This requires an actual farm visit by an inspector to confirm that the cows are eating nothing but forage, such as grass and hay, and mother's milk. They must be allowed access to pasture during the growing season. Antibiotics and hormones, however, are allowed.

While the Consumer's Union, for one, finds the shield "highly meaningful," for others the government standards don't go far enough. Conceivably, cows that are kept indoors for months at a time and fed hay and hormones can earn the shield. A tougher standard is the American Grassfed Association (AGA) stamp of approval, a green circle with four overlapping blades of grass and the words "American Grassfed." The AGA prohibits hormones

Meat Institute, recognizing that calmer cows produce better meat and fewer line stoppages, has adopted many killfloor features, such as chutes with solid walls to block out sudden movements or flashing lights that may startle them.

These measures, however, address only what happens once animals arrive at the slaughterhouse. Several organizations have developed programs — such as Certified Humane, Animal Welfare Approved, Global Animal Partnership (used by Whole Foods), and American Humane Association — that take a comprehensive view of animal welfare, from birth to death, and offer labels to producers that meet their standards. But on a single measure, there can be a lot of variation. Take the issue of transportation time to

slaughter. The Certified Humane program requires transport times to be kept to a minimum, but leaves "minimum" undefined. Animal Welfare Approved limits transport time to eight hours; the Global Animal Partnership program, 25. The USDA and American Humane Certified program don't address the issue at all, though the USDA requires that animals kept longer than 24 hours have access to food.

Another example is litter management for chickens. Prolonged contact with ammonia-packed feces can cause burns on chickens' feet and hocks, opening the door to bacterial infection. Cleaning the chicken houses regularly prevents this. Certified Humane, Animal Welfare Approved, and American Humane Certified require litter management programs that keep ammonia levels below ten parts per million for Certified Humane; five parts per million for Animal Welfare Approved; and 25 parts per million for American Humane Certified. Global Animal Partnership and the USDA have no ammonia-level requirements (though the USDA requires clean, dry bedding).

Consumers, then, are left to educate themselves on these particular issues in the animal welfare ecosystem, and decide how much they matter — no easy task, considering that organizations dedicated to the humane treatment of animals can't agree themselves.

A single, cohesive, comprehensive body of standards certainly would untangle things, but don't look for that coming from Washington, D.C., any time soon. In her decades of consumer activism, Ellen Haas has learned one thing: The machinery of government moves slowly, especially when agribusiness lobbies spend more than \$18 million annually to persuade Congress to back food policies that aren't necessarily in the public's interest (think of the "pizza as a vegetable" controversy).

The first law to introduce organic standards, the Organic Foods Production Act, was passed in 1990. But enforcement of those standards didn't begin until 2002.

Now, however, Haas feels confident that when a product says "USDA organic," it is, per the federal rule, at least 95 percent organic; processed foods made with a variety of ingredients have to be at least 75 percent organic.

Still, Haas, who is now the senior advisor on food and agriculture policy for the lobbying firm Podesta Group, says that the country's food safety system "is not as rigorous as it could be." For example, she would like to see more regulation, if not an outright ban, of antibiotics in animal feed, since some researchers assert the antibiotics are a threat to human health (see sidebar, p. 21). But while the meat industry, she says, has come around to support more regulation on some of these types of measures, what will really lead to change in food standards is consumer demand and environmental and public-health activism—"a wide swath of people," she says, "supporting both labeling and food safety."

Is "Humane Meat" an Oxymoron?

As a vegan, LSA Assistant Professor of Philosophy Matthew Evans doesn't doubt that some tiny fraction of animals are raised in ways that he would find "far, far less ethically troubling" than that of the majority of animals. But the humane-meat movement, and its attendant labels, trouble him. Its adherents, well-intentioned though they may be, are in fact perpetuating the suffering they seek to diminish, he says. "They're making the solution harder to see," says Evans, an associate professor of ancient philosophy. "We need to stop participating in the process." There is no such thing as humane meat, in his view. Even under the care of conscientious farmers, animals are denied full, robust lives. Labels, by appealing to our better natures, simply obscure that fact. "It's as though we can continue this without causing an unacceptable amount of misery," he says, "and that's an illusion."

Until recently, Evans found nothing philosophically interesting about veganism; to him it was obviously the right

thing to do. But after guest-lecturing in a recent sophomore course, 22 Ways to Think About Food, he began to examine some puzzles that he now sees "lingering at the border areas." For example, the question of what would happen to cattle, pigs, chickens, and other animals if everyone went vegan. Perhaps, Evans speculates, turkeys and pigs would revert to their original wild forms and no longer be "the genetic monstrosities created by the meat industry." What about cattle? "I'm willing to bite the bullet and say I don't think it would be terrible if a species defined as being a beast of burden were eliminated from the planet because we no longer need that burden borne."

Advocating veganism, then, has the inconvenient side effect of advocating for something that, fully carried out, results in the extermination of a certain being. "That feels uncomfortable to me," Evans admits, "but I feel that my position likely commits me to that." These tangential philosophical concerns, however, don't threaten his core commitment to veganism. For him, the basic question is whether the suffering inflicted on animals is necessary. "Even when animals are treated relatively humanely," says Evans, "they're still suffering, and it's unnecessary."

Craig Haney ('94), like Matthew Evans, doesn't demonize people whose views differ from his own. Talking to both men, you get the feeling that if they met they would have a very respectful conversation, even though some of Haney's work is in stark contrast to Evans' veganism. Haney is the livestock manager for Stone Barns Center for Food and Agriculture, a nonprofit farm and education center in Pocantico Hills, New York, about 25 miles north of Manhattan. Stone Barns operates an 80-acre farm that includes sheep, pigs, chickens, and turkeys raised for food and fiber. Haney would say there certainly is such a thing as humane meat, and you can find it at Stone Barns. Sheep are strictly grass-fed. Pigs are allowed to root around in the woods. Chickens are not confined to coops.

"We want them to have a nice life while they're with us," says Haney, "and to be as mindful of their death as their life." For example, if one of the restaurants Stone Barns supplies requests a single lamb for slaughter, Haney refuses. "I say you've got to take two or none, because they're a flock animal and we wouldn't want it to be by itself for that part of its life. I'm not saying they're not a little afraid to get on a trailer, but we try to minimize the stress."

The current mishmash of standards and labeling systems is no surprise to Haney. "People have very different comfort levels on what they'll accept with meat," he says. "There's no magic bullet as far as figuring it all out and coming up with a standard that everyone's comfortable with." For his part, Haney trusts anything with the Animal Welfare Approved label; ditto for Organic Valley dairy products. With any label, he says, it boils down to follow-up: calling the producer or organization and getting more information. Even then, if a company says its chickens get 73 square inches of space, will that mean anything to a layperson? At Stone Barns, which is open to the public, visitors sometimes are disappointed to see that the chicken pasture is bounded by any type of fence, to prevent chickens from escaping or being picked off by foxes. "They'll be like, wait a minute, that doesn't seem like free-range," Haney says.

Still, perhaps it's a sign of progress, however dubious. When Haney began raising animals more than a dozen years ago, the terms "free-range" and "grassfed" were hardly known at all. He's amazed at the degree to which interest in humane meat and sustainable agriculture, which he's been engaged in all along, has entered the national consciousness. It's encouraging, he says, and he expects future progress to be similarly incremental.

"At this point in time, our food system is like a huge, ocean-going vessel heading in one direction," says Haney. "It's not going to spin on a dime, but it can and is changing directions."

Mary Jean Babic is a freelance writer based in Brooklyn, New York.



Shake Your Label Maker

The Food Safety and Inspection Service (FSIS), the federal agency responsible for the safety and factual labeling of meat, offers definitions for the terms "natural" and "no hormones." But they may not mean what you think they mean.

NATURAL

Definition: The product contains no artificial ingredients or added colors and is "minimally processed," meaning that the product was processed in a manner that does not fundamentally alter it.

Buyer Beware: Animals that have received antibiotics and hormones to promote rapid growth may be included under this label. Researchers have linked antibiotics in meat with an increase in antibiotic-resistant cases of food poisoning in humans. The Cancer Prevention Coalition says hormones in beef are associated with increased cancer risk. "Natural" animals may also be raised on factory farms, known as concentrated animal feeding operations, or CAFOs.

NO HORMONES (BEEF)

Definition: Growers must provide sufficient documentation to the FSIS that animals have been raised without hormones.

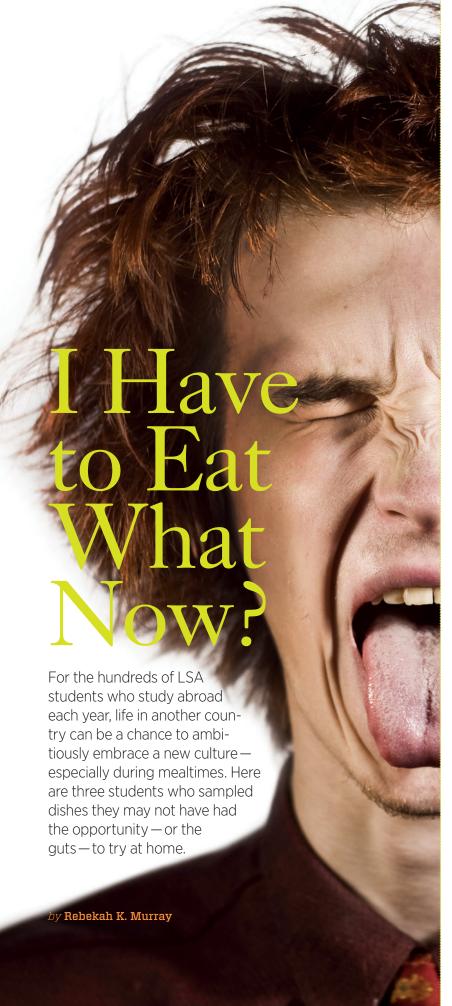
Buyer Beware: The USDA asserts that hormone-treated beef is safe, though some scientists argue that the health effects of hormones haven't been studied thoroughly enough. What's more, meat is not monitored for hormone residues, meaning that CAFOs may illegally inject hormones directly into the meat without any way to regulate or test for such violations.

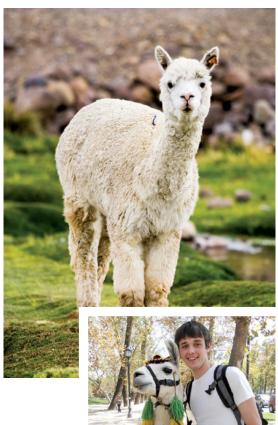
NO HORMONES (PORK OR POULTRY)

Definition: Federal regulation prohibits the use of hormones in raising pork or poultry.

Buyer Beware: Labels can't boast "no hormones added" unless it's followed by the statement "Federal regulations prohibit the use of hormones." Some companies will try to score consumer points for not doing something federal law prohibits anyway.







LSA TRAVELER: Matthew Porembiak, a senior pre-med student majoring in neuroscience and Spanish. Porembiak studied at the Pontificia Universidad Católica in Santiago, Chile, for the winter 2011 semester.

A SURPRISING DISH: "I found out I ate llama. I didn't even know until afterwards since it was mixed in a sauce. But I'll eat anything."

ANOTHER POSSIBILITY: "I wanted to try horse meat" after seeing raw chunks hanging in a market-place on a sight-seeing trip. But he had to pass as the vendors didn't have any horse meat already prepared, and he had no way to cook it himself.

FAVORITE CHILEAN CUISINE: The cheap but delicious street food he'd eat after class. Two of his favorites were completo italiano, "a hotdog with avocado, tomato, and mayonnaise" and chorrillana, "a huge plate of French fries with egg, steak, onions, and hot sauce."

THE TRIP'S IMPACT: After living with a host family, Porembiak says he has a second home. "My Chilean mom would cook authentic food; I had a couple dogs, brothers, and sisters. I felt really welcome."





LSA TRAVELER: Lissette Valdez, a senior majoring in English and screen arts and cultures. Valdez studied at the University of New South Wales in Sydney, Australia, for the winter 2011 semester.

HER AUSTRALIAN NEMESIS: Vegemite, a brown food paste made from yeast extract. The salty, slightly bitter Vegemite is often eaten on crackers or bread. Valdez even tried "tiger toast"—Vegemite on bread topped with strips of cheese and then toasted.

THE REACTION: "It was horrible! It was bad enough to eat it without the hot cheese."

A SUPERMARKET SURPRISE: While abroad, Valdez also saw kangaroo meat packaged just like beef. "It tastes like steak," she says, explaining that it's just the idea of eating kangaroo that some Americans find disturbing. "We think of kangaroos as cool and interesting, but over there, Australians see them as overpopulated."

THE TRIP'S IMPACT: "The trip made me realize what's important to me in life and what's not," she says. "Here, we have more emphasis on work, being successful, and living the American dream. Over there, I felt like family and travel were more important and more valued."

LSA TRAVELER: Ionut Gitan, a senior majoring in Japanese studies and women's studies. Gitan studied abroad last year at the University of Tokyo in Japan.

A DARING DISH: Natto. "It's famous for being disgusting," Gitan says about the fermented soybeans. The brown beans are surrounded with a white, mucus-like goo. Both the smell and taste are quite strong. The dish is traditionally served over rice and eaten for breakfast.

