Fruits of the Earth

Three Local Experts Weigh In

California lemon crate label, c. 1940's. Source: www.thelabelman.com
Cuisine Traditions of Mali

We regret that this segment on p. 18 of our last issue contained several errors. We are printing a corrected version here.

A particular nation in Africa was the focus of an illustrated talk given in April by CHAA member Ann Larimore, “Cuisine Traditions of Mali, an Islamic Country in the African Sahel”.

Larimore, an emerita professor of geography and women’s studies at UM, has visited Mali numerous times. Since 2002 she has been visiting her daughter Christine and son-in-law Ydrissa Sow, who work in public health agencies in the capital, Bamako, a city of one million on the Niger. Ann has been able to observe their chief cook, Khadja, preparing classic dishes in their kitchen. She has also located two Malian cookbooks: K. Sow, which work in public health agencies in the capital, Bamako, a city of one million on the Niger. Ann has been able to observe their chief cook, Khadja, preparing classic dishes in their kitchen. She has also located two Malian cookbooks: K. Culhane, ed., Mali: Cuisine and Culture, produced for the 2003 Smithsonian Folklife Festival jointly by the Malian Ministry for the Promotion of Women, Children and Families and USAID; and Lydia Gautier and Jean-Francois Mallet, Le Vrai Goût du Mali (Paris, 2006).

In Mali, as throughout Africa, the diet varies by region and class. The capital is full of commercial irrigated vegetable gardens and permanent markets, while the rural areas have markets one day per week. Food is cooked in pots over an open fire, not in an oven; the rural areas supply the main fuel, charcoal, and two of the main cooking fats, peanut oil and shea butter. The population is 97% Muslim, and Sufi Muslim orders are strong. Some groups practice animist religions and others Christianity. Some popular dishes come from various groups of West Africa. In Bamako, French culinary dishes can be found in bakeries and cafés catering to cosmopolitan Malians and expatriates. Lebanese merchants operate the West African trade in European foodstuffs, as they have for some generations.

Midday is the traditional time for the main meal. In much of the country, the staple dish is to, which is a thick gruel made variously from ground millet, sorghum, corn, cassava, or (a sign of prosperity) rice. The starch is boiled in water and stirred in a pot for a long time, to a dumpling-like consistency. The dish is accompanied by one or more sauces: perhaps an okra sauce, a chicken sauce, a fish sauce, a hot pepper sauce, or even a rich sauce of Senegalese origin made with tomatoes, fish, meat, squash, and other vegetables. With the fingers of the right hand, a bit of the to is taken from the common bowl, then dipped in the sauce or else mounded around a morsel of food in the sauce, and brought to the mouth.

Other dishes mentioned by Ann include: tigadeguena, a sauce of peanut and tomato paste, onions and other vegetables with lamb, chicken, or beef, served with semolina couscous or rice; cassava couscous, a dish from Côte d’Ivoire; djouka, made from fonio (a tiny-grained African cereal) and ground peanut, which are cooked together until completely integrated; sheep’s-head stew with vegetables; faccoy or fakawoyi, a mild, dark-green sauce from the Songhai people in northern Mali, made from asohon leaves and eaten with rice or to; gnomi or frou-frou, dollar-sized pancakes; and bouilli, a thin, sweet rice-gruel eaten for breakfast. Interesting beverages include juices made from ginger, baobab fruit, tamarind, or hibiscus pulp; and hot mint tea, much as in Morocco.
W.P.A. RECORDS ARE MINED FOR CULINARY RICHES

by Randy K. Schwartz

In an exciting development, culinary historians are extracting treasures of information from 70-year-old records of the Work Projects Administration (WPA). They are painting a picture of the customs that thrived in the U.S. prior to the large-scale industrialization and commercialization of food, which accelerated after World War 2.

The WPA, a Depression-era program launched by Pres. Franklin D. Roosevelt in 1935 and running until 1943, hired jobless people to work on large-scale federal projects for the public good. Some were put to work erecting civic improvements; others created public art. Writers and journalists were assigned to the WPA’s Federal Writers’ Project to help chronicle America’s history and culture.

One of the many Writers’ Project programs was called “America Eats”. Its goal was to document the local and regional food customs of the nation through on-the-spot reporting, interviews, and oral histories, and to publish the results as a book summarizing “American cookery and the part it has played in the national life.” Most of the writers involved are still obscure, while others are now famous: Eudora Welty, Saul Bellow, Richard Wright, Zora Neale Hurston, Arna Bontemps, Ralph Ellison, Nelson Algren. Artists such as Dorothea Lange, Ben Shahn, and Marion Post Wolcott served as photographers.

Before the America Eats findings could be centrally edited and published, WW2 intervened and the project was cut short. However, many of the records and manuscripts ended up in the Library of Congress and other archives. Starting a few years ago, the Culinary Historians of New York (CHNY) has functioned as a clearinghouse to help centralize knowledge of these materials and to move toward their eventual compilation, most likely in digital form.

Already Pat Willard, a CHNY member and food writer in Brooklyn, has examined many of the materials and compiled an anthology, America Eats!: On the Road with the WPA—The Fish Fries, Box Supper Socials, and Chitlin Feasts That Define Real American Food (New York: Bloomsbury, 2008; 320 pp., $25.99 cloth). As her subtitle indicates, the America Eats project focused on popular traditions of family and communal eating—this kind found, say, in a luncheonette, a corner soda fountain, a crowded urban market, a Passover seder, a threshing dinner, a possum hunt, or the annual watermelon festival in Rush Springs, OK. Willard also included about 20 heirloom recipes such as Root Beer, Pickled Watermelon Rinds, Chess Pie, Son-of-Gun Stew, and an account of her own travels across the country seeking remnants of these traditions.

Mark Kurlansky, a history writer well known for such books as Cod, Salt, and The Big Oyster, has mined some of the same materials as Willard for his work The Food of a Younger Land (New York: Riverhead Books, 2009; 416 pp., $27.95 cloth). As its front cover advertises, this book provides “a portrait of American food—before the national highway system, before chain restaurants, and before frozen food, when the nation’s food was seasonal, regional, and traditional”. Like Willard, Kurlansky has interspersed his own commentary with his selections from the original writings from the 1936-43 period. But while Willard’s book is organized by type of setting (fundraising dinners, agricultural fairs, church suppers, etc.), Kurlansky’s is organized by region (Northeast, South, etc.). Both books can be seen as “appetizers” to be savored before the main feast of information from the America Eats project is laid on the table.

Some earlier food histories based on WPA records were published a decade or more ago, but were regional rather than national in scope:

- David E. Schoonover edited America Eats (Iowa City, IA: Univ. of Iowa Press, 1992), the original manuscript prepared by Nelson Algren of Chicago and his project colleagues reporting on Depression-era foodways in Illinois.

Apart from the records of America Eats, other materials left by the WPA’s Federal Writers’ Project are also relevant to studying America’s culinary history. The most ambitious and successful of all Writers’ Project efforts was the American Guides, a series of well-written, widely-sold state guidebooks designed to stimulate travel and help bolster the depressed economy of the time. Many of these travel guides have recently been reprinted. The WPA Guide to Wisconsin: The Federal Writers’ Project Guide to 1930s Wisconsin (St. Paul: Minnesota Historical Society Press, 2006; 680 pp., $19.95 paper) includes, among much else, some observations on the agriculture and public eateries of each locality in the state. Similar WPA guides have been reprinted for over half of the states and for several major cities.

Standing in a category of its own is an essay, “More Than Just ’Possum’n Taters: Texas African-American Foodways in the WPA Slave Narratives”. It was written by T. Lindsay Baker, an author and history professor at Tarleton State University (Stephenville, TX), and appeared in a collection edited by Francis Edward Abernethy, Juneteenth Texas: Essays in African-American Folklore (Denton, TX: Univ. of North Texas Press, 1996). What Prof. continued on page 2
GUINNESS AND VERNORS: THE DUBLIN CONNECTION

The year 2009 marks the 250th anniversary of Arthur Guinness’s founding of the Guinness Brewery in Dublin. Thanks to its sales of dark stout and porter, that Irish firm grew to be the world’s largest producer of beer and ale.

But a corner has been turned. Bill Barich, an American writer based in Dublin, notes sadly that there is less stout being sold these days in Ireland than in Nigeria. It seems that modern Irish folks prefer wine, and lighter beers from Germany and the United States. More importantly, he laments, the Irish pub itself is being killed off—at least as a genuine and vital institution—replaced by tacky pub replicas and corporate sports bars. Barich’s new book, A Pint of Plain: Tradition, Change, and the Fate of the Irish Pub (New York: Walker & Company, 2009; 242 pp., $25 cloth, $15 paper), attempts to explain why this has happened. It discusses the historical role that these taverns once played in shaping not only the eating habits but the very national identity of the Irish. His story follows the pubs’ evolution, with an emphasis on the impact of today’s trends toward globalization.