THE REACTION: "It's kind of delicious," Gitan says. "It became one of the staple things I ate every single day." It's also nutritious, but Gitan says most of the Japanese students he knew at the University of Tokyo refused to eat it.

THE TRIP'S IMPACT: Gitan is pursuing a new career path after his study abroad. While in Tokyo, he interned with a fashion magazine. Now, he hopes to bring Tokyo fashion and culture to America.

Rebekah K. Murray is the Assistant Editor of LSA Magazine.

WOULD YOU EAT IT?

Scrumptious or not, just the names of these foods may make you think twice before consuming.

BUBBLE AND SQUEAK

A traditional English dish made with leftover vegetables from a roast, which are combined with mashed potatoes and fried in a pan. The name may come from the sound the dish makes while it's cooking.

CULLEN SKINK

A Scottish soup made with smoked haddock and potatoes.

HEAD CHEESE

A sausage made from the head of a calf or pig, combined with broth, and cooked in a mold.

NEEPS AND TATTIES

A Scottish dish of yellow turnip or rutabaga and potatoes, boiled and mashed separately.

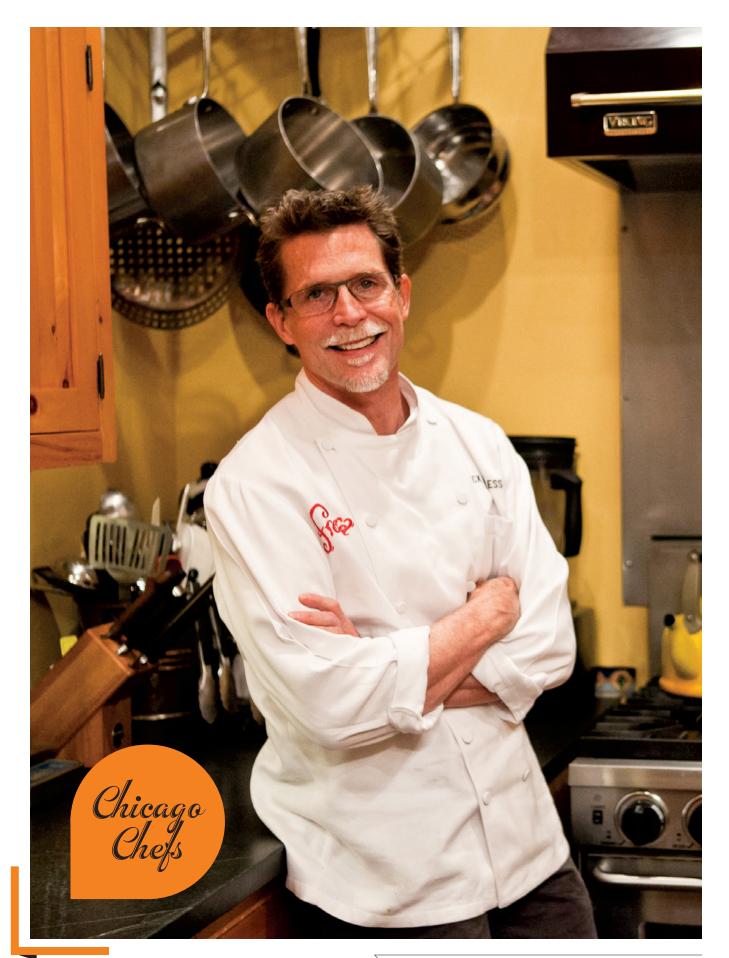
SCRAPPLE

A traditional Amish dish made of pork scraps and cornmeal that's formed into a loaf and then sliced and fried.

SPOTTED DICK

An English steamed suet pudding containing dried fruit and often served with custard.

Source: BonAppetit.com, "25 Weirdest Food Names" by Rachael Oehring. http://bonap. it/iYc4Po



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The *Spirit* of the Mexican Kitchen

Rick Bayless

After graduating from the College of LSA, chef Rick Bayless spent years in Mexico studying the language, the people, the food. The knowledge he brought back to the United States helped change the landscape of cuisine as we know it. The linguistics-major-turned-culinary-giant gave us a seat at the table to discuss his salad days—then and now.



Chef Rick Bayless

('75, M.A.) is every bit as infatuated with Mexican cuisine today as he was in 1987 when he opened Frontera Grill in Chicago and released his first book, *Authentic Mexican: Regional Cooking from the Heart of Mexico.* "I can look at something I discovered 30 years ago and understand it now in such an intimate way that I could never have done at the very beginning," he says. "That sense of deepening discovery is what keeps me going every day."

A recent winner of Bravo's television program *Top Chef: Masters* and an unquestioned legend of Chicago's now vibrant food scene, Bayless is as big a celebrity chef as anyone in the United States. It's hard to imagine North Clark Street without his trio of restaurants or store shelves without his salsas, but he didn't begin his career looking to be famous. Or even to cook.

"I was really interested in the relationship between language and culture," he says of his college years spent studying Spanish and Latin American culture. After living in Mexico with his family as a teenager, Bayless became an undergraduate at the University of Oklahoma. He spent two summers in an applied linguistics program and learned how to enter communities that lacked a written language, learn and interpret their spoken words, and ultimately understand that culture through their stories.

He followed the program's director to LSA's Department of Linguistics, where he began several years of doctoral work. But he found more than just scholarly interests awaiting him in Ann Arbor.

"I fell in with this group of students... we didn't have any money at all, but we were all super into food," Bayless recalls. "I didn't even understand how unique the food community of Ann Arbor was then, but it was centered around the farmers' market." He and his friends would buy their fresh ingredients in Kerrytown and at Eastern Market in Detroit, meeting and interacting with farmers, a practice reminiscent of the everyday life he'd experienced in Mexico.

These linguistics students prepared food together regularly, exploring different cuisines from a myriad of cultures. Bayless started catering. He taught local cooking classes. Then he had an epiphany: "I was at least as interested in the relationship between culture and food as I was culture and language."

That's when the future James Beard National Chef of the Year stopped work on his dissertation and immersed himself in the food of Mexico.

Throughout the early 1980s, Bayless lived and traveled in Mexico with his wife, Deann Bayless ('71, '78 M.U.S.), utilizing his academic experience to construct *Authentic Mexican*. Each recipe was studied using the same research methodology he learned at Michigan: He prepared each dish with three different

families or cooks to grasp every nuance, every approach, every ingredient. The result was more than a cookbook; it became a comprehensive look at the cuisine of Mexico as an expression of regional culture as well as an influential guide to a burgeoning American food scene that was slowly awakening from a decade or two of hibernation.

Upon returning to the United States, Bayless found himself in the midst of a dormant food culture dominated by commoditized products and corporate wholesalers — a stark contrast to his childhood.

"I'm a child of the '60s. I made my first compost pile when I was 16. I made salt-rising bread," he recalls. "I went with my father to the market in Oklahoma City... and the farmers would bring their stuff and we'd buy from the farmers," Bayless remembers. "And then, that all went away and it just went to a commercial commodity market. We never had face-to-face contact with the people who were growing our food anymore. And I had a sense of loss about that."

A do-it-yourselfer raised in a family of restaurateurs living amongst small farmers in Oklahoma, he couldn't abide the lack of local food he found as he began his culinary career.

So Bayless set out to do things differently. He describes his first experience as a chef engaging Chicago-area farmers: "One of the things I wanted to do was put something local on our menu.... We opened in March, and May is when we have our short, local strawberry season...so I went down to the commercial market.... And they all said, 'No one would carry those. They're terrible.' Well, they're terrible only if you're thinking of them as a commodity. They're phenomenal if you're thinking of them as flavor."

Literally laughed out of the market by wholesalers, Rick and Deann drove twice per week to farmer stands outside the city to acquire those local berries for desserts. Beyond the superior flavor, the chef regained a connection to farmers in a way he hadn't experienced since childhood. And he became increasingly grateful for it.

When Bayless talks about food, he looks and sounds as much like a professor of art history as he does a master of the culinary arts. His conference room at Frontera doubles as a library, its 10-foot walls lined with volumes on every conceivable culinary topic, ranging from French sauces to chocolate to Mexican culture to gardening. And, indeed, he broaches the subject of food as any intellectual might — that is, from every conceivable angle: flavor, art, community engagement, eco-friendliness.

Thus it's perhaps unsurprising that his consistently calm demeanor elevates to a passionate tone when discussing the interrelated nature of his customers, his farmers, and his food.

"I have always seen restaurants — and I guess it's because I grew up in a family-style restaurant — as creating community," he says in describing his family's approach to business. Along

with those childhood trips meeting farmers, the notion of community has shaped his work.

"I'm an accidental organic farming champion," he notes. "What I learned was that the people that cared most about what they were growing also cared most about the earth.... [Farmers] taught me about the interconnectedness of what I do as a living." His holistic view of soil's role in the food he serves his customers has led him to value sustainability. "If it's local and sustainable, it's part of that sense of community. It's not just in putting money in the pocket of the farmer, but it's protecting our environment that allows us all to thrive."

Committed past the point of mere rhetoric or marketing, Bayless has maintained a laser-like focus: 25 years since he first ferreted out local strawberries, he has continued to push the boundaries of how local, sustainable food can be used. "The thing about food is that the more you're around it, the deeper you can go," he says.

During the late summer, 100 percent of his tomatoes and tomatillos are Chicago-raised. Even Tortas Frontera, his O'Hare Airport-based eatery, lists from where the food is sourced. His Frontera Farmer Foundation raised \$180,000 last summer in support of local farms, and he's a board member at the local Green City Market, the lone Chicago-area market dedicated solely to

The Frontera Grill (FAR RIGHT, TOP CENTER, AND TOP LEFT) was chef Rick Bayless' first foray into serving Mexican cuisine, but other ventures quickly followed. His sandwich shop, XOCO, serves dishes like the Top Chef Torta (BOTTOM CENTER) to diners on the go, and his Frontera line of sauces, salsas, chips, and mixes (BOTTOM LEFT) is now carried across the United States.









local, sustainable foods.

"With the strength of our local agricultural system, our food is different, and it allows a uniquely Chicago perspective on traditional Mexican flavor," he says. So he strives to employ it often, noting that what he serves isn't always what one might find in Oaxaca or the Yucatan. Rather, he asks himself, "How do you get local flavor on the plate without messing with the traditional soul that you find in Mexican kitchens?"

Bayless grows some of those Mexican-inspired ingredients on Frontera's eco-friendly rooftop garden and at his own home. The only common ingredient that doesn't occasionally come from Chicago-area farmers is dried chiles because, as he says, "the flavors just can't be duplicated, and . . . we're into making delicious food."

In contrast to the many celebrity chefs leaving their hometowns, opening restaurants in Vegas or eating strange foods on cable television for shock value, Bayless' three primary restaurants and offices are on a single block, and he's entering the eighth season of *Mexico — One Plate at a Time*, airing locally in Chicago or on various PBS stations and often costarring his daughter.

When he does leave Chicago, it's usually to visit other countries to study new cuisine and other cultures, and to enhance the culinary creativity on display at his restaurants.

"You can learn things that reflect back into your food, other techniques, and other ingredients that will open your mind to different flavor possibilities," he observes. "Anything is open to us as long as it has the spirit of the Mexican kitchen."

Evan Hansen ('01) is the Director of Marketing and Communications in the College of LSA and has a Block M tattooed on his forearm.





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Girl. Kitchen. Goat.

Stephanie Zard

Chef Stephanie Izard has won *Top Chef*, not to mention a host of awards for her new Chicago restaurant, Girl and the Goat, but her food is neither haughty nor highbrow. Izard studies "common food" and elevates it, with a culinary result that's like Izard herself — genuine and clever.



lemon dressing, Chef Stephanie Izard's eggplant is an eyeopening revelation. Eye-opening because it is a dessert; a revelation because it is the perfect acidic counterpoint to other elements on my plate: pork-fat doughnuts, ham streusel, caramelized figs, and a honey yogurt. Soft, crunchy, fatty, sweet, salty, and tart — it is an embodiment of Izard's "make your whole mouth happy" philosophy.

The meals she prepares under that banner have garnered her and Girl and the Goat — the Chicago restaurant she opened in 2010 — national acclaim.

Izard was a celebrity already, having won season four of Bravo's wildly popular *Top Chef,* but it's her work since, as chef and co-owner at the Goat, that have catapulted her to true stardom. Capturing rave reviews from the *Chicago Tribune* and *Saveur* magazine as well as a prestigious James Beard nomination, she was named a *Food and Wine* Best New Chef in 2011.

"If you could see me when I was on stage getting my award for that in New York, I had a gigantic perma-grin the entire time," she recalls.

That's hardly surprising: Izard's a veritable ball of energy, talking fast, laughing a lot, and infusing every inch of her sizeable restaurant with every ounce of her sizeable persona. "I just wanted to take what I love about dining — which is hanging out

with friends, usually quite a few drinks — and that's why this place has a party vibe. Big fun with lots of energy."

The space fosters that attitude with ample seating and high ceilings that echo with hundreds of voices, and a soundtrack that ranges from Johnny Cash to the Red Hot Chili Peppers to Regina Spektor. The bar is packed with tourists and regulars alike, and the atmosphere spawns conversation from the moment the front door opens.

Seated at the far end of that very bar, I was quickly befriended by a 40-something professional Chicagoan awaiting some friends. Within 45 minutes, I was sharing my cauliflower with pickled peppers and mint — portions at Girl and the Goat are naturally designed for sharing with friends both old and new — and she was sharing her goat chorizo flatbread.

The shareable, approachable food is just as driven by Izard's demeanor as the palpable friendliness imbued throughout the dining room. Signature dishes like roasted pig face, a dramatically more interesting variation on traditional head cheese,

Chef Stephanie Izard (BELOW RIGHT, PEERING INTO THE KITCHEN) cooks, expedites, tastes, and dines almost nightly at Girl and the Goat — and sends tweets to her nearly 23,000 followers in the midst of it all. Her ambitious menu rotates frequently and usually features more than two-dozen dishes. Diners eat at large, communal tables from which they watch the goings-on in the exposed, always-busy kitchen.





elevate comfort food and ostensibly simple ingredients to haute cuisine, without even a hint of the snobbery that sometimes pervades the restaurant world.

"I've been lucky and have eaten at some amazing restaurants," says Izard, "and I enjoy it, but I don't enjoy the stuffiness of it. I just don't think one has to come hand in hand with the other." She adds, "I've definitely always been anti-pretense."

That attitude is exemplified in her thorough, hands-on approach. Izard doesn't just prepare a meal; she studies each component of it. Before opening the Goat, she took the time to visit local farms, getting to know the farmers and learning everything from how the animals are treated to how goat cheese is made. "Now [the farmers are] my friends. I call them up, we hang out," she says. Izard contracts with farms "where we liked the farmers themselves and respect what they're doing. We only get animals from farms where we know they're raised properly."

Her commitment to that depth of understanding extends to every aspect of the restaurant, which includes having an inhouse baker and butcher. She's explored an interest in beer (the lone piece of art in the restaurant features a girl, a goat, and dancing beer bottles) by visiting Indiana's Three Floyds Brewing and by actually making beer with Chicago-based Goose Island. "I've gotten to brew beer a couple times. I don't think it's anything I could do by myself, but it's really cool to know more about it. And we make our own wine in Walla Walla (Washington). We make our own cheese. I just kind of want to learn how to do everything."

Izard's curiosity about food began early at her childhood home in Connecticut, where her parents enjoyed a wide range of cuisine. She earned a sociology degree from LSA in 1998, and if there were any hint at her future, it lay in evenings out with friends. "We would go through and order all these different beers, and I remember [learning] about it and thinking, 'this is cool."

After graduation, she enrolled in Le Cordon Bleu in Arizona, where she learned the skills that later took her to several acclaimed Chicago establishments before opening her first restaurant, Scylla, in 2006. Despite rave reviews, she opted to close in 2008, not long after which she joined *Top Chef.* The prize money helped pave the way to her current endeavor.

From day one, Izard has insisted on staff sharing her excitement for their ingredients, drinks, and food.

"We interviewed over 1,000 people," she says, "and we've interviewed people who worked at some of the best restaurants in the city, and I'm like 'yeah, you're a great server, but still, you're not getting it. You need to have the enthusiasm, and you need to want to make someone feel comfortable as soon as they walk in the door."

Izard's a master at lending that sense of comfort to her patrons: Sitting at the bar, looking toward the kitchen, I could see fans approaching her to say hi or take pictures, which often end up on the restaurant's website. She's become widely known for being one of the most sociable "celebrity chefs" in the country, someone who hasn't changed as a result of her fame.

"Even if I'm sick at the store and a fan comes up, I'm still going to talk to them. [Some chefs] get annoyed by people ...



but someone coming up to you and saying they love you? I mean, that's pretty nice. Be happy about it."

That connection with her devotees achieved new heights last summer when Izard launched a fundraiser for Share Our Strength, an organization fighting childhood hunger: "We're doing these benefit dinners called Supper at Steph's where I invite eight strangers into my house and cook dinner for them, and my staff said, 'Seriously, Stephanie, what if they look through your underwear drawer?' And I'm like, well, they'll look through my underwear drawer. I don't care."

She's laughing as a cook brings her a spoon covered in ginger dressing destined for the crunchy raw kohlrabi salad. "As long as I'm not in the bathroom, they're supposed to bring me a taste."

Izard's well-known for carrying her upbeat persona and positive demeanor into the kitchen, a place notorious for hot tempers and demeaning attitudes.

"I think that my cooks genuinely enjoy coming to work. Of course, they're often hungover and tired and don't really want to get here in the morning. But we have fun. We sing and dance all day. Having someone yell at me doesn't make me want to

Girl and the Goat's dining room (LEFT) is rustic but contemporary, featuring chunky wood tables, an oak bar with antique fixtures, and iron detailing reclaimed from early 20th century grills. Dishes such as kalbi-style beef ribs with corn coblettes and charred okra (BELOW) are served among the charred cedar walls of a building more than a century old. The lone artwork (BELOW RIGHT) is Quang and Loc Hong's colorful, if slightly psychedelic, painting of a girl, a goat, and dancing beer bottles.

work harder for them, it makes me want to have them not be around anymore."

That's not idle talk. The restaurant's open kitchen allows patrons to peer inside. "You can see all the cooks smiling and enjoying each other's company, which I just think is so important. If you're putting out food that's supposed to have all this love in it and you're pissed off, it's probably not going to taste as good."

Her cooks must have an awful lot of love, because the lengthy menu is delicious from top to bottom. In her inimitable style, she doesn't overthink it. "If I try too hard to make new menu items — like, all right, I must make a new fish dish this week, then it never works. So for me, it's waiting to see if something just hits and something clicks. Like if I walk in the cooler and see some vegetable next to another one, and I'm like, 'Yeah!'" That revelation explains her cross-cultural influences — for example, Izard's crudo, an Italian-inspired raw fish dish, puts buttery Pacific hiramasa under bits of pork belly, Peruvian chiles, and caperberries.

That culinary creativity is showcased in *Girl in the Kitchen*, a book of recipes from her home kitchen released last October. She toured all winter to support the cookbook, while simultaneously planning her version of a classic diner, which she's calling The Little Goat. She's constantly busy, but she admits that's how she likes it. "I've always been really driven and want to be as successful as possible. And I'm hoping to retire in 10 years, so I've got a lot to do."









Apple-Pork Ragù with Papardelle



Sopa Azteca (Tortilla Soup)



Chefs Izard and
Bayless share recipes from their kitchens here. Hungry for more? Follow them on Twitter, where they dispense tips, advice, event news, and random musings. Stephanie: @ StephAndTheGoat Rick: @Rick_Bayless

Stephanie Izard

Apple-Pork Ragù with Papardelle

SERVES 4 AS AN ENTRÉE, 8 AS AN APPETIZER

"This is an extremely simple recipe, but the number of flavors involved make it a lot more fun and unique than your average pasta with meat sauce," Izard writes in her book. She likes to use Honeycrisp apples and top with grated parmesan.

From Girl in the Kitchen (Chronicle Books, 2011), reprinted with permission.

- 1 tsp. olive oil
- 12 oz. ground pork
- 2 slices thick-cut bacon, cut into ½" pieces
- ½ cup diced onion
- 3 garlic cloves, minced
- 2 Honeycrisp apples, peeled and cut into ¼" slices
- ½ cup dry white wine
- 15-oz. can whole peeled tomatoes, smashed by hand or chopped
- 1 cup chicken broth
- 1 batch Basic Pasta Dough (about 1 lb.), cut into papardelle, or 1 lb. dried papardelle
- 2 tbsp. brined capers
- 2 tbsp. thinly sliced fresh basil coarse salt freshly ground black pepper
- 1 Heat the oil in a large sauté pan over medium-high heat. Add the pork and cook it until it browns, 5 to 7 minutes, breaking it into smaller pieces with a spoon. Set aside.
- 2 In a large saucepot or Dutch oven, lightly brown the bacon pieces over medium heat. Add the onions and garlic and sweat them by cooking until the onions are translucent, about 2 minutes. Add the apples and wine and simmer until the wine is reduced by three quarters.
- 3 Add the tomatoes, broth, and browned pork and bring to a boil. Reduce the heat and simmer, partially covered, until the sauce has thickened somewhat, about 15 minutes.
- 4 Meanwhile, bring a large pot of water to a boil. Drop the papardelle in the boiling water and cook until al dente, about 3 minutes, or according to the package directions. Drain and rinse.
- 5 Add the capers and basil to the sauce just before serving. Season the ragù with salt and pepper. Serve over the pasta.

Rick Bayless

Sopa Azteca (Tortilla Soup)

SERVES 4 TO 6

"Like guacamole, tortilla soup has a place, I feel, in practically every collection of Mexican recipes," Rick writes on his website. "It's a filling, flavorful meal that can be made with little effort, but one that sings with an unmistakable Mexican harmony."

From rickbayless.com, reprinted with permission.

- 1 large dried pasilla (negro) chile, stemmed and seeded
- 1 15-oz. can diced tomatoes in juice
- 2 tbsp. vegetable or olive oil
- 1 medium white onion, sliced 1/4" thick
- 3 garlic cloves, peeled
- 2 quarts chicken broth
- 1 large epazote sprig, if you have one
- 4 (about 1¼ lbs. total) boneless, skinless chicken breast halves, cut into ½" cubes
- 1 large ripe avocado, pitted, scooped from the skin and cut into ½" cubes
- 1½ cups (6 oz.) shredded Mexican melting cheese (like Chihuahua, quesadilla, or asadero) or Monterey Jack, brick or mild cheddar
 - a generous 4 cups (about 6 oz.) roughly broken tortilla chips
- ½ cup Mexican crema, sour cream, or creme fraîche for garnish
- 1 large lime, cut into 6 wedges, for serving
- 1 Quickly toast the chile by turning it an inch or two above an open flame for a few seconds. (Lacking an open flame, toast it in a dry pan over medium heat.) Break the chile into pieces and put in a blender jar along with the tomatoes with their juice.
- 2 Heat the oil in a medium (4-quart) saucepan over medium-high. Add the onion and garlic and cook, stirring frequently, until golden, about 7 minutes. Scoop up the onion and garlic with a slotted spoon, pressing them against the side of the pan to leave behind as much oil as possible, and transfer to the blender. Process until smooth.
- 3 Return the pan to medium-high heat. When quite hot, add the puree and stir nearly constantly, until thickened to the consistency of tomato paste, about 6 minutes. Add the broth and epazote, if using. Reduce the heat to medium-low and simmer for 15 minutes. Taste and season with salt, usually about a generous teaspoon.
- 4 Just before serving, add the chicken to the broth. Divide the avocado, cheese, and tortilla chips between serving bowls. When the chicken is done, ladle the soup into the bowls. Garnish with the crema. Pass the lime separately.

42.22° N, 83.75° W

From **sorting campus waste** to a **Great Depression-era food map,** our tour of campus starts here.



PHOTOS Courtesy of Mike Shriberg SPRING 2012 / LSA Magazine 35

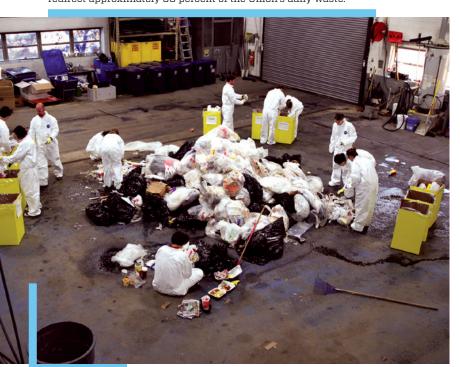
IN HER SUSTAINABILITY ADDRESS in September 2011, President Mary Sue Coleman outlined several goals for the University, including shrinking the amount of waste that U-M sends to landfills by 40 percent by the year 2025. "The Olympic pool at Canham Natatorium? Picture it, filled with trash, over and over, nearly 30 times, and that's how much will not go to landfills," said Coleman.

One way that U-M continues to reduce waste is through composting, a process that transforms vegetative food waste into organic matter that can be used as soil amendment or fertilizer. Originally launched in 1997 as an eight-month pilot, U-M's preconsumer food waste composting program has expanded to five dining halls, the Hill Dining Center, Pierpont Commons cafeteria, University Catering Services, and Palmer Commons. In the 2011 fiscal year alone, the program transformed 126 tons of food waste into compost.

Recent studies suggest that food waste in the United States is more prevalent than ever. The Environmental Protection Agency (EPA) deems this issue "staggering"; food waste accounts for more than 14 percent of the total solid waste generated in the United States and is the single largest solid waste component reaching landfills and incinerators. Yet less than three percent of the estimated 34 million tons of food waste generated in 2009 was recovered and recycled.

At U-M, the work to change all that begins during meal preparation, when kitchen staff place excess vegetative food — such

A group of students from the class Sustainability and the Campus sort through a day's worth of waste generated at the Michigan Union. In their coursework, the students concluded that implementing pre- and post-consumer composting programs would redirect approximately 30 percent of the Union's daily waste.



as fruit and vegetable peelings, egg shells, and plain pasta, rice, and bread — into green compost bins. U-M Waste Management Services staff then collects and transports it to the City of Ann Arbor's compost site. The food waste is mixed with a bulking agent (normally wood chips) and is formed into long piles, or "windrows," where air can circulate and aid in the decomposition process. Once decomposed, the finished compost is tested to assess its potential as fertilizer or soil amendment.