Guinness itself is now owned by a huge multinational corporation. Apparently, however, corporate acquisitions don’t always lead to product uniformity. A recent travelogue by a visiting Australian, Evan McHugh, Pint-Sized Ireland: In Search of the Perfect Guinness (New York: St. Martin’s, 2008), emphasizes that the quality of Guinness products varies astounding from place to place within the Emerald Isle.

Also published last year was the attractive volume The Irish Pub (New York: Thames & Hudson, 2008; 192 pp., $40 cloth) by James Fennell and Turtle Bunbury, who are travel writers and historians in the British Isles. The book provides close-up portraits of selected pubs, organized into three chapters: Urban Retreats, Rural Charm, and Contemporary Heritage. They include over 200 color photographs, as well as engaging commentaries about the pubs’ fare, interiors, customers, and traditions.


What’s the Irish connection? As the story goes, Vernor was trying to duplicate a popular ginger ale that was imported from Dublin. But when he aged his beverage in an oak cask, it came out “deliciously different” from the Irish version and—many Detroiters would vouch—from every other drink known to man. Eventually, when Vernor established his own drugstore on Detroit’s main thoroughfare, Woodward Avenue, he began dispensing the ginger ale at his soda fountain, and its popularity soared. The company thrived until the mid-1980’s, when it was acquired by A&W (now part of Cadbury Schweppes).

SUSHI FOR THE WORLD

Between roughly 1970 and 1990, the average price paid to Atlantic fishermen for bluefin tuna was multiplied by 100, largely because of the world’s astoundingly increased craving for morsels of raw fish with rice. How did sushi, until recent decades virtually unknown outside East Asia, so quickly become an eating habit that is indulged on a world scale?

The custom is actually rooted in a pickling technique developed many centuries ago. Japanese nigiri-zushi (literally, “hand-formed sour thing”) was made with meat or fish that was packed away for a few months with salt and fermented rice. The vinegar produced by rice when it ferments helped preserve the meat. By the 1500’s, people stopped discarding the rice and began to eat it as part of the dish.

Later, when industrialization came to Japan, city dwellers wanted foods that could be prepared quickly for delivery to the home, or eaten at portable stalls set up on streets and in theaters. Around 1830 in the city of Edo (later renamed Tokyo), a nigiri-zushi street-vendor named Hanaya Yohei perfected such a food. Instead of fermenting the rice, he prepared it with rice vinegar and pressed it into a small oval in his palms. He used a slice of raw fish or seafood freshly caught in Edo Bay, and instead of letting the meat and rice sit together for a few hours before serving, as was customary, he served them immediately. The two-bite morsel was eaten with fingers or chopsticks, perhaps with some wasabi or soy sauce as condiment. It was referred to as Edo-mae nigiri-zushi (Edo Bay nigiri-zushi) or as nigiri haya-zushi (quick nigiri-zushi), but is now known internationally as sushi.

How sushi went global is a story in itself. After the Great Kanto earthquake leveled Tokyo in 1923, many sushi chefs dispersed to other parts of Japan and introduced the custom to these new regions. The nationwide popularity of sushi in Japan and the country’s growing prosperity in the 1960’s led to the collapse of its own wild stocks of bluefin tuna, the most prized fish used for sushi. Japanese entrepreneurs appealed to the fishing fleets of other nations, in some cases having to convince the foreigners that these “junkbaits” were worth catching. The first important auction of Prince Edward Island bluefin was held at the Tsukiji fish market in Tokyo on Aug. 14, 1972. It was instigated by a functionary at Japan Airlines. Two years later, 91% of JAL cargo flying out of Canada was bluefin headed to Tokyo. In later years, expatriate restaurateurs such as the now-famous Nobu Matsuhisa helped introduce sushi to cities such as Lima, Los Angeles, New York, and London.

Philadelphia investigative reporter Sasha Issenberg argues that the world sushi business is an instance in which globalization has had a positive effect. His book, The Sushi Economy: Globalization and the Making of a Modern Delicacy (New York: Gotham Books, 2007; 323 pp., $26 cloth, $15 paper), tells the story in a riveting narrative style, complete with flashbacks. It follows strands of history, commerce, and cuisine from the street stalls of Edo to sushi bars in Austin, TX. Other recent books include Trevor Corson’s The Story of Sushi: An Unlikely Saga of Raw Fish and Rice (New York: Harper Perennial, 2008; 416 pp., $14.95 paper) and Theodore C. Bestor’s Tsukiji: The Fish Market at the Center of the World (Univ. of California Press, 2004; 412 pp., $60 cloth, $25.95 paper).
“These Branches Still Bear Fruit…”

Text and photos by J. Amadeaus Scott

J. Amadeaus Scott is currently a graduate student in the School of Art and Design and in the Museum Studies Certificate Program at the University of Michigan. She holds a BFA in Sculpture and a BA in Anthropology from Grand Valley State University (Allendale, MI). Much of her work focuses on the relationship between place, identity, memory, and the past in the Midwest. Her artistic work integrates fibers, audio, and event-based performance as well as food to explore local narratives and histories. Raised in rural Indiana and Michigan, her interest in fruits and fruit-based beverages was further stimulated by her work at a brewing and winemaking supplies store. She took a Bronze Medal at the first annual Great Lakes Olde World Syder Competition, held in Grand Rapids, MI in December 2005. Amadeaus and her husband live in a farmhouse in Saline.

In the Fall of 2007, I moved to Ann Arbor after having lived in West Michigan for over nine years. One of the first things I noticed about the city wasn’t the bike paths or the spread of coffee shops and theaters, but rather the apple trees. They seemed to be everywhere I looked; they were in roadway medians, in the landscaping of apartment complexes, in the parking lot of Meijer. And I became enchanted by them, not just by the trees themselves, but also by their presence within these unlikely locations. I knew that these trees must have come from some agricultural past, but the retention of these trees in the modern urban landscape fascinated me.

There certainly are apple trees in West Michigan, though their current context in the landscape is quite different. In fact, Kent and Ottawa counties are amongst the state’s leaders in apple production, and it is these areas that host many of Michigan’s apple-packing plants and long-established orchards. Many of my friends at school grew up on family-run apple orchards, most of which had been in their families for over 100 years. With this industry so strongly rooted in this region, most people are pretty well versed in all of the issues and dilemmas tied to apple production, including the history of migrant labor, the rise of new technologies and the apple packing industry, and the decline in apple variety to a choice few types, most of which originated out of state.

One doesn’t have to go far out of Grand Rapids proper to find a commercial apple orchard. Versluis Farms is right on Lake Michigan Drive, on the way out of downtown. The Fruitridge area is justly named, with a wealth of orchards such as Hill Brothers. Even in the suburban areas of the city, farms are still integrated into the landscape, like Robinette’s Orchard on Knapp Rd., just past the complex of strip malls and shopping centers. You can literally drive two minutes from shopping at Target to go pick cherries or apples, depending on the season. The farmer’s market in Grand Rapids is fully packed with local farms and orchards, most of which are within a 20-minute drive from the city proper. And along the local state highways and avenues, signs advertise both smaller roadside markets, and the ever-popular “U-Pick” operations.

But on the east side of the state, the mix of urban and rural landscape is different. There are no farms in Ann Arbor outside of community gardens, and if you travel out of the city’s bounds to visit a cider mill, the landscape becomes pretty rural. By car, it takes at least 20 minutes on most days to get from the city center to the city edge, and another 15-20 minutes to get past the industrial zones to the rural areas that host the region’s remaining apple orchards. The orchards that do remain in the Ann Arbor area are out in neighboring cities and townships such as Dexter and Milan. The presence of these apple trees in the urban and suburban areas of Ann Arbor is unique and begins to unravel a complex history, both of apples themselves, and of their history in this place.

How Apples Arrived in the New World

The origin of apples is saturated with myth and legend, though recent research points to more reliable genetic origins of the fruit. In 1929, Russian botanist Nikolai Vavilov identified the forests of Alma-Ata in Kazakhstan as the home of the apple’s first wild ancestors. Barry Juniper and David Mabberley in their book, The Story of the Apple, note that the richest area of apple species today is found in central and southern China, though they do agree that Vavilov’s claims regarding Alma-Ata might have been correct. Isolation of some apple species in the fruit forests of Tian Shan might also have contributed to the species’ evolution (Juniper and Mabberley, pp. 46-48).

The origin of apples in America is more complex than we might consider initially. Apples (Malus pumila) are after all an ‘exotic’ species, brought with settlers into the New World, though many Americans treat the apple as though it were native to the continent. American identity is tied to the apple, and more subtly to its colonial history. But the apples we know are not native; they are yet another colonial invader that has become benign and been absorbed into the collective identity. “American as apple pie”, indeed.

continued on next page
While there are some species of crab apples that are native to the Americas (such as *Malus angustifolia*, *M. fusca*, and *M. coronaria*), these bitter fruits were typically not exploited by Native Americans or early settlers. These apples might have occasionally been employed in the production of cider, but were largely left unused (Juniper and Mabberley, p. 157).