"Compost is simply great stuff. Food waste is a valuable resource that we can use for something productive," says Tracy Artley (U-M '01, M.P.H. '03), sustainability program coordinator with U-M Plant Building and Grounds Services. "But when food waste ends up in a landfill, it decomposes anaerobically, which leads to methane, a greenhouse gas." She points to a statistic from the EPA stating that methane has 21 times the global warming potential of carbon dioxide and remains in the atmosphere for 9–15 years.

Mike Shriberg (M.S. '00, Ph.D. '02), a lecturer in LSA's Program in the Environment and the education director at U-M's Graham Environmental Sustainability Institute, says he has noticed increased student interest in sustainability issues such as composting. In the fall 2010 term, students from his Sustainability and the Campus course conducted a waste audit at the Michigan Union. Decked in hazmat suits, they sorted through a day's worth of garbage — approximately 2,162 pounds of waste — on a loading dock. They found that 23.1 percent of the waste was recyclable and 30 percent of it was made of compostables.

"The students identified an enormous need for diverting waste. Some can be accomplished through waste education, such as increased signage [to promote recycling], but also a lot of it can be

done through composting. There's a tremendous opportunity for it," says Shriberg.

Artley says that plans are in the works to expand composting on campus. This will involve implementing post-consumer composting, in which patrons place excess food in composting bins after meals. She notes that the program presents challenges, including keeping costs low, educating campus, and identifying where to take post-consumer material. But Artley is optimistic about what's ahead.

"Our next step is to do a pilot post-consumer program on campus to examine costs and to learn from the experience. From there we'll see how we can expand it to eventually service all of campus," says Artley. "The vision is that eventually all food waste on campus will be generated into compost."



Sweet Corn in Your Dorm

MFarmers' Market brings crops to campus and provides a new way for students to access fresh foods.

ON A SUNNY, BREEZY AFTERNOON this past September, students gathered in the Michigan Union Courtyard to purchase fresh produce such as apples, sweet corn, zucchini, eggplant, peppers, and squash at U-M's inaugural MFarmers' Market.

Presented by the Michigan Student Assembly (MSA) in collaboration with University Unions, the market featured harvests from local farmers as well as giveaways, games, cooking demonstrations, and information about sustainable living.

"It can be hard to access fresh fruits and vegetables, and it's

hard to know what to do with them, especially in the dorms," says LSA senior Monica Sangal, chair of MSA's Health Issues Commission and an organizer of the event. "So we thought that a farmers' market would bring the fresh produce to the students and also create a dialogue about [it]."

Along with providing cooking demos, chefs were on-site to answer questions and offer tips.

"I'm showing students coming by how to preserve some of the harvest. You can go to the farmers' market and buy a basket of tomatoes, but you can't eat them all in one day," says Buzz Cummings of East Quad Dining Services. "So I am showing them how to take off the skin, take out the seeds, chop them up, put them in the freezer, and perhaps use them in a month from now."

Leaving the market with cantaloupe and red bell pepper in tow, LSA junior Elizabeth Niemczura says she appreciated the convenient location.

"There aren't really a lot of places to get vegetables nearby without having a car. And since I don't have one, this is a great way to buy [produce] without having to rely on my friends," she says.

EXPERIENCE A DAY AT THE MFARMERS' MARKET www.lsa.umich.edu

PHOTO Natalie Condon SPRING 2012 / LSA Magazine 37

U.S. of Ag

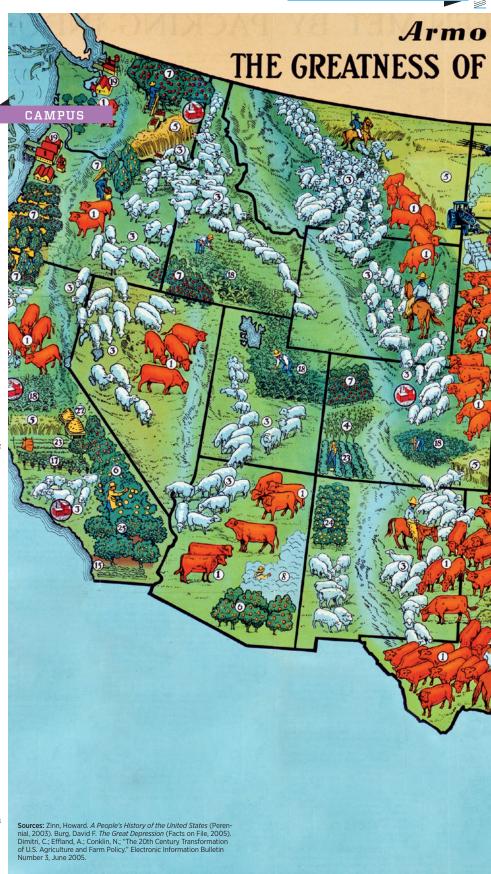
ARMOUR & COMPANY, the American meatpacking firm that sold 751 cases of rotten meat to the U.S. Army during the Spanish-American War, produced this promotional map in 1938 during the Great Depression. Unearthed from the William L. Clements Library's map collection, this warm-hued lithograph depicts comforting images of a nation at work, and of bountiful harvests for everyone; all the apples are rose-red, all the hogs fat and succulent. The text at the bottom argues that agriculture can employ millions, feed a nation, and still have enough left over for other countries.

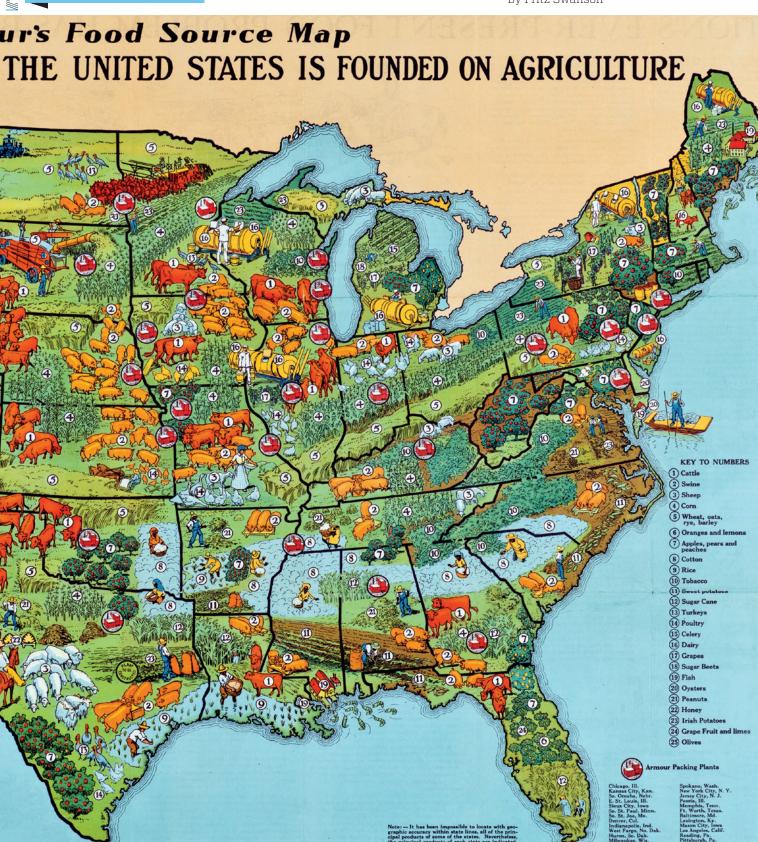
Unfortunately, reality diverged greatly from this corporate optimism. United States unemployment approached 20 percent for most of the 1930s, driving millions into hungry poverty, leading to a collapse in commodity prices. Wheat in 1920 sold for \$3 a bushel, dropping to 30 cents per bushel by 1932. Hog prices fell to just three cents per pound. As prices fell, hunger spiked because it was more expensive to bring the food to market than it was to let it rot in the fields.

In 1933, the Roosevelt Administration implemented the Agricultural Adjustment Act (AAA), which slaughtered 6 million piglets and 200,000 sows in order to reduce supply and drive up prices. Milk was dumped into the sewers, and in the South alone more than 10 million acres were left fallow. Even though 100 million pounds of pork was distributed to the hungry as a result of the slaughter, the AAA disproportionately drove small farmers into bankruptcy, enriching large agribusinesses like Armour.

In 1900, 41 percent of all jobs in America were agricultural; by the end of World War II only 16 percent of Americans worked on farms. Today, less than 1 percent of Americans are farmers.

The AAA was declared unconstitutional in 1936. In the mid-to-late 1990s, Armour & Company was bought, sold, and split between a number of other entities. The Armour meat brand still exists, but is owned and distributed primarily by different companies.







What Did Pharaohs Eat?

LSA students explore history by studying what was served at the dinner table.

IN 2589 B.C.E., Pharaoh Khufu ascended to power and began work on the Great Pyramid of Giza, one of the Seven Wonders of the Ancient World. As tens of thousands of laborers cut and moved stone, the state paid them — though not with gold or silver.

"Bread and beer were an important part of their diet, and they were also used as wages. The basic daily ration later became a standard unit of measure," LSA lecturer Laura Motta explained last fall during her classical archeology class, Food in the Ancient World.

The students in Motta's course explored the history of the ancient Mediterranean world by examining how food was produced, processed, and consumed. They started with the hunter-gatherer diets of cavemen, which consisted of anything from berries to big game, and ended the semester discussing how medieval Irish kings used meat cuts as status symbols. Through it all, food was analyzed in social, religious, and economic contexts.

"Food is not only vital to biological sustenance, it's a form of

social development," Motta says. "I show students not only what people ate, but how food really shaped society and vice versa."

In the case of ancient Egypt, for example, society had evolved to the point where not everyone had to fish, raise animals, tend crops, or bake bread. Freed from the fields, craftsmen and engineers honed their skills and helped build the pyramids. The state created large bakeries and moved cattle from specialized farms to the desert area to feed the pyramid workers and their families.

"It was the beginning of our specialized food system," says Veronica Kincaid, an LSA Program in the Environment major studying sustainable food systems. Kincaid took Motta's course to connect research about ancient food systems to present-day food production.

"One of the issues with food production in the United States is that with our massive industrial scale we started engineering our crops," she says, explaining that even in ancient societies, humans consciously cultivated plants for specific traits. This evolved first into domestication and eventually into the hybrid and genetically modified plants we have today. By studying the food system in ancient Egypt, Kincaid says she can "see how these paths infiltrated our food system.

"I wanted to see the timeline of how we got from there to where we are now," Kincaid says. "By going back and seeing where it all started, hopefully we'll eventually come up with ideas on how to make our food system better."

the MICHIGAN DIFFERENCE



PHOTO @ P Marco Veltri/The PPC SPRING 2012 / LSA Magazine 41

SANDRA STEINGRABER (M.S. '85, PH.D. '89) was perplexed when she was diagnosed with bladder cancer at age 20. She didn't know why she'd developed a type of cancer associated with chemical exposure. And the fact that other family members, including her mom, also had cancer didn't directly answer any questions: Steingraber is adopted.

Years later, she found out that the drinking water wells in her Illinois hometown contained traces of farm and industrial chemicals, including those specifically linked to bladder cancer. What's more, she learned that the county had statistically elevated cancer rates. She was only a sample size of one, but she wondered: had exposure to environmental contaminants caused her cancer?

Since then, Steingraber has spent her career as a biologist and ecologist investigating the implications of the environment on health. Her first book, *Living Downstream: An Ecologist's Personal Investigation of Cancer and the Environment* (Da Capo Press, 1997),

is widely known as the first to bring together data on toxic releases with data from U.S. cancer registries. Currently a resident scholar at Ithaca College, Steingraber was hailed by the Sierra Club as the "New Rachel Carson," and she received a national Heinz Award in 2011 for her research and advocacy.

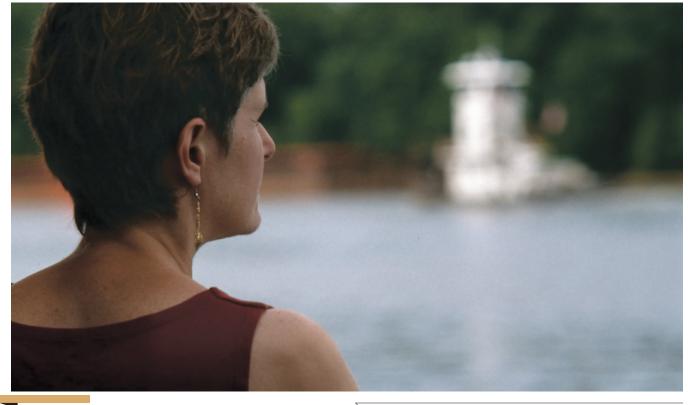
If By 2012, 100 billion gallons per year of fresh water will be turned into toxic fracking fluid. The technology to transform it back to drinkable water does not exist.

To those who dismiss linkages between cancer and environmental contamination, Steingraber points to a file folder on her desk containing studies connecting bladder cancer and a group of synthetic chemicals called aromatic amines. The earliest report comes from a German surgeon in 1895, who noticed bladder cancer among textile dye workers. The most recent addition is a 2009 study that found elevated bladder cancer rates among farmers who use imazethapyr, a pesticide that came on the market in 1989.

Aromatic amines have been known to cause bladder cancer for at least 100 years. And yet this knowledge, Steingraber observes, has not stopped their production or use. "This is a file folder of madness," she writes in the second edition of *Living Downstream* (published in 2010).

According to the President's Cancer Panel's 2008–09 Annual Report, approximately 41 percent of Americans will be diagnosed with cancer at some point in their lives. The report

notes that a commonly cited statistic regarding environmental factors — that they account for only six percent of all cancers — derives from a 1981 study and is thus "woefully out of date." Testifying before the panel, Steingraber encouraged dialogue about this linkage, stating, "... genes



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the MICHIGAN DIFFERENCE

and environment interact in ways that are so complex that it's really not worth arguing in my mind about how much plays what role.... We can't change our ancestors. So a practical place to begin a program of cancer prevention [is] with the environment, and lifestyle is wound up in the environment."

Most recently, Steingraber has researched hydraulic fracturing (fracking) — a drilling process that injects water, sand, and chemicals into the Earth's bedrock in order to break up shale and release natural gas. According to a report released by congressional representatives Henry Waxman (D-CA), Edward Markey (D-MA), and Diana DeGette (D-CO), fracking products contain 29 known or possible human carcinogens, regulated under the Safe Drinking Water Act, or listed as hazardous air pollutants under the Clean Air Act.

Steingraber argues that these contaminants can pollute the interlaced systems of the water supply, farms, vineyards, and dairies — with potentially lethal effects. In the September/October 2010 issue of *Orion* magazine, she wrote, "By 2012, 100 billion gallons per year of fresh water will be turned into toxic fracking fluid. The technology to transform it back to drinkable water does not exist."

Steingraber's concern led her to donate her 2011 Heinz Award prize — \$100,000 — to the grassroots fight against fracking of shale gas in New York State.

"I consider fracking the environmental crisis facing us today," says Steingraber. "It destroys more than bedrock. It fractures our food systems, our communities, and our families."

While calling for chemical reform — including a ban on fracking and an agricultural system void of pesticides — Steingraber says that environmentalism isn't about "doom and gloom." It's about innovation in design based on systems thinking. She uses her own household as an example.

"There are creative solutions to the environmental problems facing us today," she says. "The ecological cycles of my household mimic what I've learned out on the fields. I believe that the food web of my own home should reflect how the world should be. And it doesn't involve pesticides either. (See sidebar, "Keeping the Chemicals Out of the Kitchen.")

When she's not conducting research out on the fields or preparing healthy foods in the kitchen, Steingraber writes regularly about environmental and health issues for the *Huffington Post*, *Orion* magazine, and other publications. In a recent article for the *Canadian Medical Association Journal*, Steingraber says that, as a cancer survivor, she views growing old as her life's work. But as a biologist, she says her life's work has been — and will remain — "understanding the public story of cancer."

(OPPOSITE PAGE) "I left the lab bench for good and reinvented myself as somebody who writes about scientific evidence for the public," Sandra Steingraber says in the documentary *Living Downstream*. "The disconnect between what we in the scientific community know about carcinogens and what cancer patients are told is huge."



Keeping the Chemicals Out of the Kitchen

STEINGRABER OFFERS THESE THREE TIPS FOR HEALTHY, SUSTAINABLE EATING AT HOME

KEEP IT SIMPLE. Mindful of their carbon footprint, Steingraber, her husband, and their two children live in a 1,000-square-foot house with a push mower, a clothesline, and a vegetable garden. She shops for locally sourced foods at a co-op, where her husband works two hours each week so that their family receives discounted groceries.

CAN AND PRESERVE HARVEST. "In my 40s, I learned how to can tomatoes from a neighbor," she says. "Canning requires learning a skill set, from the very basic of cutting peaches to more complicated skills. It takes time in September, but having the jars right there in the house ready to be opened in January and February makes up for it."

COOK MEALS AT HOME. Ever since her kids, Faith and Elijah, began eating solid foods, they've received mashed-up versions of the home-cooked meals that Steingraber and her husband consume. She says they aren't "picky eaters"— except when it comes to fast food.

"My kids think [fast food] is over-salted and greasy," she says. "Junk food isn't inherently attractive; much of it is brown and ugly. A bell pepper, a carrot, green eggs from an heirloom chicken: they are all more attractive and interesting to children."

And due to Crock-Pot cooking, this working mom says she can prepare meals for her family any day of the week.

"I travel 100 days a year, but I feed my family with home-cooked meals 365 days a year. I may be far away, but I can call and ask, 'How did that cabbage turn out?'" says Steingraber. "Food binds us together, as it should."



A Pound of Flesh

The strange and squeamish idea of humans eating humans is an area of study for one professor, who opens up about a subject both **transfixing** and taboo.

PEGGY MCCRACKEN, LSA professor of French and women's studies and an associate dean at the Rackham Graduate School, has written a book about blood. She is researching one on skin.

So when she declares to a visitor in her charming-cum-chilling Southern drawl, "I am interested in cannibalism," an uneasiness fills her office. Sensing this, she quickly elaborates with a laugh: "I am interested in the topic of cannibalism.

"I'm interested in why people are fascinated by it."

That fascination could come from intriguing stories like that of the Uruguayan rugby team that, in order to survive, dined on their dead teammates after their plane crashed in the Andes mountains in 1972. Or the gruesome tale of Jeffrey Dahmer, who kept a buffet of victims in his apartment. Or the current mystery surrounding a German adventurer believed to have been turned into schnitzel by a local guide on a Polynesian island.

McCracken says she thinks of things such as the post-apocalyptic novel The Road, in which cannibalistic tribes roam Earth. But she also has discussed cannibalism during the First Crusade — she teaches a course on France and the Crusades - during which some of the earliest stories of people eating human flesh were reported.

Chroniclers of the 1098 siege of the town of Ma'arra (in what is now modern-day Syria) squeamishly acknowledged that acts of cannibalism took place, but beyond that there is little agreement on the facts.

Some only mentioned it in passing as a minor subplot to the main act of the Crusades. Some said it happened only after the siege was over, while others said it occurred in the midst of the fighting. Some argued that Crusade leaders banned the cannibalism to outside the city walls, while one writer said the eating of human flesh was done in the city square "with gusto."

The Tafurs, impoverished manual laborers who worked for the Crusade leaders, were - unfairly, according to some - marked as the offenders. But cutting up the bodies and cooking them was

On December 23, 1972, the last eight of 16 survivors from Uruguayan Air Force Flight 571 were rescued in the Andes Mountains. Their ordeal and subsequent cannibalism was the basis for the 1993 movie Alive.

excused as an act of extreme hunger.

Some writers even suggested that the acts of cannibalism were nothing more than a strategy of war, a warning to the enemy.

The recorded histories of the Ma'arra siege "seem to betray a certain fascination" with cannibalism, McCracken says. "It is troubling to them, but not because it's awful. There seems to be a curiosity about what human flesh tastes like."

People of the Crusades might have liked human flesh, McCracken says. Some of the writers talk about that attraction, but why it was attractive, she wonders.

"On one hand, it might be what people may want to do," she says. "It could be a medieval promotion of the Eucharist, a transubstantiation. Or by eating others, soldiers might think they are incorporating the virtues of those they are eating into their bodies."

You are what you eat, as the saying goes. McCracken says cannibalism will likely remain a topic for discussion in Western culture, both within the academy and without, because it presents a difficult question: Would you eat another human if you had to?

"It has a fascination for people because of our culture, because it's taboo.

"Because I wonder, if you had been in a crash like the rugby team and you're going to die and the others are already dead ... would you or wouldn't you eat them?"

Most folks will certainly buckle their safety belts, grab their seat cushions as floatation devices, and hope they never have to find out.



Two of the most famous cases of cannibalism stemmed from dire circumstances and a fight for survival.

THE ANDES FLIGHT DISASTER

Uruguayan Air Force Flight 571, en route to Santiago, Chile, crashed high in the Andes Mountains in October 1972. Of the 45 members who were on board at the time of the crash, only 16 were rescued two months later, after enduring horrific conditions, including avalanches, frigid temperatures, and starvation. The first person to be consumed was the pilot—a stranger—since most of the group knew one another and felt squeamish about eating friends.

THE DONNER PARTY

In 1846, a wagon train of 87 pioneers migrating westward became snowbound as they attempted to cross the Sierra Nevada Mountains late in the season. A frigid, snow-laden winter left the rapidly dwindling group starving and desperate—and facing the prospect of consuming the dead. Patrick Breen wrote in his diary, "Mrs. Murphy said here yesterday that she thought she would [c]ommence on Milt [and] eat him." Reports vary on how widespread the cannibalism was during that brutal winter, but of the 47 who survived, there's little doubt that the majority of them consumed human flesh in order to live.



Save the Bagels!

How two alums are **kneading**, **boiling**, **and baking** their way to entrepreneurship in Detroit.

BY 9:00 A.M., brothers Ben ('06, M.U.P. '10) and Dan Newman ('10, B.B.A. '10) have already been on their feet for hours. Dan stands over an industrial stovetop, carefully placing the circles of dough that were kneaded, shaped, and chilled the previous evening into a large pot of boiling water. Nearby, Ben pulls trays of freshly baked bagels out of an oven and tops them with melting slices of cheddar cheese.

The Newman brothers are the team behind Detroit Institute of Bagels, a startup Detroit bakery with the goal of creating

"fine bagels for the masses." DIB, as it has come to be known by locals, already has come a long way since its early-2011 beginnings in the kitchen of the brothers' flat in Detroit's Corktown neighborhood.

Though Ben gained experience in the food industry while working at Short's Brewery in Bellaire, Michigan, he says that it wasn't until 2008, when he started his graduate studies in urban planning, that he began considering a food business of his own — and how it might be a positive use for vacant property in Detroit.

"It planted a little seed," he says, while sprinkling sea salt over a tray of bagels. "I started thinking about what I would like to see in the city, and how a big part of what makes people's experiences in cities is the food."

At the same time, the younger Dan Newman was fresh out of LSA and considering the possibility of entrepreneurship.

"We started thinking about what kind of [food business] would attract both residents and visitors, and we realized that bagels

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the MICHIGAN DIFFERENCE

were a glaring thing that was missing in Detroit," says Ben. (Detroit's only dedicated bagel shop is a lone Einstein Bros. franchise on the campus of Wayne State University.)

So with little more than a dream — and practically no experience actually making bagels — the brothers got to work in their home kitchen and began tweaking what would become their signature crunchy-on-the-outside, chewy-on-the-inside bagel recipe. Before long, DIB was born.

Since they first started turning out small batch orders in the kitchen of their Church Street apartment in March 2011, DIB has come to represent one of the most creative models for starting and running a new business, especially in a Rust Belt city. They sell (and sell out of) bagels each week at Detroit Eastern Market Tuesdays; they've created their own "crowdfunding" campaign, www.savethebagels.com, through which they raised more than \$10,000 to buy a commercial oven; and they narrowly missed out on a finalist position in the inaugural Hatch Detroit competition, in which Detroiters with ideas for business ventures could vie for \$50,000 in startup cash and additional business development services.

Recently, the Newmans secured a permanent brick-and-mortar space to house DIB. The new headquarters are under renovation on Michigan Avenue in Corktown, the same burgeoning neighborhood where they began their venture. And while Dan and Ben plan to keep using fresh, high-quality ingredients to develop new flavors (think bacon cheddar, blueberry ricotta, and cherry chocolate) to keep customers coming back for more, their dreams for DIB go beyond simply creating a delicious taste.

"We'd like to make Detroit a better place to live," Dan says.

"We want to provide bagels daily to everyone that lives here, while also providing something you can't get anywhere else as a way to drive people into the city." ■

The Newmans prepare a batch of poppy seed bagels. Less traditional bagel varieties such as cranberry clementine and black pepper celery salt round out DIB's regular offerings.





DOUGH!

Frank Carollo (U-M '76) loves a good bagel — and so do his customers at the Zingerman's Bakehouse. Carollo helps mix ingredients such as chili cheddar and dried cranberries into dough that's boiled then baked for its "chewy, shiny crust" as The New York Times lauded recently. For those ready to try bagel-making at home, Carollo shares the Bakehouse's recipe for a plain bagel below.