The earliest attempts to cultivate apples in the New World were made by the Spanish, but with little success. Apple trees require a certain amount of “chill time”, with many varieties needing at least 900 hours below 45° F. to allow for a dormancy period prior to spring blossoming. Because of this, apple trees could not thrive in the subtropics, and it was left to the British, French, and Dutch to bring apples to the northern regions of the New World (Haughton, p. 4).

William Blackstone, minister for the Episcopalian settlers who arrived in Boston Harbor in 1623, started what might have been one of the earliest documented apple orchards in the new colonies. Upon arriving, he chose to settle on a rise above the harbor, already dubbed Beacon Hill for the beacon fires that were lit there. It was here that he built a cabin and planted an apple orchard, employing the labor of local Native Americans for the project. The settlers to whom Blackstone was to minister did not find the landscape as agreeable, and the following Spring they returned to England. Blackstone, however, chose to stay.

By the time a new group of Puritans along with John Winthrop (later designated governor of the settlement) arrived in 1630, Blackstone’s trees had begun to bear fruit, though they were noted as producing a rather meager crop. It seemed that the native bumblebees were not particularly interested in pollinating these new trees. The Puritans sought to establish their settlement on the same Beacon Hill, and were not willing to live with an Episcopalian in their midst, so Blackstone was moved to Rhode Island where he would plant another orchard. Governor Winthrop, understanding the nature of apple trees, had several hives of English honey bees shipped over to the new colony to aid in the pollination of the apple orchards, and sent a hive along to Blackstone in Rhode Island (Haughton, pp. 5-6). With the influx of new settlers, and the pollination problem solved, apple orchards became established within new settlements, spreading throughout New England.

The Evangelist of Hard Cider

Much of our popular knowledge of the spread of apples into the American frontier derives from stories of John Chapman, more commonly known as Johnny Appleseed. Most stories paint a benign picture of a man travelling down the Ohio River in a canoe loaded with apple seeds, possessed with the noble desire to establish apple trees along the trails used by settlers traveling West. While some of this legend does filter down from documented sources, John Chapman’s character is left thin and one-dimensional in many of these stories.

In reality, Chapman was more of an outcast and loner than a folk hero to those with whom he interacted. He was a vegetarian, living primarily outdoors, and preferring the company of children and Native Americans to that of the settlers for whom he was supposedly planting apple trees (Pollan, pp. 4-9). He spent much of his adult life traveling through what is today the Midwest, planting and selling apple trees, occasionally giving them away when the settlers he encountered were lacking in cash. While he did not have a permanent home, there are many records of his attempts to lay claim to or purchase land, most of which was forfeited either to other settler’s claims, or due to lack of payment (Alice Martin, p. 23).

Chapman was also a devout follower of Emanuel Swedenborg and a missionary for the New Church that Swedenborg sought to establish. Though he had very few converts amongst the frontiersmen, Chapman continued his missionary efforts. The 1822 report from the Fifth General Convention of the New Church notes his continued work:

One very extraordinary missionary continues to exert for the spread of divine truth his modest and humble effort, which would put the most zealous members to blush. We now allude of Mr. John Chapman, from whom we are in the habit of hearing frequently. His temporal employment consists in preceding the settlements and sowing nurseries of fruit trees, which he avows to be pursued for the chief purpose of giving him an opportunity of spreading the doctrines throughout the western country. (As quoted in Alice Martin, pp. 23-24.)

While his missionary efforts frequently fell short, what John Chapman did bring to the frontier was apples, but not for the purposes we might suppose. Planting apples from seed often does not create a very palatable fruit, and much of the apples that would have grown from his effort would have been known as “spitters”, too bitter and sharp to be eaten as table fruit. This is not to say that the apples he spread throughout the frontier were not used, but rather their function was primarily for the production of hard cider. John Chapman’s largest success was in bringing alcohol to the frontier, a rather different aim from the stories for which he is remembered (Pollan, p. 9).

The presence of apples in the form of hard cider is readily apparent in 18th- and 19th-Century America, and even pivotal in its political history. In 1840 cider was used as a propagandistic prop in the presidential campaign of William Henry Harrison against incumbent Martin Van Buren. The slogan, “Tippecanoe and Tyler, too”, deriving from General Harrison’s minor military victory against a small Native American band at Tippecanoe, in Indiana Territory, was further supported with the campaign’s central motif, “log cabins and cider” (Alice Martin, p. 52). The desire was to contrast Van Buren as an elitist who sipped champagne, with Harrison, a military hero and ‘man of the people’ who drank simple cider. A cider jug was strategically placed on the podium at meeting halls where Harrison spoke, and free cider was provided for the crowds attending Harrison’s speeches. Alice Martin describes the political savvy of dispensing free cider, “thus serving the dual purpose of reinforcing cider as the people’s drink and bestowing a kindly haze on the rhetoric to come” (p. 53).

What cider provided to early America (aside from intoxication) was a reliable, clean beverage during an era when water treatment plants and sewer systems were nonexistent. Settlement of new areas and the rise of populations in urban areas brought disease; reliable, clean sources of water were not always available at the time. This made both commercially-
produced cider in cities and home-brewed cider in rural areas a staple beverage. Hard cider was consumed by both adults and children, and was considered healthful and safe (Pollan, p. 22). Indeed, the lack of commentary regarding alcohol in scripture appealed to many of the new Protestant settlers, and because cider was considered more “healthsome” than grain alcohol or beer, its consumption was widely accepted.

The Influence of Government Policy

The notion of apples being grown primarily as table fruit is a rather modern concept. In the early 20th Century, several developments culminated in a shift of apple consumption from cider to table fruit.

One of the most important factors was refrigeration, which allowed apples to be stored, packed, and eventually shipped across the country (Alice Martin, pp. 64-65). New methods of apple cultivation also played a major role. Not until the 20th Century did growers begin to utilize grafting on a large scale as a means of producing a reliable fruit product with specifically desired traits. In the era of cider, apple trees had been grown from seed, and seeds don’t typically grow true to all of the traits of their parentage; they hold in their genes the potential to be a bitter crab as likely as a sweet fruit. The juice of these varied fruits would be blended together into a palatable end product. It was the method of grafting to produce clones of a parent tree that provided for the apples we encounter today in the market, with a consistency of quality that was not available using the earlier ‘trial and error’ growing method (Pollan, pp. 10-11).

Prohibition sounded the death-knell for hard cider in America. Initially, the Prohibition movement had made allowances for hard cider, but eventually cider too would face the metaphorical (and literal) axe (Pollan, p. 22). The experiment in Federal prohibition of alcohol lasted from 1919 to 1933. While its repeal would make cider production once again legal, the beverage was no longer the focus of apple growers, and commercial hard-cider production fell by the wayside.

Finally, the factor that perhaps exerted the most influence was the change in public perceptions of health and the body. Government-mandated dietary recommendations, the discovery of specific nutrients, and the ideas of standardization that came out of World War II were all factors influencing the diet of Americans and the role of specific foods. While the USDA began issuing dietary recommendations for children as early as 1894, it was Roosevelt’s efforts that brought about Recommended Dietary Allowances for calories and nutrients in 1941, and the Basic Seven in 1943 to aid people in dealing with food shortages from the war (Davis and Saltos). This, coupled with new medical ideas regarding the function of the immune system and the perception of the “body as a machine” that requires both fuel and regular maintenance, helped to shift the roles that food played in people’s daily lives (Emily Martin, pp. 24-29).

The popular notion of “an apple a day keeps the doctor away” and the general healthy nature of the fruit permeated into these mandates and standards, creating a special role for apples amongst other highly nutritious foods. Much of this propaganda was created and pushed by apple growers and packers. The Skookum Packers Association pamphlet from 1931, "Tested

Treats from the Skookum Apple Box, states of apples, “Few of nature’s products can be prepared and served in so wide a variety of ways and probably no food is liked more generally or is more healthful” (p. 3). Similarly, the 1923 Rural New Yorker offers, “Where can you find a more agreeable form of necessary acids and iron than may be found in a good apple?” (as quoted in Alice Martin, p. 111). Significantly, the “apples as healthy” campaign was directed at the raw fruit itself (and its processed food products), not at apples as transformed into hard cider.

Apples in Michigan

The historical trends sketched above for the country as a whole also played out in Michigan, though perhaps with less drama than the stories of John Chapman and William Henry Harrison. It was my interest in the history of the apple trees of Ann Arbor that fueled much of my research into the subject. While the story of cider production and the shift from cider to table fruit is similarly enacted here, it was more subtle and hidden in the landscape.