Zingerman's Bagels MAKES 12 BAGELS

23/4 cup water

1/4 cup and 1 tbsp. barley malt

tbsp. demerara sugar

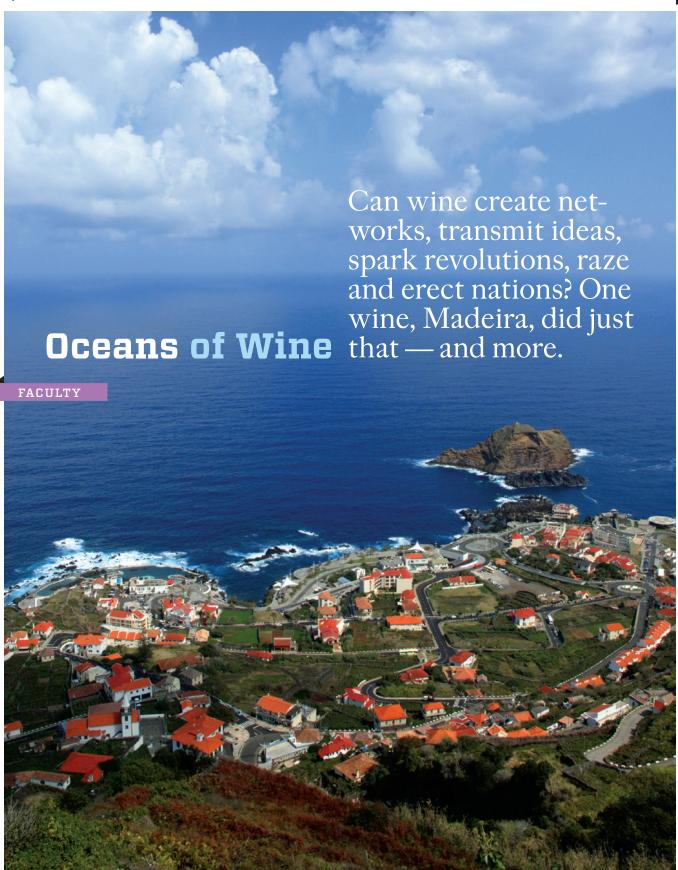
tsp. yeast

81/4 cup bread flour

tbsp. sea salt

- 1 In a bowl add the water, barley malt, demerara sugar, and yeast. Stir together with a wooden spoon. Add half of the flour and mix to incorporate the ingredients.
- 2 Add the remaining flour and salt and incorporate the ingredients together until the dough is a shaggy mass.
- 3 Empty the bowl onto a clean, dry surface. Knead the dough for 8 minutes, then put the plain dough into an oiled container. Cover with plastic wrap. Allow the dough to rest (ferment) at room temperature for 1 hour.
- 4 Divide the plain bagel dough into 12 pieces and cover with plastic. Roll each piece of dough into a strand about 8 to 10 inches long with bulges on both ends. Wrap the ends together overlapping about 1 inch and roll the seams to lock the ends.
- 5 Place the finished bagels on a lightly floured board and cover with plastic wrap. Ferment for 1 hour.
- 6 Pre-heat the oven to 475° one hour before baking bagels.
- 7 Bring a stockpot filled with water to a simmer. Add the bagels to the simmering water and boil until the bagels float (10-45 seconds).
- 8 Remove the bagels from the water. Place on a bagel board (wood covered with wet burlap) for a few minutes and then transfer the bagels to a cookie sheet and place into the oven.
- 9 Bake at 475°F for 3 minutes, then flip the bagel and continue baking for 18 to 22 minutes or until golden brown. Remove from the oven and cool.

by Katie Vloet



WHEN HE WAS YOUNGER, the only thing David Hancock knew about Madeira wine was that it was something old people drank, something his grandmother had on her sideboard when he went to visit.

Years later, while still a graduate student in history at Harvard, he interviewed for his first job there. He knew he did not want to hang around the department, waiting to learn he'd been hired. So he fled to Portugal's Madeira archipelago in the North Atlantic Ocean.

"I knew I would enjoy the place. The principal island was

legendary for its serenity: a large botanical garden-island where Winston Churchill went to paint and George Bernard Shaw to dance. The climate is near-perfect, with annual temperatures averaging in the 6os. Plus, at the end of a grueling dissertation, I liked the idea of doing nothing academic."

Or so he thought. Hancock — now an LSA professor of history — arrived during a rare patch of unpleasant weather. "It poured for days." To pass

the time, he wandered about the town of Funchal and took in the tour offered by the Madeira Wine Company. What drew him most was not its samples but the props used to support objects in its museum: 18th-century account books.

Unable to extinguish the historian within, he asked about them, and was taken to the boardroom, whose walls were lined with hundreds of volumes, containing letters and accounts of a dozen firms engaged in the export of Madeira wine to North America and other parts of the world between 1640 and 1815. So launched research that would result, many years later, in *Oceans of Wine: Madeira and the Emergence of American Trade and Taste* (Yale University Press, 2009).

From the documents, Hancock learned how an international cadre of producers, distributors, and consumers created a wine market and culture. In particular, he discovered how decentralized, networked, and self-organized processes ordered markets and lives.

Especially important were the men and women who sold and drank the wine, for they linked themselves to one another and in doing so formed networks. "The networks began as commercial entities, but gradually evolved into cultural, political, and intellectual systems," Hancock says. "They transported not just wine but also ideas and institutions of reform and revolution."

For example, the works of English author Edmund Burke advocating American independence were sent out by wine merchants from London to correspondents in the American colonies in the 1760s and 1770s. This may, Hancock says, "have given the Americans a false sense of the support within Britain of their revolution," a possible misunderstanding that worked in America's favor.

EXPERIENCING HISTORY

The principal island was

legendary for its serenity:

a large botanical garden-

island where Winston

Churchill went to paint

and George Bernard

Shaw to dance.

While stumbling upon the documents on the island might have been good fortune, locating supplementary material was hard work.

After his first visit to Madeira, he tracked down information in hundreds of national libraries and archives, county historical societies, museums, and private homes. Scattered all over Europe and the Americas, these documents and objects shed light on trans-Atlantic, trans-imperial economic and social life with a breadth and precision that few scholars of the Atlantic economy

had captured.

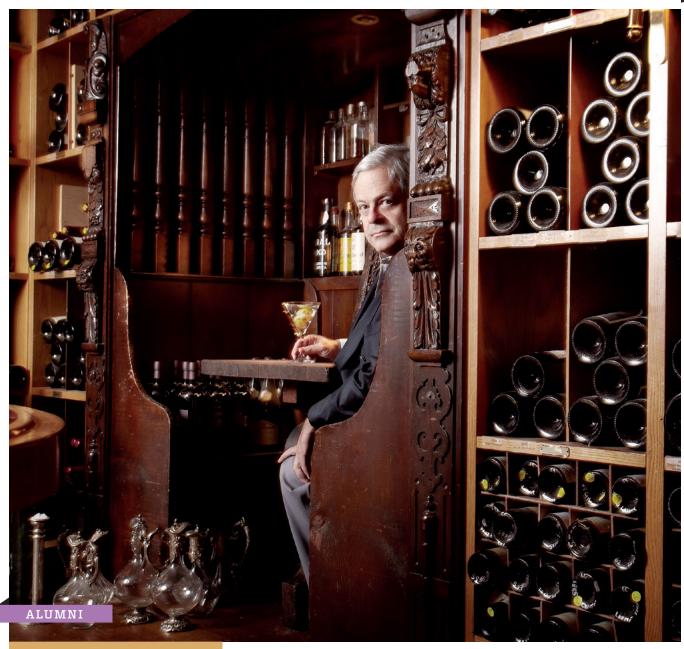
To locate the manuscripts, Hancock used everything from online genealogy sites to low-tech research tools like phone books. When he learned of someone involved in the Madeira trade, he'd contact likely descendants and ask if they had any material. One "ancient lady in Wales" shared with him an informative diary detailing how a Madeira counting house was run. "You just have to keep asking." Another de-

scendant, living in a large English country house, had more than 100 bound leather books chronicling consumers' tastes.

By the time he completed his research, Hancock had tried many thimbles of Madeira. How, then, did he feel about the drink that he once associated with grandmothers and syrupy sweetness? He loved it. "One part of my re-education was learning how to appreciate the wine itself."

In a way, experience is central to Hancock's approach as a historian. He visits the place; he participates in wine-making; he visits the homes of descendants; he pores over their letters and accounts; he drinks the wine Madeirans made out of the glasses they purchased from Bristol or London. "Historians don't experience the history they are writing about to the extent that they should." Then, remembering that he is speaking of wine, he pauses and adds: "In moderation."





Last A new book by Daniel Okrent tips a glass to Call the complex, puzzling history of 1920–1933, when the United States, a nation that loves its drink, went dry.

DANIEL OKRENT THOUGHT he understood the story of Prohibition.

But researching his latest book showed him Prohibition was about so much more than Al Capone, flappers, and bathtub gin.

"I knew nothing more about it than the average, reasonably well-informed American," says Okrent ('69), whose remarkable career includes nearly 40 years in magazine and book publishing and serving as the first public editor at The New York Times, in addition to inventing the most popular version of fantasy baseball. "We know the Hollywood version."

LSA Magazine / SPRING 2012 PHOTO Walling McGarity Last Call: The Rise and Fall of Probibition (Scribner, 2010) taught Okrent the complexity of the battle over booze, which included cultural clashes between rural residents and growing industrial cities, tensions over immigration and the cultural traditions new populations brought with them, the rising influence of women, and fights over tax policy.

He assumed the majority of Americans wanted alcohol banned, but learned that brilliant politicking by the anti-saloon movement combined with gerrymandering of political districts to give rural representatives malapportioned power led to passing the 18th amendment.

"There was nowhere near majority support," Okrent says.

Okrent was about to begin work on the Prohibition book in 2003 when he got a call from *The New York Times* to be its first ombudsman, in the wake of the Jayson Blair scandal. While Okrent was happy as a self-employed writer and wasn't looking for a job, "It was the *Times*, and I was the first one. How could I not do it?"

Okrent spent 18 months as the *Times* public editor, "the most interesting job I've ever had," but was adamant that the only way he could credibly serve as an internal advocate for readers was to serve a self-imposed short term. "I wanted to have the independence of a condemned man."

After wrapping up at the *Times* in 2005, he turned back to Prohibition, noting, "If you're going to spend five years with something as I do, you need to love it so you don't turn against it."

A GOOD WRITER, A BAD REPORTER

Okrent dreamed of being a reporter when he was in elementary school, making imaginary newspapers and loving seeing his name in print when he wrote a letter to the editor of his hometown paper.

"I was a pretty good writer, but I was a bad newspaper reporter," Okrent learned while at the *Michi-gan Daily*, and he instead landed in book publishing.

Okrent worked in publishing for nine years before he says, "I took a job I wasn't qualified for and left town with my tail between my legs." He returned to writing, having his first freelance piece published by *Sports Illustrated* in 1980.

That built on Okrent's long-standing passion for baseball, the same motivation for inventing an off-season baseball hobby: rotisserie baseball, named for the La Rôtisserie Française restaurant in New York, where the game began in 1979.

Baseball also led Okrent to be a repeat source for documentarians Ken Burns and Lynn Novick, who did a documentary mini-series on the subject in 1994, and a follow-up in 2010.

"He was incredibly good, incredibly knowledgeable, incredibly funny," Burns says, so he was eager to work with Okrent again for his 10-part series, *Jazz*. Okrent had written a jazz column for *Esquire* magazine for four years.

While working on his fourth book, *Great Fortune: The Epic of Rockefeller Center* (Viking 2003), a finalist for the Pulitzer Prize in history, Okrent learned that construction of Rockefeller Center involved demolishing more than 200 brownstones, many of them speakeasies.

He kept bumping up against tales of tremendous political clout wielded by speakeasy owners, and became intrigued by the United States amending the constitution, putting a ban of alcohol on equal footing with freedom of speech, religion, the press, and assembly.

In 2007, Okrent again collaborated with Burns and Novick on their recent PBS series *Prohibition*, with Okrent sharing chapters as he completed them and Burns and Novick sharing their photos, among other things.

While Okrent's book is not a companion to the Burns and Novick series, Burns says, "You can see these as two parallel efforts." For example, Okrent did a variety of interviews and publicity events last spring to promote *Probibition*.

Okrent says one of the most common questions he got during publicity events was comparing the 14 years of Prohibition to the war on drugs. While he didn't initially have an opinion, Okrent said it's hard to miss the parallels of legislating against human desires, leading to violent criminal syndicates finding a way to give the people what they want without paying taxes.

played out today," Okrent says. "You can't legislate against human appetite. This is something that goes back to the dawn of civilization.



COCKTAIL SHAKER FAKER

by Evan Hansen

It's 1931 and a saxophonist walks into a smoke-filled speakeasy and orders a Sidecar to wet his whistle. The barkeep grabs his brandy, triple sec, and lemon juice and pours them into ... a bell? During Prohibition, that was rather likely. Cocktail shakers came in just about every shape one could fathom: Bells. Airplanes. Even penguins. Born of Jazz Age-style and the possibility of getting pinched, these undercover shakers, like speakeasies, became big business. The bell above, known as the "Town Crier." was among the most popular forms, advertised after Repeal for "ringing in the good times." Naturally.

Sources: Visakay, Stephen. Vintage Bar Ware: Identification and Value Guide (Collector Books, 1997). Walker, Jimbo. www.shaken-stirred blogspot.com



Let Them Eat Cake

What happens in our brains when we taste? Professor Kent Berridge explains the complex relationship between our minds and our meals.

THE PLEASURE WE GET from eating is less about the mouth and more about the mind.

A slab of double-chocolate cake, for example, triggers a cerebral hotspot, a little clump of neurons about two inches behind the nose, right in the middle of the brain.

This pea-sized area in the forebrain, not the tongue or palate, is the source of pleasure one derives from experiencing a fluffy fork-full of cake, says Kent Berridge, the James Olds Collegiate Professor of Psychology and Neuroscience in LSA. "The pleasure of that sweetness and creaminess isn't in the food itself, it's in the brain," Berridge says.

We're actually born with an innate sense of yummy and yucky. Scientists have studied how various taste samples are recognized by newborn infants, who smack their lips to sweetness but cringe in disgust at bitterness.