I consulted Washtenaw County’s 1884 and 1894 State Census Returns and found several commercial cider mills in the areas surrounding Ann Arbor proper. They included, amongst many others:

- George Wiard’s Cider and Vinegar mill in Ypsilanti Township
- David Henning’s Cider Mill and Cooper Shop in Ypsilanti’s 5th Ward
- Carr Corsileus’s Cider, Sorghum, and Vinegar Mill in Manchester
- Whaley Cider Mill and Cooperage, noted in York in 1884 and in the village of Milan in 1894.

Most of these facilities probably provided cider to people living in the more urban sections of Ann Arbor. Both Censuses also noted the number and acreage of trees planted on individual farms, both in the city and townships of Ann Arbor and in the surrounding villages and townships. They reveal that almost
every farm had at least a couple of acres dedicated to producing apples, with anywhere from 100 to 600 trees per farm. What these farms typically did not claim, however, was that any of the fruit was being sold by the bushel. This might imply that the fruit was being grown strictly for home consumption, most likely for the production of home-brewed hard cider. It becomes apparent from these records that apples played an important role in the lives of Washtenaw County residents, even as early as the 1880’s.

Michigan’s longstanding apple producing and processing industry continues to thrive today. The state typically ranks second or third in apple production nationally depending upon the season’s crop, with Washington ranking first, and New York filling out the remaining spot. Apples are by far the largest fruit crop in Michigan, accounting for about 56% of the state’s overall tonnage of fruit production in 2005 (Michigan Apple Committee, “Michigan Apple Quick Facts”). Many of the apples produced in the state are grown on small farms, many of which have been in operation for multiple generations. The 1997 Michigan Agricultural Statistics Service Census noted 1,100 apple-producing farms, a number that had been declining for some time. However, the number of actual trees rose to 8.85 million in 1997, reflecting a trend of smaller trees planted more intensively on less land (Michigan Apple Committee, “Michigan Apple Industry Overview”).

The varieties that dominate the current market are only a handful compared to those once grown in the state. Today, markets are dominated by Red Delicious, Golden Delicious, Jonathan, and Gala. Empire, Ida Red, Northern Spy, Jonagold, and Rome also make up small shares of the overall crop. Many of these varieties, such as Ida Red and Northern Spy, are grown specifically for further processing, and indeed Michigan is the national leader in supplying apples for the frozen-pie industry. About 60% of Michigan’s crop is further processed into frozen pies, applesauce, and shelf-stable apple juice or (soft) cider (Michigan Apple Committee, “Michigan Apple Quick Facts”). There is a resurgence of commercial cider producers in the state, with Uncle John’s Cider Mill (St. John’s, MI) and Blackstar Farms (Suttons Bay, MI), as well as several Michigan microbreweries such as Bell’s (Kalamazoo, MI) and Motor City Brew Works (Detroit, MI), producing bottled hard-cider products for distribution in Michigan and out of state. It is unlikely, though, that hard cider will ever regain its former role in American daily life and identity.

Bringing Feral Trees to the Foreground

Seeing the apple trees of Ann Arbor integrated into its urban spaces but not being accessed gave me not only a desire to find a use for this fruit, but also to explore the tangible memory that these trees impart and their potential to continue to influence our local identity.

When I speak of “feral” apples, I am referring to once-cultivated trees that have been left unattended, as opposed to the chance happening of a seed dropped by a bird or a wild crab apple tree. The feral trees represent a span of both the cider and table-fruit eras of production. Some of the trees show strong evidence of grafting, and they produce the same varieties of fruit found in the supermarket. Others are perhaps older varieties—those that bruise more easily, don’t store as long, are strangely colored, and might have been used originally for cider production.

The fruit from these trees seems to go unused today, and yet the trees remain in the landscape, regardless of the issues that arise from their presence (such as attracting insects and vermin, as well as making grounds maintenance difficult). Many of them are in tidy rows of three or four trees, now interspersed with other ornamentals. When I pick the apples from these trees in the median of Eisenhower Parkway or from the Hidden Valley Apartment Complex, traffic speeds by me, making for a very different experience than that of the traditional apple orchard. Sometimes people stop and ask what I’m doing or ask for an apple to eat, but no one has ever objected to my picking of this fruit. Most people say, ‘Wow, I never realized there was an apple tree here.’

Integrating these feral apples into my artistic practice began through collaboration with fellow graduate student Emily Orzech in the Fall of 2007. Enamored by the discovery of new trees almost every other day, we picked 10 paper grocery bags worth of these feral apples. We had located over a dozen trees, and set to work with a borrowed fruit picker. Not sure what to do with all of this perishable fruit, we began thinking about how we could preserve the apples, and so we decided to make applesauce and can it in Mason-type jars. We wanted to make this fruit available to our audience, but we also wanted to provide a little more information about these feral apples; this fruit is both local and locally disregarded, and we wanted to do more than just convince people that it is edible. This drove us to research the potential origins of the fruit, looking at historic plat maps of the region to make guesses about who planted these trees, and at what point in their history they were no longer being cultivated.

From this research, we created a map composed of a Google-Earth image over-printed by a woodblock print of an

Data concerning apple and peach orchards is seen on this page from the Washtenaw County Census Agricultural Return for 1884.

Bentley Historical Library. University of Michigan. Used with permission.
Ann Arbor and Pittsfield plat map from the 1920’s that showed original farm boundaries, family names, and acreages. A piece of this map was cut out and fastened atop each jar of applesauce. We installed wooden shelves in the basement of Work Gallery on State St. in a pattern to mimic a root cellar, and lined the shelves with the 160 jars of applesauce we had made. In the center of the cellar-like area, we hung the full version of our map, and we invited the viewers to take a jar of applesauce home with them. In less than a week, all of the jars of applesauce were gone.

What began germinating from this work was a more complex perception of the relationship between place and identity, and a wider understanding of localness as it informed my artistic practice. While there is a rise in the popularity of “local food”, the desire for organic produce, and involvement in movements such as Slow Food, the definitions and boundaries of these ideas and entities are still problematic. For example, the Whole Foods store on Washtenaw Ave. boasts a range of “local Midwestern produce”, but according to their map the Midwest includes Nebraska and Missouri but not Ohio, which is much closer to Michigan. Aside from local apples in the Fall and cherries in the Summer, very little produce that is actually grown in Michigan is sold in Whole Foods, and much of that is sold alongside larger displays of cherries and apples from the West Coast. What I began to understand from this work was the paradox of localness, the range of misinformation in which local food becomes entrenched, and the lack of acknowledgement of this place’s agricultural history in favor of a more brightly marketed idea of where produce comes from.

Because so many people had asked me while I was picking apples whether I was making pie, the following Fall I took a different route and chose baking as the format for my work. I hosted an event at County Farm Park on Washtenaw Ave., where I invited people who lived and worked near these apple trees to come together for conversation and pie made from the feral apples. I baked 48 pies in 48 hours in my home oven, all from scratch. As another component of the work, I embroidered small phrases, such as “Without help from hands, these apples are feral” and “These branches still bear fruit” onto paper napkins that I supplied for people to use while eating the pie. These were interspersed throughout the stacks on each table, offering those attending more subtle information about the apples they were consuming. I also drilled and stamped the pie tins with constellation-like maps showing the arrange-
“THESE BRANCHES” continued from page 9

ment of the trees; these patterns would become visible only after all of the pie had been consumed.

Initially I had hoped to include people who might have lived on the original farms where these trees were cultivated, or their surviving relatives, but this proved impossible. However, even among families with no farming in their recent past, most people know of someone else’s farm that was sold off to become a subdivision, and there is a broad renewed interest in farmer’s markets and local produce. I hoped through this work to create a dialogue between people about this resource in our backyards, about where our food comes from, the places we use and occupy daily, and the history that is still visible in the physical landscape.

Unfortunately, the event itself had rather low turnout, and I was left with a large surplus of pie. So, I packaged up the pies, along with plates, napkins and flatware, took them on the bus, and delivered pies to people in the apartment complexes and businesses near the feral trees. Not a single person turned down the pie I offered them, or were cautious about taking this food made by a stranger. In many ways this act of giving away the pies was more satisfying for the narrative that came out of the experience. The people I encountered were awestruck that I would be giving away this thing that I had made, and were even more enthralled by the idea that it had been made specifically for them. While I do not expect this to mean that they will be out picking apples with me in the medians next Fall, I do imagine they will remember this pie that I made for them the next time they purchase a pie from the supermarket.

Since most artwork is expected to live in a gallery setting, last Fall I also created a video component of this project for display at Elbow Grease, an art exhibit back at Work Gallery. Similar to the County Farm Park event, I provided several pies for the show opening, as well as a short video about the apples and my work process, inviting viewers to eat the pie and engage in conversation about the role of food in their lives and Ann Arbor’s agricultural history. There was no pie left over from the opening, and throughout the week I delivered more pies to the gallery.

This upcoming Fall, I will once again be out in the city picking apples. I see them everywhere I look now. Two days ago, driving down Carpenter and Ellsworth, I spotted six more trees that I hadn’t previously noticed. I found yet another tree growing in the Law Quad at the University of Michigan’s Central Campus. What I hope to offer this year is a more holistic approach, which will integrate more of the history of this fruit into the end product. Through the previous work, I have gained a clearer understanding not only of the nature of exchange and the expectations latent in acts of generosity, but also my role in that interaction. In my work, food becomes a vehicle for the exchange of information. The apples are consumed, and the information continues to move. The work becomes embodied by the viewer, literally and metaphorically eaten and digested.

References


Tested Treats from the Skookum Apple Box. Wenatchee, WA: Skookum Packers Association, 1931.

Washtenaw County Census Agricultural Return for 1884 and 1894. Publisher unknown.

Washtenaw County Census Industry Return for 1884 and 1894. Publisher unknown.

THE STORY OF THE APPLE continued from p. 11

The authors follow this migration into the New World. That hemisphere became an incubator for varietal selection, thanks to the economic importance of the fruit and the efforts of such characters as John Chapman (1774-1847), better known as Johnny Appleseed. I’ve always appreciated the use of grafting to remodel and improve trees, so I found it amusing to read that Chapman believed that “it is wicked to cut up trees in that way”.

As previously mentioned, a trip to most grocery stores across the country would lead us to believe that there are only perhaps a dozen varieties in existence. A few years ago on a trip to Germany I walked through a grocery store produce section expecting to find a new palette of varieties. While I did find one bin of Cox Orange Pippins, the rest were indistinguishable from those found on this side of the pond: Golden Delicious, Red Delicious, etc. I despair. The authors explain the forces that led to the ultimate control and homogenization of this commodity by modern agribusiness, but point back through the history of this amazing fruit to raise our appreciation for the diversity that is available to us.

Juniper and Mabberley are renowned botanists at Oxford University and the University of Washington, respectively. This scholarly work achieves that elusive blend: history, science, and entertainment. Reading it will be a pleasure to all who care deeply about what they eat.

Editor’s Note: This year marks the 250th anniversary of the earliest recorded importation of the Newtown Pippin (also called Albermarle Pippin) to England, where it achieved lasting fame. It was in 1759 that Benjamin Franklin imported some of the apples to London, where he was posted as agent of the colony of Pennslyvania. This crisp, juicy, tart but sweet apple had already gained much fame in the New York and Virginia colonies, where it grew best along Newtown Creek on Long Island and in Albermarle County, respectively.
Book Review

APPLE DIVERSITY:
A PARADISE LOST

Barrie E. Juniper and David J. Mabberley,
The Story of the Apple
Portland, OR: Timber Press, 2006
240 pp., $29.95 cloth

by Michael Dority

Mike Dority, a microbiologist formerly employed at Pfizer’s Ann Arbor facility, is Vice President of TransPharm, a pharmaceutical research firm in Jackson. He maintains a small orchard and garden near his home in Freedom Township, south of Chelsea, MI, where he grows and grafts over 70 varieties of apple, as well as varieties of pear, plum, quince, berry, grape, and currant.

Back on a cool Spring day in the 1960’s, my grandfather took me up the road to see a man about an apple. This neighbor had a Gravenstein tree, and we had come to collect a few little twigs from it to graft onto a tree on our farm. To a young boy this was miraculous, and it began my lifelong love affair with apples. Of course, I had no idea at the time that I was being taught a bit of botanical sleight of hand that had been performed for well over 4,000 years. Nor did I have any appreciation of the journey that had brought this fruit across Asia, Europe, and North America.

The past decade has seen a phenomenal growth in appreciation for diversity in foods, and deeper understanding of where our food comes from. Having said this, I’m often met with blank stares when I ask people their thoughts as to where apples originated. The apple has been so tightly intertwined with human history that we tend to believe it has always been here to provide for us. For those truly interested in this fascinating history, The Story of the Apple is a deep dive into the migration of apples out of the fruit forests of the Tian Shan Mountains of Central Asia and on to all corners of the planet.

If you eat your way through apples of the 1700’s, you’ll find varieties— the Rhode Island Greening, Roxbury Russet, Newtown Pippin, and others— that are high in acid and complex in flavor. These are good apples for cooking and cider making, and fun to eat. Working your way through the 1800’s, these continue to hold sway, and you see the emergence of some amazingly complex-flavored apples like the Ribston Pippin, Ashmead’s Kernel, Smokehouse, etc.

Around the end of the 1800’s the Hawkeye was found in a hedgerow in Iowa, was purchased by the Stark Brothers fruit company, and was renamed the Red Delicious. About 20 years later a seedling of the Grimes Golden was similarly purchased and renamed the Golden Delicious. These apples became the backbone of concerted breeding programs in the world. Around the same time, Prohibition destroyed the hard-cider industry in the U.S. and led to an enormous shift in orchard variety plantings.

The third star that aligned to homogenize apple varieties in the U.S., and ultimately the world, was the change that occurred in grocery marketing. As grocery marketing became controlled by national chains, pressure was applied to the orchard industry to provide uniform varieties that could be shipped well, stored long, looked appealing, and had a very predictable (albeit bland) flavor. An apple like the Ashmead’s Kernel could never survive this: it is lopsided, brownish green, ferociously strong-flavored when first picked, and constantly shifts as it mellows over time.

So now, in a world that has over 6,000 named cultivars of apples, you can rarely find more than 6-8 varieties in any given grocery store, all of which have very similar characteristics. The buying public is now so used to this that it has largely lost the understanding, wonder, and delight of a truly good apple.

Juniper and Mabberley take a combined approach, guiding us through the genetic and archeological evidence as well as the written history around this fruit. While there is some evidence that small Siberian crab apple varieties penetrated into North America prior to European colonization, the authors concern themselves with the selection and importance of the sweet apple, starting with the natural selection pressures exerted by fruit-loving bear and horse populations in Central Asia. The movement of the apple out of Asia via the Silk Roads highlights just how well humans appreciated this fruit. This journey is punctuated by the recorded appreciations of such figures as Charlemagne, and the prophet Muhammad who “inhaled eternal life through the scent of an apple”.

continued on page 10
AN A-PEELING STORY

NOTES ON THE HISTORY OF CITRUS FRUITS

by George F. Estabrook

This is an edited version of the prepared text for a talk presented to CHAA on January 15, 2006. CHAA member George Estabrook is a Professor of Botany in the Department of Ecology and Evolutionary Biology at the University of Michigan, where he has worked since 1970. He specializes in economic botany and ethnobiology, and is Associate Editor of the Journal of Economic Botany. He and his wife Virginia, a doctoral student in biological anthropology, do much of their research in Portugal, where they own an apartment in Torres Vedras. Prof. Estabrook’s review of Pierre Laszlo’s book Citrus: A History appeared in the Summer 2008 issue of Repast.

Citrus is a genus of about 30 species in the plant family Rutaceae. One of their defining characteristics is that the pulp of their fruits consists of segments (carpels), which are easily separated from one another. The juice in the carpels is held in some of the largest cells known in the plant kingdom.

About seven of the 30 Citrus species, together with some of their hybrids, are commercially important. All species of Citrus evolved, and were first cultivated, in Southeast Asia. More recently, many new hybrids and varieties have been developed in the other parts of the world to which Citrus has spread.

To help you sort out the wide array of Citrus varieties, I have provided a table (next page) that shows the scientific species and hybrid names, common names, variety names, and places where they are believed to have been first cultivated or developed.

Reconstructing the history of Citrus and other plants is the work of two interdisciplinary research fields called ethnobotany and economic botany. These combine methods of botany, anthropology, history, and geography to attempt to discover when, where, how, and by whom plants came to be used by people. The study of plants used for food also calls upon the disciplines of nutrition and culinary arts. Written evidence, which reports observations of specimens and of human behavior, is limited to the past 3000 years or so. In addition, plant names are used inconsistently across languages and cultures, and through time; arguments based on written plant names must bear this in mind. Evolutionary plant biogeography, art, archaeology, and paleobotany provide additional evidence.

California orange crate label, c. 1940’s.