Starting from this basic set of preferences, taste rewards or aversions then change through a lifetime of learning and can be shaped by culture. That is to say, part of why you love chocolate cake is because your brain rewards you with a little

tingle of joy every time you encounter it. Your brain wants you to repeat the experience. Who are you to say no?

"Taste is a natural key to pleasure," Berridge says. It triggers a thin circuit of connected hotspots in the forebrain that amplify

the sensation by putting out neurochemical signals of pleasure, including opioids, orexins, and endocannabinoids. These are the rewards that become key to learning to like a particular food.

"In a sense, culture does what orexin does," he adds. Cultural cues, like everyone around the table oohing and aaahing over that first sip of 2007 Chateauneuf du Pape, can set the reward circuits to trip. "Reward circuits are very sensitive to learning.

"Neural systems paint the desire or pleasure onto the sensation as a sort of gloss painted on the sight, smell, or taste," Berridge says. (No word yet on sexual sensations, but the Dutch are working on it, he says.)

Luckily, rats inherently respond to sweet and bitter much the same way as the newborn humans Berridge tested, and that has opened up a fruitful line of research. Having pinpointed some of the hedonic hot spots, or "pleasure locks," in the rat brain, Berridge and colleagues are able to painlessly inject minute amounts of various drugs that might enhance the

pleasure or desire for a given taste. Doing this, they've been able to make a rat like sweetness more, or want something it didn't even like at first, or want it past the point of liking.

The most surprising thing they've found by doing this is that dopamine, the neurotransmitter most often associated with sensations of pleasure (and its evil twin, addiction) isn't the key player in food pleasure at all. Berridge now distinguishes between liking and wanting because they are rooted

66Neural systems

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smell, or taste.

in two different neural circuits.

This was starkly illustrated in a 1991 experiment in which a rat's brain was electrically stimulated to signal wanting, but not necessarily liking. The animals ate twice as much of the treat, while actively disliking it. Such mis-

matches between the wanting for food and the actual need may be important avenues into understanding the eating extremes of morbid obesity or anorexia, Berridge says.

This set of questions also leads to an exploration of the neurobiology of addiction, work that Berridge is pursuing with LSA colleague Terry Robinson, the Elliot S. Valenstein Collegiate Professor of Behavioral Neuroscience.

Just know that it really is all in your head. When you're physically hungry and the aroma of that turkey in the oven is just about driving you mad with desire, what's really going on is that the hunger has set up an added neural reward: a squirt of orexin that goes from the hypothalamus to the ventral pallidum in the brain's basal ganglia, which "primes the (pleasure center's) lock to open," Berridge says. That first few bites of the bird sets off a cascade of happy signals in the pleasure circuit.

Your body enhances the brain's reward system to make sure it gets what it needs. "It's a system for valuing things out there in the world," Berridge says.

THE BITTER TRUTH

As his research team catalogues the genetic differences that set humans apart, Jianzhi "George" Zhang, a professor of Ecology and Evolutionary Biology in LSA, has found that humans have shed many of the genes used to make the pheromone-binding receptors that create a sense of smell. We've also lost some of the genes that would give us the ability to taste bitterness.

Zhang offers a possible explanation. "The ability to taste bitterness is important for detecting toxins in food, and most of those toxins are in plants. About one to two million years ago, we started eating more meat rather than plants," he says. We also acquired a taste for throwing our food onto a fire, which can detoxify.

Since this 2006 finding on bitterness receptors, Zhang's lab has done a series of investigations on genes in other animals that support the idea that dietary preferences have shaped the senses for taste and smell. Perhaps due to disuse, bats have lost the taste of umami, a fifth flavor added to sweet, sour, bitter, and salty that is found in shrimp, savory fish, cheeses, and tomatoes. Pandas, almost exclusive eaters of bamboo leaves, have lost their sense of umami too. And vampire bats, eating nothing but blood, have shed their sense of sweetness and umami.

Humans, says Zhang, will continue to taste bitterness less and less.

"Humans lost two bitter receptor genes since the separation from chimps," and there are "at least two more" that are leaving humans at present.

But he thinks the other four taste receptors (sweet, salty, sour, and umami) are still being used "so they will likely stay."



The End of Her Spear

The melting ice is a sign to one LSA student that it's time to leave campus and get to a lake, to catch fish the traditional Ojibwe way.

IT'S 10:00 P.M. ON A SATURDAY. LSA junior Jasmine Pawlicki holds up her flashlight and climbs into her father's canoe. It's cold out on Roberts Lake in northern Wisconsin in late April, but that doesn't bother Pawlicki. Her dad, Emanuel Poler, climbs in the boat behind her, his flashlight illuminating the shallow water, the canoe, and the 10-foot-long spears that they'll use to catch walleye.

"We paddle to the far end of the lake where my dad knows the fish spawn there really well," says Pawlicki. The ice has just melted, which for thousands of years has been a sign to her tribe, the Sokaogon band of Lake Superior Ojibwe, that walleye are in shallow waters ready to spawn.

"Back in the day, people used torches and fished with a torch

and a spear," she says. "Walleye have a reflective catch above their eye. We shine the light above them at night and can see them really well and then we know what to spear."

Pawlicki aims, then sends her five-pronged spear into the back of the walleye's head. Spearing the fish this way "is the most efficient, most humane method, and it keeps the meat intact," she explains. While the fish will remain on ice for the night, in the morning Poler will clean the walleye, fillet them, save some to eat, and freeze or sell the rest.

Pawlicki has been out in the canoe each spring since she was six years old. It's part of her heritage, and yet this world feels far removed from her hectic life in Ann Arbor. This year she declared her major in philosophy, and between researching and writing papers on ethics and ethnicity, taking both Ojibwe and French language classes, pursuing a minor in women's studies, and caring for her five-year-old daughter, there's not much time to just sit, to connect with nature and her past.

But that's what she does this night, glad that the busyness of another semester of schoolwork has ended. "Where we are on the lake there are no other lights, and the stars are amazing, so natural and beautiful," Pawlicki says.

"I can imagine my ancestors doing this. I think that's really, really cool." ■

LSA Magazine / SPRING 2012 IMAGE © Stefano Bianchetti/Corbis

From **last meals** to **how coffee works**, our interactive ride accelerates this second.



ALUMNI

The Last Suppers

In their own words, a handful of individuals tell us what they'd want to munch on if they had just one more plate of food before shuffling off to the great Block M in the sky.

PHOTOS Rob Hess SPRING 2012 / LSA Magazine 55





DEANN BAYLESS

I would eat anything in a tortilla, and probably mole (pronounced mol-lay), a dark, flavorful sauce that fills the soul. There really isn't anything like handmade corn tortillas. Seriously, you can put anything in them and it's really delicious: Give me some guacamole or black beans, and I am completely satisfied.

I would have my last meal at home in my backyard in Chicago, with family close by. I'd pair the food with a great wine — ideally a sauvignon blanc.

I hope my husband, Rick, would cook my final dinner. His careful work in the kitchen preparing it would make it all the more special.

Deann Bayless ('71, '78 M.U.S.) is one of the foremost women restaurateurs in the United States alongside her husband, chef Rick Bayless ('75 M.A).

FUGENE ROBINSON

If I had to describe my final meal in one word, it would be: huge.

The meal would commence with two-dozen fresh Chincoteague oysters from Chesapeake Bay, followed by a bowl of authentic New England clam chowder. I'd then have a plateful of spaghetti alla carbonara. The next course would be a thick, juicy rib-eye steak, cooked medium. Following would be a French-style salad, composed of greens with light vinaigrette, and a cheese course (chef's choice).

Finally, the meal would be topped off with a wedge of my wife's (very delicious) chocolate cheesecake and a cup of Italian coffee.

Eugene Robinson ('74) is a Pulitzer Prize-winning columnist for the *Washington Post* and appears regularly as a political analyst on MSNBC.



GABRIFI I F HAMILTON

If I am lucky enough to have my last meal on earth somewhere by the sea, spontaneously, on a bluing early evening when the waves have calmed to nothing more than gentle laps at the shore, I think I'd go ahead and take my last grab at the world's best Iranian caviar, rather a lot of it, and some buttered toast with a couple of bottles of Billecarte-Salmon rose champagne to drink. Singlehandedly.

But somehow I fear that my last meal will be slid to me under the door on a stainless steel tray in a jail cell on death row. Guilty conscience? In that unlucky context, I think I'll take just a cup of warm, salty chicken broth, a small plate of softly scrambled eggs, and a glass of cold beer poured over ice cubes.

However, if they wanted to use Billecarte-Salmon rose champagne as the fluid in the lethal injection, I would not resist.

Gabrielle Hamilton ('97 M.F.A.) is a critically acclaimed chef and owner of Prune restaurant in New York City, and is the author of the bestselling memoir *Blood*, *Bones and Butter*.

GI YNN WASHINGTON

Okay, so, I have two last meal selections. First, I wish somebody would bring back Steve's Lunch on South University Avenue [in Ann Arbor] so I could order the Spicy Chicken. Lord, I used to love that place.

Until then, I want someone to ask their Brazilian auntie to fix me up some moqueca (fish stew) out of whatever the boats brought in that day. Lobster, crab, sunfish, whatever. It's my last meal, so whoever's cooking must be over 65 years old so they know what the hell they're doing.

Please know I'm gonna need a few cocktails to wash it down.

Glynn Washington ('92, J.D. '96) is the host and executive producer of *Snap Judgment*, distributed by National Public Radio.



SANJAY GUPTA

I've lived a pretty healthy life, and I also believe in practical immortality, so I envision my last meal occurring somewhere around 120 years old. It would be a very large gathering of loved ones over a very long afternoon. Green tea, a healthy source of caffeine, would keep us awake, laughing and sharing stories for hours.

Family and friends alike would have a hand in designing personalized flatbread pizzas. While researching my book *Chasing Life*, I found that you'll pretty much cover all nutritional bases by eating seven different colored foods a day. So there would be an array of colorful vegetables and toppings to choose. (I'm a fan of fresh tomatoes and pineapple.)

Dessert would involve my weakness: ice cream (which is also kid-friendly—I hope I'm spending most of these last moments with great-great grandchildren!). We'd have a sundae bar with plenty of antioxidant-rich options to choose from, like blueberries and walnuts, and...since it's the very last meal, why not a little chocolate?

Sanjay Gupta ('90, M.D. '93) is CNN's chief medical correspondent. His latest book is titled *Monday Mornings*.





ARIANA BARKIN

For me, food is about more than just taste; it's a bearer of memories. I'd want my final meal to conjure up memories of the wonderful moments of my life, and I would choose Thanksgiving dinner at my parents' house, the place where I grew up.

My mom, dad, three sisters, and their husbands and kids would all come together to indulge in my mom's favorite holiday. We'd feast upon roasted turkey, challah stuffing, freshly baked cranberries, homemade applesauce, mashed sweet potatoes, and homemade pumpkin bread. Nothing would be better than gathering around the dinner table with my family, sharing stories and memories.

Ariana Barkin is a junior majoring in International Studies. She is currently working as an intern at Sweet Heather Anne's, an Ann Arbor cake shop.



TELL US WHAT YOU'D CHOOSE TO EAT FOR *YOUR* LAST MEAL **www.lsa.umich.edu**

HOW COFFEE WORKS!

Each particle of pick-me-up in your morning coffee has traveled a great distance, not to mention been transformed and refined, to be there for your daily grind. Here's the life cycle of a typical bean:



There are two species of tropical plants, both bushy evergreens, that provide most of the world's coffee.



Five years after planting, and as berries ripen from green to red, the bush is harvested.





The Coffee



Coffea arabica

- · two-thirds of all beans in trade
- · more complex & balanced flavor
- · less caffeine

Coffea canephora ("robusta")

- disease-resistant
- · less acidic; smoky, tarry aroma
- not prominent until late 1800's

Both grown here

Most berries are handpicked, but in some places (like Brazil) it's done by machine. Often only ripe berries are selectively picked, but usually entire crops are strip-picked.



By applying heat, green coffee will transform into fragile, easily opened packets of flavor.



Chemical reactions inside the bean begin to make it puffy, oily, and tasty.

> Starches become sugars Acidity weakens Aromatic oils develop

> > 450° l





It's usually done with large commercial machines, but home roasting is also possible. Temperature and duration of heat impact a bean's consistency, color, and flavor:



"Italian Roast" · Very dark

- ·Shiny w/oil
- ·Used mostly for espresso



"French Roast" ·Burnt flavor ·Surface oil



"Vienna Roast" ·Second crack ·Light oil



"Full City Roast" ·Rich, even color ·Often bittersweet



"City Roast" ·Most popular



"American Roast" •Right after first crack



"Cinnamon Roast" Lightest drinkable bean



Drying Phase ·Yellowing, enlarging



Unroasted Can be stored for 2 years



The Roasted BEAN

Beans are (ideally) put into cool, dark, dry, airtight containers.





Don't fear! Your coffee is headed your way!



LSA Magazine / SPRING 2012 ILLUSTRATION Dan Zettwoch 3 PROCESSING

In this important step, the outer covering and pulpy fruit are removed from the berry, leaving the seeds (aka the "beans"). There are two primary ways to do it:

PROCESSING The Coffee **BEANS***

In this older method, beans are sorted, then dried naturally in the sun.

Don't forget to

turn me!

It's slower, more laborious (and expensive), but the beans have more body and less acidity.