Source: www.thelabelman.com
Table of Citrus Varieties

<table>
<thead>
<tr>
<th>Species or hybrid</th>
<th>Likely origin</th>
<th>Common name</th>
<th>Varieties</th>
<th>How long ago</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>C. sinensis</em></td>
<td>Indonesia</td>
<td>Sweet Orange</td>
<td>Valencia (Florida)</td>
<td>&lt; 150 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Navel (Bahia, Brazil)</td>
<td>&lt; 150 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hamlin (seedless) (Florida)</td>
<td>&lt; 100 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juice (seedy) (Florida)</td>
<td>&lt; 200 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jaffa (sweet) (Israel)</td>
<td>&lt; 50 yrs?</td>
</tr>
<tr>
<td><em>C. reticulata</em></td>
<td>China</td>
<td>Mandarin Orange</td>
<td>Tangerine (seedless) (Japan)</td>
<td>old?</td>
</tr>
<tr>
<td><em>C. reticulata x sinensis</em></td>
<td></td>
<td></td>
<td>Satsuma (seedless) (Japan)</td>
<td>old?</td>
</tr>
<tr>
<td><em>C. aurantium</em></td>
<td>Indonesia</td>
<td>Bitter Orange</td>
<td>Seville Orange</td>
<td>very old</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bigarade</td>
<td></td>
</tr>
<tr>
<td><em>C. reticulata x aurantium</em></td>
<td></td>
<td></td>
<td>Clementine (Algiers)</td>
<td>&lt; 50 yrs?</td>
</tr>
<tr>
<td><em>C. limon</em></td>
<td>Indonesia</td>
<td>Lemon</td>
<td>Citron (N. Europe)</td>
<td>very old</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lisbon (seedless)</td>
<td>&lt; 500 yrs?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eureka (few seeds)</td>
<td>?</td>
</tr>
<tr>
<td><em>C. aurantifolia</em></td>
<td>Indonesia</td>
<td>Lime</td>
<td>Key Lime</td>
<td>very old</td>
</tr>
<tr>
<td><em>C. medica</em></td>
<td>Indonesia</td>
<td>Citron</td>
<td>Peel candied</td>
<td>very old</td>
</tr>
<tr>
<td><em>C. aurantiifolia x medica</em></td>
<td>Near East</td>
<td></td>
<td>Persian Lime (large, common)</td>
<td>&lt; 100 yrs</td>
</tr>
<tr>
<td><em>C. grandis</em></td>
<td>South Pacific</td>
<td>Pomelo</td>
<td>Shaddock (West Indies)</td>
<td>very old</td>
</tr>
<tr>
<td><em>C. paradisi</em></td>
<td>West Indies</td>
<td>Grapefruit</td>
<td><em>C. grandis x sinensis</em></td>
<td>&lt; 200 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ruby Red (Texas)</td>
<td>100 yrs</td>
</tr>
<tr>
<td><em>C. japonica</em></td>
<td>Kumquat</td>
<td></td>
<td><em>Fortunella japonica</em> (i.e., now considered a separate genus)</td>
<td>old</td>
</tr>
</tbody>
</table>

How and When Did Citrus Species Come to Europe?

Citrus species have been cultivated in Southeast Asia probably for 7000 or 8000 years. Paleobotanical evidence makes clear that the Bitter Orange had moved to the Indus Valley (now Pakistan) by 6000 years ago, and might have been the first Citrus species to reach the Mediterranean near the end of the first millennium AD, carried by Arab traders.

Lemons had clearly arrived in China by 4000 years ago, but reached the Mediterranean (over Arab trade routes) only about 1000 AD, soon spreading rapidly throughout Southern Europe. Limes probably arrived along with Lemons, staying in the Near East until returning Crusaders brought them to Europe in the 12th Century.

Claims that Oranges, Lemons or Limes were cultivated by ancient Greeks or Romans are now questioned.

The Sweet Orange Controversy

I believe that the Sweet Orange, which is much more perishable than the Bitter Orange, probably did not arrive in Europe from China or Indonesia or India until about 1500, when it was carried to Portugal in Portuguese ships, although it might have been in East Africa before then. The Portuguese were the first to sail around Africa (1491) and soon to India and Southeast Asia (1500). They brought Sweet Oranges to Portugal and by the mid-16th Century their groves were common in the Lisbon area (and probably throughout Iberia).

The presence of Oranges in the Mediterranean basin before this time is occasionally mentioned in older literature, but I suspect these refer to the harder Bitter Orange. Marco Polo was in Mongolia in 1320, but Sweet Oranges grow only in warmer climes, so he was not likely to have encountered Sweet Orange trees there. An early report of Sweet Orange under cultivation in the Mediterranean basin is from France in 1421. If there were Sweet Oranges in France at that time, the only trade route for them would have been across the Arabian desert; but Arab traders are unlikely to have bypassed the Near East and North Africa to go straight to France to trade in Sweet Orange trees.

The Sweet Orange is named *C. sinensis* because it came to Europe from China. The Mandarin Orange is called tangerine because Europeans acquired it from Tangier in the mid-19th Century. When the Arab word for Sweet Orange tree is pronounced, it sounds like “Portugal”, which suggests that the Arab traders got the Sweet Orange tree from the Portuguese, and not the other way around.

How Did Citrus Species Come to the New World?

Columbus is said to have carried citrus fruits on his second voyage to the West Indies in 1493. These fruits are likely to have included Lemons and Limes, and possibly Bitter Oranges, but I believe that Sweet Orange was not among them for reasons given above.

continued on next page
CITRUS FRUITS continued from page 13

The Spanish had brought Sweet Oranges to the New World by the mid-16th Century; there is a reliable written record of Sweet Orange groves in Spanish Florida in 1565. Spanish missions grew Sweet Oranges in what is now Arizona by 1700, and in what is now San Diego by the mid-18th Century. By the early 19th Century, commercial Sweet Orange groves were well established in Florida, and by the late 19th Century Florida was shipping Sweet Oranges to all of the U.S.

Today, Florida produces about three quarters of the U.S. crop, of which about 90% is made into juice. A less toxic and more biodegradable form of grease solvent is made from the leftover juice orange peels. California produces most of the rest of the U.S. crop, specializing in Navel Oranges, which were first bred by the Portuguese in Bahia, Brazil in the 19th Century. Sweet Orange varieties are grafted to keep them pure, to propagate seedless varieties, and to use root-stock that is more resistant to cold and disease. Bitter Orange is grown widely in the U.S., not for its bitter fruit but as root-stock for Sweet Orange and other citrus fruits.

Limes, Lemons, and Grapefruits

The Lime that Columbus and other Iberians brought to the New World was small and round; we call it Key Lime. This Lime spread rapidly through the West Indies, Mexico, and south to all of tropical America. The larger green variety of Lime that is now common in markets in the U.S. is the Persian Lime, a hybrid with C. medica produced in the Near East, perhaps in the early 20th Century.

British sailors did not begin consuming Lime juice until the mid-19th Century; before that they used Lemons. When Limes became abundant and cheap in the British West Indies, the British Admiralty switched from Lemon to Lime to save money. This was unfortunate for the British sailors because Lime is not so rich in Vitamin C as Lemon.

Grapefruit almost certainly originated in the West Indies in the early 19th Century as a chance mutant of Pomelo (C. grandis) or perhaps more likely as a hybrid of Pomelo with Sweet Orange. About 1800, a British ship under the command of Captain James Shaddock sailed from Fiji, in the South Pacific, to the West Indies with a load of Pomelos, the largest of the citrus fruits. Known locally as Shaddocks, their seeds were planted, and a few decades later a new citrus fruit, smaller and sweeter, appeared. These fruits are borne on their tree in a large cluster that resembles a huge bunch of grapes; so they were called Grape Fruit. Grapefruits are now cultivated widely in Texas, where the Ruby Red variety was developed in the early 20th Century.

Detail from a 1951 magazine advertisement from the Florida Citrus Commission, designed by the celebrated commercial artist Wilbur “Pete” Hawley (1915-1975).
THE PERFECT CORM

THE DOMESTICATION
AND SPREAD OF
BANANAS

by George F. Estabrook

This is an edited version of the prepared text for a talk presented to CHAA on January 18, 2009.

Banana is an unusual plant in many ways. It is considered by many botanists to be the largest herb among terrestrial plants. It grows a rosette of large leaves its first year, and then in its second year the sheathing bases of its increasingly larger leaves (up to 8 feet long and 2 feet wide) create a rising hollow cylinder 12 to 15 feet high in some cultivated varieties, but up to 30 feet high in others and in most wild species. Up through this tube quickly rises the true shoot, which usually bends over to grow back towards the ground bearing an enormous inflorescence that hangs upside-down, male flowers at the tip and female flowers farther up the stem. The female flowers develop into the fruits we recognize as bananas.

Banana is a monocotyledon (“monocot”) plant. Unlike dicotyledon (“dicot”) plants, monocot plants do not make wood. They have no secondary (lateral) meristem, which grows the seasonal rings in dicot tree trunks; all their plant tissue is primary, which means it is made by the primary (apical) meristem. Familiar monocot plants are important annual cereal crops like corn and wheat, common bulb flowers like tulip and hyacinth, and house plants like Clorophytum (Spider plant) and Zebrina (Wandering Jew). There are a few monocot “trees” that are dicot “wanna be’s”, such as palm, which is a long lived perennial that develops a broad apical meristem and grows a “trunk” that is still primary tissue; it does not branch, and it is bolstered by the sheathing leaf bases after its huge leaves fall. Banana is another monocot “tree”.