After 2-4 weeks the dried, crumbly berry will be ready to shed the rest of its skin.

*not technically 'beans

This method uses lots of water and equipment. First, usable berries rise during immersion.

They are fermented and washed or mechanically scrubbed to remove pulp, then dried.

This will produce consistent coffee with less body but more aroma.

Optional steps:



Any remaining fruit or parchment will be removed and dry coffee will become sought-after "green coffee" beans.



Decaffeination

Burr-grinding

Blade-grinding

GREEN COFFEE

> GROUND OFFEE

Pounding

Grading origin and quality

Cleaning & Sorting size, density, and color

Hulling

Middle East, c. 1600 Bitter Flavor, Full Body

Espresso

Italy, 1855 Bitter Flavor, Full Body

Drip pot France, c. 1750 Full Flavor, Light Body



Percolator France, c. 1800 Full Flavor, Light Body

Plunger

Finally! Enjoy your morning joe even more now that you know what the little coffee bean has been through.

Beans will be ground into a specific fineness, whether by machine or hand.

Water can be introduced to the grounds in many ways, but these are the main methods. LIQUID

COFFEE



Hey, is that a fly egg in your tomato juice?

Which do you know more about—
the University of Michigan or what's
in your food? **Take this short (and potentially stomach-churning) quiz to find out.**

TITLE 21, PART 110.110 of the Code of Federal Regulations allows the Food and Drug Administration (FDA) to establish maximum levels of natural or unavoidable defects in foods for human use that are said to present no health hazard. The booklet, "The Food Defect Action Levels: Levels of Natural or Unavoidable Defects in Foods That Present No Health Hazards for Humans," lists how much of these naturally occurring (albeit disgusting) defects are allowed before the government intervenes. We've pitted these "Food Defect Action Levels" against U-M trivia to come up with a quiz best completed nowhere near food.

<WHICH IS GREATER?>



The number of current U-M regents

< or >

the maximum number of fly eggs that the FDA permits in 100 grams of tomato juice (the size of a small juice glass)?

The number of fly eggs. While there are eight regents sitting on the board, the FDA allows up to 10 fly eggs per 100 grams of tomato juice.



The number of seats in U-M's largest lecture hall

the number of insect fragments allowed per 10 grams of ground thyme?

The number of insect fragments. 1800 Chem seats 550 individuals; the FDA permits up to 925 insect fragments per 10 grams of thyme.



The number of head coaches in U-M football program history

< or >

the amount of rodent hairs permissible per 50 grams of ground cinnamon?

The number of head coaches. While 18 men have coached the Michigan Wolverines, the FDA will step in if there are 11 or more rodent hairs per 50 grams of ground cinnamon.



The number of years since U-M was first established

the number of insect parts allowable in an 18-ounce jar of peanut butter?

Number of years since U-M was established. U-M is currently 195 years old. Up to 145 bug parts are acceptable in an 18-ounce jar of peanut butter.



The number of residence halls on U-M's campus

< or >

the maximum number of rodent hairs allowed per 50 grams of wheat flour?

Number of residence halls. There are 18 residence halls on campus, while the FDA intervenes if there is an average of 1 or more rodent hairs per 50 grams of wheat flour.



The population of Ann Arbor in 1837 (when U-M first moved its campus)

the amount of insect fragments permissible per 10 grams of ground oregano?

The population of Ann Arbor. Ann Arbor had a population of approximately 2,000 when U-M moved its campus. The FDA allows up to 1,250 insect fragments per 10 grams of ground oregano.



The number of NCAA Division I championships in U-M Men's Ice Hockey program history

< or >

the maximum average of whole insects allowable in 100-pound bag siftings of shelled peanuts?

The maximum amount of whole insects in a bag of shelled peanuts. The FDA intervenes if there is an average of 20 or more whole insects in 100-pound bag siftings. The Wolverines have won nine Division I NCAA Men's Ice Hockey Championships (1948, 1951, 1952, 1953, 1955, 1956, 1964, 1996, 1998).



The age of U-M's Program in American Culture

< 10 >

the maximum amount of maggots admissible per 100 grams of drained mushrooms.

The age of U-M's Program in American Culture. While the program is 60 years old (created in 1952), the FDA allows a maximum of 20 maggots (of any size!) per 100 grams of drained mushrooms.



52 LSA Magazine / SPRING 2012 PHOTOS Walling McGarity

SPIN the CUBE

SARA MOULTON ('74) EVANGELIZES

home-cooked weekday dinners with a PBS series, a cookbook, and an iPhone application.

She also practices what she preaches. Moulton cooks dinner in her New York home five nights a week, sometimes more, in something of a sacred ritual: Her husband, Bill Adler, turns on the news at 6:30 P.M. and she starts dinner, then they eat by 7:30 P.M. with their daughter, Ruth.

66 I'm really a lazy cook, and I never want to spend more than an hour making dinner, 77 Moulton says. But she's not too lazy to cook dinner from scratch.

Moulton, who waitressed at Ann Arbor's late Del Rio while a student in LSA, graduated from the Culinary Institute of America and worked as a chef before bluffing her way into a job with Julia Child. The legendary chef led Moulton into the world of television cooking, and the two were friends for more than two decades.

Even as Moulton hosted Cooking Live and Cooking Live Primetime on the Food Network, and ran Gourmet magazine's dining room, she made time to cook family dinners.

Moulton's new app, "Sara's Kitchen," features photos and videos shot in her home kitchen. Recipes are organized by category for quick browsing, with an interactive shopping list included to help you save time in the grocery store.

"It's cliché, but dinner time is really the glue that holds our family together," Moulton says.

For Sara's salmon, carrot, and edamame recipes (PICTURED LEFT), visit www.saramoulton.com



DON'T PANIC. AND OTHER RULES FOR

Sara Moulton shares some of the practical tips at the heart of her PBS series, Sara's Weeknight Meals, and her cookbook, Sara Moulton's Everyday Family Dinners (Simon & Schuster, 2010).

- **Use time-saving tools.** Moulton makes heavy use of her food processor, for example. "It's a great way to speed things up," she says. Moulton experimented with shredding beets in her food processor because they took too long to cook whole, and they stained her hands when she chopped them. Shredded beets take just a few minutes to sauté.
- Keep a well-stocked kitchen. Moulton aims to have a mix like five proteins, five starches, and five vegetables on hand at all times. "Nobody's going to get dinner on the table if you wait to go to the grocery store after work to get an idea," Moulton says. She suggests keeping an inventory list, laid out like your grocery store, so you can make sure you always have your basics.
- **Skip the prepared foods.** "Every time you use something prepared, you get more additives," Moulton says. If you keep weekday menus simple, planning your time well, they aren't necessary. For example, Moulton makes vinaigrette – about ¼ cup sherry vinegar, ³/₄ cup olive oil, smashed garlic cloves, a dollop of Dijon mustard and salt — then uses it for salads all week.
- Prep as you go. French cooking teaches a technique called *mise en* place, meaning "putting in place," in which the chef does all washing and chopping before beginning to cook. "I completely dispensed with that," Moulton says. "I take advantage of cooking time to get on with the next thing." For her salmon, carrot, and edamame dish, she starts the edamame boiling for about 25 minutes. then works on the carrots while the beans boil, for example.

- Timing isn't everything. "One of the biggest problems people have is getting everything to finish at the same time," Moulton says. "I say, 'Precook the food until it is almost done and reheat it."
- **Use your kitchen timer.** Moulton uses her senses of smell, touch, and taste to help determine when food is done, but when multitasking, a timer helps keep her on track. "I put a timer on because I'm doing so many other things," she says.
- Cultivate recipes you can feel comfortable making. While Moulton admits, "Sometimes I bore myself" by leaning too heavily on favorites, those familiar dishes also mean she doesn't have to think about them too hard, and she knows what she needs to have in stock to make them.
- Add seasonings and salt as you cook. "If you wait to season at the end, the seasoning sits on top of the dish and it seems like it's an afterthought," Moulton says.
- **Clean up as you go.** Though Moulton's husband cleans up after she cooks, she takes advantage of cooking time to tidy up so she doesn't leave a time-consuming job after dinner.
- **Don't panic.** This is a lesson Moulton learned in a knitting class, and she said it applies equally in the kitchen. "Almost anything is fixable," she says. "Or just tell people it was supposed to be something else. That soufflé that crashed - reposition it as a pudding cake."

Hungry in America

by Charlie LeDuff ('89)



LONELY'S WORSE THAN HUNGRY.

That's what a brassy old Brooklyn woman said to me about 10 years ago. I wrote it down. It was a clever thing to say. Especially when you're well fed and smoking name-brand cigarettes.

And people like reading clever things in the newspapers over their Sunday omelets.

But it is not true. Hunger is probably the worst thing there is.

Even a dog can tell you that.

I don't live in New York anymore, where I used to earn my bread writing clever things for the weekend edition. I live in Detroit now. Not in Detroit proper, but just on the outskirts. The level of hunger in Detroit makes it too dangerous to raise a daughter there.

There are many ways to measure the hunger: murder, poverty, illiteracy, unemployment, abandonment. Detroit, as you all probably know, tops nearly every one of these lists. But as we all know, the hunger is being felt all over America.

What does it look like? This hunger? To me it comes in the form of orange drink served in a nippled bottle to an 18-monthold. This passes for orange juice.

The 18-month-old plays in a dirty diaper, in the splinters of a burned-out house that molders next door. The city is too broke to tear it down.

The child's mother might walk to the store and buy some decent food, one would think. But there is no decent food for a good price anywhere near here. There are instead 30 liquor stores — two miles in either direction. A bottle of orange juice there goes for \$2. A pack of no-brand menthol cigarettes goes for \$6. The mother buys those and the carton of orange drink.

The mother might get on the bus and go farther away for cheap, decent food. But sometimes the busses don't come for hours. And who wants to stand on a cold, dangerous corner in a cold, dangerous city?

The mother might go to the food bank. But the shelves there are skeletal. As it happens, others have little to spare.

So, the mother takes her children to the suburbs and moves in with her sister and

her kids. Six in a two-bedroom rented with Section 8.

Their neighbor is an unemployed tooland-die man. He is on food stamps. Two million people in Michigan are on food assistance — that's one in five. One-time mechanics. Bus drivers. Clerks. Used-tohaves. The newly hungry. The desperate.

The unemployment checks are running out. The bank is closing in. The state is starting to take away the food stamps from people with more than \$5,000 in assets.

City. Suburbs. It's all starting to look the same. Gaunt.

The free-breakfast lines are long in the suburban schools. They serve orange drink sometimes, the mother tells me through her discount smoke when I come to visit.

Nobody complains about the orange drink, she says without irony. Complaining would be bad manners.

Because as the truly hungry know — hungry is worse than lonely. ■ Charlie LeDuff is a Pulitzer Prizewinning author and a reporter for

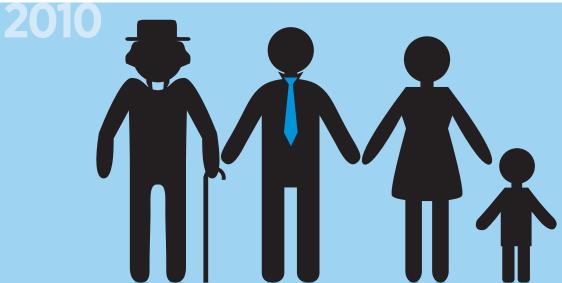
WJBK-TV in Detroit.

Snapshot of American Hunger in the 21st Century

nation wide

48.8 million people lived in food-insecure households in 2010.

In an average month, the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp Program) provided benefits to **40.3 million people.**



SENIORS

7.9%

of households with seniors were food-insecure.

30%

of food-insecure households with seniors were forced to choose between food and medical care.

35%

had to choose between food and paying utilities.

INDIVIDUALS



29%

of food-insecure individuals lived above 185% of the federally established poverty line and received no food assistance.

15%

lived between 130% and 185%

of the poverty line and received assistance only from government programs such as the National School Lunch Program or the Special Supplemental Nutrition Program for Women, Infants, and Children.

55%

lived below 130% of the poverty line and received SNAP assistance.

On average, food-insecure individuals reported needing an additional \$13.99

HOUSEHOLDS

Highest food-insecurity rates by geographical location:

35%

Metropolitan (core urban area of 50,000 or more residents).

22%

Micropolitan (core urban area between 10,000 and 50,000).

43%

Suburban/Rural.

States with highest food-insecurity rates:

Mississippi

Texas Arkansas Alabama Georgia Ohio Florida

California North Carolina

CHILDREN

16 million children

lived in food-insecure

21 million low-income children

received free or reduced-price meals through the National School Lunch Program.

But only

2.3 million of those same

participated in the Summer Food Service Program.

500 South State Street, Suite 5000 Ann Arbor, MI 48109-1382

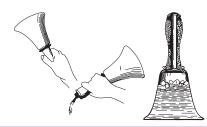
DID YOU MISS IT?

Make sure you check out these stories!



How to make a Zingerman's bagel. P. 47

What would Sanjay eat? America's doctor prescribes his last meal. **P.55**



BELLS, AIRPLANES, AND PENGUINS: COCKTAIL SHAKERS DURING PROHIBITION. **P. 51**

Hey, is that a fly egg in your tomato juice? **P.60**