Banana (genus Musa; mouz is an Arabic word for banana) grows from a broad apical meristem that remains at ground level for much of its short life. This large bulb-like short stem is called a corm. While it is growing, it produces roots under the ground, other corms at its sides, and leaves that make a rosette for about a year before they begin to get larger and create a rising hollow tube of sheathing leaf bases. Finally the meristem “changes developmental gears” and grows rapidly up through this tube as a true stem, which terminates in a single large inflorescence, bearing typically from 100 to 400 fruits. Then the entire banana plant dies, leaving only the new corms, each with its rosette of leaves, to grow into banana plants the next year. When a banana plant is cultivated, people remove the dead banana “tree” and all but one of the new corms, which grows a banana “tree” near the same place the next year. The corms that were removed can be planted in different places to grow banana “trees” there.

Varieties of cultivated banana, and most wild species, require wet tropical conditions to grow; ideal is a temperature of about 28º C. (82º F.) and at least 8 months a year with at least 75 mm. (30 in.) of rainfall. That is a lot of rain, considering that Ann Arbor gets about 40 inches in a whole year. Banana plants need deep, well-drained soil. So long as these soil conditions are met, bananas will grow in almost any kind of soil, but they do best in the soil of former river flood plains (alluvial soils), currently usually found in river valleys.

How Did Cultivated Banana Evolve?

Wild bananas (the whole genus Musa) seem to have evolved in Southeast Asia. Their ancient relatives might have been extant there about 40 million years ago, about 20 million years after monocots began to radiate and distinguish themselves from the earliest dicots, which appeared about 90 million years ago. (Because of continental drift, Southeast Asia hadn’t yet fully assumed its present-day shape 40 million years ago.) Today, there are about 30 wild species of Musa, all native to Southeast Asia. Two wild species, Musa acuminata and Musa balbisiana, combined to evolve into the more than 500 continued on next page
varieties of bananas that produce edible fruit cultivated today in all warm, wet tropical regions of the world.

The wild edible banana species, *Musa acuminata*, is a diploid (the normal genome with two chromosomes of each kind) that produces large, numerous, tough seeds, and a small amount of edible (to people) carbohydrate-rich fleshy fruit. Before domestication, three evolutionary changes produced an unusual plant especially well suited for people to eat and cultivate as a food crop. These evolutionary changes are:

1. Living in particularly good environments (warm, wet, deep soil), some plants increased their ability to reproduce without seeds (vegetatively) by growing new corms beside their original one, which would grow into banana “trees” nearly genetically identical to themselves.
2. Some plants spontaneously doubled the number of chromosomes in each cell to become tetraploid (a genome with 4 chromosomes of each kind).
3. The tetraploids hybridized with the diploids.

When plants (and most other kinds of organisms) make gametes, the genome splits in two with one set of chromosomes in each, so that when the gametes join together to grow a new plant, the original number of chromosomes is restored. When diploid *Musa acuminata* hybridized with tetraploid *Musa acuminata*, a gamete with 1 chromosome of each kind joined with a gamete with 2 chromosomes of each kind to produce a hybrid with 3 chromosomes of each kind. A genome with 3 chromosomes of each kind (a triploid) cannot produce gametes because the cell division that is supposed to separate the chromosomes into two equal halves gets confused. As a result, the hybrid *Musa acuminata* cannot produce gametes, i.e., cannot reproduce sexually, which for most plants (including banana) means they cannot make seeds. So now there is a hybrid banana that does not produce seeds—the lack of seeds makes it easier for people to eat the fruit—and it reproduces vegetatively, which makes genetically identical offspring. The genome of this hybrid *Musa acuminata* is called AAA, because “A” is for *acuminata* and there are 3 copies of the *M. acuminata* genes.

The other wild species of banana, *Musa balbisiana*, makes semi-edible fruit. Although all *Musa* species require wet tropical conditions for growth, this diploid species is more tolerant of drier conditions and poorer soil. It hybridized with the tetraploid *Musa acuminata* to produce a triploid with genome AAB (“B” for *M. balbisiana*). The AAB triploid grows seedless bananas and reproduces vegetatively but tolerates drier conditions. The bananas themselves are only about 2/3 water (instead of 4/5 water like AAA bananas) and do not convert their starch to sugars so readily. They are called plantains (in English) and are usually cooked before they are eaten.

*Musa balbisiana* hybridized with diploid *M. acuminata* to produce an AB diploid genotype; it also evolved a tetraploid form that hybridized with diploid *M. acuminata* to produce an ABB triploid genotype. All five genotypes: AA, AB, AAA, AAB, and ABB are represented among the more than 500 varieties of banana that are cultivated today. Notice from the ubiquitous “A” that the *M. acuminata* genome has some presence in all of the principal cultivated genomes.

### Table of Banana Varieties

<table>
<thead>
<tr>
<th>Genotype</th>
<th>Regions grown</th>
<th>Names of important varieties</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>Malaysia</td>
<td>Nino</td>
<td>Local staples</td>
</tr>
<tr>
<td></td>
<td>New Guinea</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Philippines</td>
<td>Paka</td>
<td></td>
</tr>
<tr>
<td></td>
<td>East Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AB</td>
<td>India</td>
<td>Lady’s Fingers</td>
<td>Local staples</td>
</tr>
<tr>
<td>AAA</td>
<td>West Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Malaysia</td>
<td>Cavendish</td>
<td>These are the familiar bananas of U.S. commerce</td>
</tr>
<tr>
<td></td>
<td>Central America</td>
<td>Gros Michel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>South America</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAB</td>
<td>India</td>
<td>Apple</td>
<td>These are the plantain bananas</td>
</tr>
<tr>
<td></td>
<td>Africa</td>
<td>Red Holene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>South America</td>
<td>Brazil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Central America</td>
<td>Giant Plantain</td>
<td></td>
</tr>
<tr>
<td>ABB</td>
<td>India</td>
<td>Cream</td>
<td>Local staples</td>
</tr>
<tr>
<td></td>
<td>Philippines</td>
<td>Orinoco</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southeast Asia</td>
<td>Praying Hands</td>
<td></td>
</tr>
<tr>
<td></td>
<td>East Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Micronesia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Right: Front cover of the 30-page booklet, *From the Tropics to Your Table: Eighty-Three Tested Banana Recipes* (New York: Fruit Dispatch Co., 1926), written by K. Camille Den Dooven and Elizabeth MacDonald.

Courtesy of J. B. Longone Culinary Archive, Clements Library, University of Michigan. Thanks also to docents Kathy Schafer and John Thomson for selecting and scanning the images on this page and on page 18.
How Did Banana Spread Around the World?

Today, wild *Musa acuminata* is widespread in the Malay peninsula, and was probably used by humans long before agriculture began to be practiced there about 10,000 years ago. It seems likely that the evolutionary changes that made banana especially desirable to humans occurred near the western edge of its natural range, tens or hundreds of thousands (or millions) of years ago. It is likely that banana was one of the first plants that people cultivated when agriculture began about 10,000 years ago, probably because it is easy to grow and easy to eat its fruits.

Cultivars with *M. balbisiana* content, which grow in slightly drier conditions, were taken west to nearby India; scientists are not sure when, but probably at least 3000 years ago. Probably around the same time, diploid AA and triploid ABB bananas were taken to the Philippines, to the North and East. They moved from there to Micronesia and then further East to Polynesia. About 500 AD, Arab traders took cultivated banana to East Africa, probably first to Madagascar whence it made its way to the mainland, but some sources suggest that Ethiopia was the first to receive bananas. In any case, bananas spread west quickly across wet tropical Africa. All five major cultivated genotypes are now well represented in Africa, which now grows more bananas than any other continent.

In the late 15th Century, the Portuguese encountered bananas when they sailed to the island of São Tomé close to the West African coast, near the equator south of Nigeria. The São Tomé natives called this fruit *abana*, which became *banana* in Portuguese. The Portuguese might have brought banana to Brazil in the early 16th Century. Spanish are said to have brought AAB banana cultivars to Hispaniola from the Canary Islands in 1516. The Spanish called them *plantano*, the Spanish word for plane tree (*Plátano*), and from *plantano* we get the English word “plantain”. The Spanish might also have brought cultivated bananas to Ecuador in South America from the Philippines, both of which were Spanish possessions during the 16th Century.

How Is Banana Used Today?

Bananas have been used by people, probably for hundreds of thousands of years. Originally they had fruits with lots of seeds and reproduced sexually, as do the wild species today, many of which are good (well, at least okay) to eat. In addition, the huge banana leaves were probably used for thatching roofs of huts and for wrapping things.

Today, the banana is used in a variety of traditional ways, including:

- The leaves are used to wrap food to be steamed.
- Parts of the leaves are used as plates or platters.
- The leaves are soaked in seawater and then transported inland, where they are burned and the ash used as a salty condiment.
- Banana peel is high in tannin and has been used to darken leather.
- The sheathing leaf bases of one species, *Musa textilis*, renders fiber that can be woven into a coarse cloth.

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**continued on next page**
BANANAS continued from page 17

cloth or plied into rope. This species is now cultivated widely in the Philippines (and elsewhere) and is the source of so-called Manila hemp.

- Of course banana is eaten, not just as a sweet fruit but the drier forms cooked (boiled or fried in oil) as a carbohydrate source.
- In Tanzania, banana is made into beer.

In the wet tropical world, banana is often grown in the doorstep or home garden. Unlike the commercial varieties in which the whole bunch of several hundred bananas is harvested at once, preferred home-grown varieties are harvested daily as single fruits that ripen sequentially. Thus is especially important because bananas do not keep very well once they are ripe.

Nutritionally, bananas are 1/5 to 1/3 carbohydrate (pretty much the part that is not water), with no protein, no fat, and no cholesterol. They do contain some micronutrients: about 400 mg. of potassium and about 10 mg. of Vitamin C per 100 g. of banana, and bananas are one of the few good natural sources of Vitamin B6.

Today, in terms of tons grown worldwide per year, bananas rank second (behind grapes) among fleshy sweet fruit crops. But about 85% of the bananas grown worldwide are consumed locally, in a variety of traditional ways as noted above; thus, among sweet fleshy fruits, bananas rank only fourth in terms of tons sold commercially, behind grapes, citrus, and apples. One-third of the African population gets over 1/4 of their daily calories from banana; people in Uganda consume about 8 pounds per person daily on average.

Among banana-exporting countries, Ecuador ranks first, followed by Columbia, Costa Rica, Honduras, Jamaica, and Panama. These countries supply bananas to European and North American markets. The Philippines and Taiwan export most bananas to Asian markets.

Because they would spoil in transit, banana did not become established as an export crop until the early 20th Century, when refrigerated holds were developed. Today, bananas are picked green and transported at about 56º F., at which temperature they will not ripen, but at colder temperatures they turn black and cannot be sold. Commercial varieties of sweet banana ripen quickly at room temperature, especially when exposed to ethylene. Indeed, when they ripen they give off ethylene, which tends to make all bananas in the vicinity ripen about the same time. Ethylene induces many other kinds of fruits to ripen, so another use is to place a ripe banana in a paper bag with other green fruits you would like to ripen quickly.
The seventh annual Kerrytown BookFest, taking place in Ann Arbor on Sept. 13, has a Culinary History theme this year. **Jan Longone**, culinary historian and founder and honorary chair of CHAA, is to be honored as the Book Person of the Year. She will also moderate a panel including **Jane and Michael Stern**, authors of *Roadfood* and other books, and **Ari Weinzeig**, founding partner of Zingerman’s Community of Businesses. Among other activities, there will be an Edible Book Contest, and prizes will also be awarded to the top Ann Arbor high school seniors competing to create an original book cover for Amelia Simmons’s *American Cookery*, the first American cookbook (about 50 students entered the contest, and each was given a facsimile copy of the book). Other food authors scheduled to speak or participate are **Miranda Bliss**, author of the Cooking Class mystery series; **Katie Brown**, author of the *New York Times* syndicated column “Domestic Dilemmas”; **T. R. Durham**, author of *The Smoked Seafood Cookbook*; **Cynthia Furlong-Reynolds**, author of *Jiffy: A Family Tradition, Mixing Business and Old Fashioned Values*; **Julie Hzyz**, author of a mystery series featuring White House Executive Chef Olivia Paras; **Patty LaNoue Sterns**, author of *The Cherry Home Companion: A Cherry Cookbook and Good Taste: A Guide to Northern Michigan Cuisine*; **John Perry**, author of the children’s book, *The Book That Eats People*; and **Max and Eli Sussman**, authors of *Freshman in the Kitchen, From Clueless Cook to Creative Chef*.

The earliest Dutch penetration of North America occurred 400 years ago this September, when the ship The Half Moon, under the command of Henry Hudson, sailed up the river that now bears his name. To mark the quadricentennial, **Jan Longone** wrote an article, “A Beautiful and Fruitful Place: Dutch Contributions to the American Table”, for the Clements Library publication, *The Quarto* (No. 31, Spring-Summer 2009). She described a number of lasting influences such as Dutch dairying and cheese-making techniques; cookies, crullers, waffles, and other baked or fried treats; and the first kosher Jewish butcher shop in New York. The travel diary of Peter Kalm, a Finnish-Swedish scientist visiting the colonies, included a detailed description of how coleslaw and other dressed salads were made by his Dutch landlady in Albany in 1749. Just below present-day Albany, on Castle Island in the Hudson, the Dutch had erected Ft. Nassau in 1614 as their first settlement on the continent. To mark the anniversary, *Repast* hopes to assemble a theme issue on Dutch-American cuisine in 2014.

**Mary Lou Heiss** and **Robert J. Heiss** of Northampton, MA, who are well-traveled 30-year veterans in the tea retailing trade, have come out with *The Story of Tea: A Cultural History and Drinking Guide* (Berkeley, CA: Ten Speed Press, 2007; 432 pp., $32.50 cloth). This handsome, serious volume makes a survey of true tea varieties, the *terroir* of the various tea plantations and regions, the manufacturing process, merchandising, and especially the history, customs, and ceremonies surrounding tea drinking, from Asian temples and tea houses to the great European tea-trading monopolies. Much of the focus is on China and Japan, where tea drinking originated. The authors also provide stunning color photos, and much helpful advice on how to select, store, and brew tea. A final chapter, “Cooking with Tea”, includes 10 recipes (savory Chinese marbled eggs; shrimp with *longjing* tea; green tea *pot de crème*; etc.). Those wishing to learn more about tea’s historic role in the creation of colonies, and in the sustenance of industrial workers in England and other “home” countries, will want to consult a recent article by **A. R. T. Kemasang**, “Tea— Midwife and Nurse to Capitalism”. It appeared in the journal *Race and Class* 51:1 (2009), pp. 69-83.

In July, **Gene Alloway** of Motte & Bailey Booksellers in Ann Arbor (tel. 734-669-0451, www.mottebooks.com) launched a culinary history reading group at the bookshop. The first book under discussion was *Curry: A Tale of Cooks & Conquerors* by Lizzie Collingham. Other books scheduled include Jennifer Lee’s *Fortune Cookie Chronicles* and Ian Kelly’s *Cooking for Kings: The Life of Antonin Careme, the First Celebrity Chef*. Group members will select later titles.

CHAA member **Kim Bayer**, a local activist with the Slow Food movement and a frequent contributor to *Edible WOW* magazine, has kindly stepped forward to be our new webmaster for the CHAA site, www.culinaryhistoriansannarbor.org. We are grateful to member **Pat Cornett**, who served as the founding webmaster, and also to **Lenny Karle-Zenith**, who continues to handle the technical issues.

A Culinary History Weekend is scheduled for October 23-25, 2009 at the Enfield Shaker Museum in Enfield, NH. Lectures and panel discussions will be mixed with tours, opportunities to network, and demonstrations. A culinary history symposium on Oct. 24, “Food for Thought: Study of the Past Through Food”, to be held in the Great Stone Dwelling, will feature talks by **Sandra Oliver** and Culinary Historians of New York member **Anne Mendelson**. Oliver, the Editor of *Food History News*, will present “Every Dish Has a Past: Doing a Recipe’s Genealogy”. Mendelson, recently the author of *Milk: The Surprising Story of Milk Through the Ages* (New York: Knopf, 2008; 352 pp., $29.95 cloth), will present “Back to the Future with Small Scale Dairy Farming”. Package rates, including rooms and meals, are offered. For more information, visit http://www.shakermuseum.org or call 603-632-4346.

A conference is scheduled in Colonial Williamsburg for November 8-10, 2009, “Foodways in the 18th Century: Bringing Virginia’s Bounty to the Royal Governor’s Table”. **Ivan Day**, the noted British food historian, author, and chef, will provide the keynote address, outlining the state of the art of fine dining in 18th-Century England. For more information, visit http://www.history.org/history/institute/institute_about.cfm.

**On the Back Burner**: We invite ideas and submissions for these planned future theme-issues of *Repast*: Scandinavian-American Food Traditions (Fall 2009); Development of African-American Foodways (Winter 2010). Suggestions for future themes are also welcome.
(Unless otherwise noted, programs are scheduled for 4-6 p.m. at Ann Arbor Senior Center, 1320 Baldwin Ave.)

Sunday, September 20, 2009
Dr. Lucy M. Long
(Adjunct Asst. Prof., Bowling Green State University)
“Regional American Foodways”

Sunday, October 18, 2009
Amy Emberling
(Managing Partner, Zingerman's Bakehouse)
“Bread at the Origin of Civilization: A Baker's View”

Sunday, November 8, 2009
3 - 5 pm, Ann Arbor District Library, Pittsfield Branch
(2359 Oak Valley Drive)
Weslie Janeway, coauthor of
Mrs. Charles Darwin’s Recipe
Book: Revived and Illustrated.
Light refreshments will be served,
prepared using recipes from the cookbook.