

The Making of a University

As the 175-year anniversary approaches, the University of Missouri prepares to celebrate its stature as a global leader in teaching and research. Story by Mark Barna



† Based on historical artwork and photographs, this view (including the cows) is how the University of Missouri appeared when Academic Hall, above right, was dedicated in 1843. The structure burned in 1892, leaving the Columns. The president's residence, built to the east at about the same time, burned in 1865, and The Residence on Francis Quadrangle now sits on the site.



The University of Missouri has come a long way in the past 175 years.

MU is one of six American public universities with units in law, medicine and veterinary medicine on one campus, and it has the most powerful research reactor of any university in the United States. As a research institution, MU spends about \$240 million annually to do basic science research and develop products that change lives — from healthful foods to a cancer treatment with no discernible side effects. MU's ability to foster collaboration has so impressed members of the most prestigious science academies that eight have chosen the university as their destination to teach and perform research.

Administrators, meanwhile, have helped create a campus culture that is open, environmentally aware, multicultural, health-conscious (on July 1, 2013, the campus went smoke-free) and accepting of ideological differences. Thirty-six percent of students are residents of a state other than Missouri or come from abroad. From 2003 to 2013, minority enrollment increased 100 percent from 2,603 to 5,197, Division of Enrollment Management records show.

With its 175-year anniversary approaching in 2014, expect some nostalgia from faculty, staff, students, alumni and Columbia residents on how far MU has come: from a cluster of buildings on a field in rough-and-tumble Boone County to a \$2.1 billion globally competitive higher education institution.

Where We Are From

MU was founded in 1839 thanks in large part to the efforts of then-Missouri lawmaker James S. Rollins, who saw the need for higher education in central Missouri. At the time, most

residents in the region came from a Southern plantation culture that included slaveholding and embraced frontier justice, says Frank O. Bowman III, a Boone County historian and MU professor of law. A Unionist sympathizer, Rollins was also a slaveholder in antebellum Boone County.

By the 1850s, Washington, D.C., favored abolition, causing suspicion among many county residents of federal oversight, Bowman says. Even so, MU Libraries in 1862 became a U.S. government state regional depository. The depository gave central Missourians public access to legislative documents, helping them to be informed on actions in Washington. "It was a brave move by the university to join a federal program at that time considering mid-Missouri's Confederate sympathies and hostility to the Union," says Marie Concannon, BES '87, MA '90, MU Libraries government documents regional director.

During its early decades, MU grew slowly and enrollment was sparse, in part because of violent skirmishes fueled by Missouri's ambiguous stand on slavery. Its campus, moreover, looked more like a collection of country schoolhouses than a state university. Two events strengthened its financial foundation: In the late 1860s, Rollins, then a state representative, drafted several measures to create revenue for MU, and the university achieved land-grant status.

The Morrill Act, passed in 1862, was a federal program designed to bulk up American higher education. The act gave federal land or the proceeds of federal land sales to universities for the creation of colleges teaching agricultural and mechanic arts. Upon receiving land-grant status in 1870, MU moved to open the College of Agriculture and Mechanic Arts, now the College of Agriculture, Food and Natural Resources. Today, MU is ranked among the top 15 universities in the world for animal and plant science research.

By 1890, the university boasted schools in the arts, sciences, medicine and law. In 1908, the world's first journalism school

Timeline

As MU looks forward to its 175th anniversary in 2014, it's a moment for a proud look back at some of the university's accomplishments in realms of teaching, research and service. Mizzou started with a graduating class of two students in 1843 and has since become an economic and scholarly powerhouse, with an enrollment of 34,658 in fall 2013 and research expenditures of \$217 million in fiscal 2012. The following timeline spans the next several pages. For sports highlights, see Page 44.



1839
Through the Geyer Act, the legislature establishes the University of Missouri. Thanks primarily to the efforts and contributions of 900 Boone County citizens, the university is to be located in Columbia. It is the first public higher-education institution west of the Mississippi River and

the first in the Louisiana Purchase territory.

1840
John Hiram Lathrop is hired by the Board of Curators as the first president, and the university starts operations in Academic Hall. Lathrop begins in 1841.



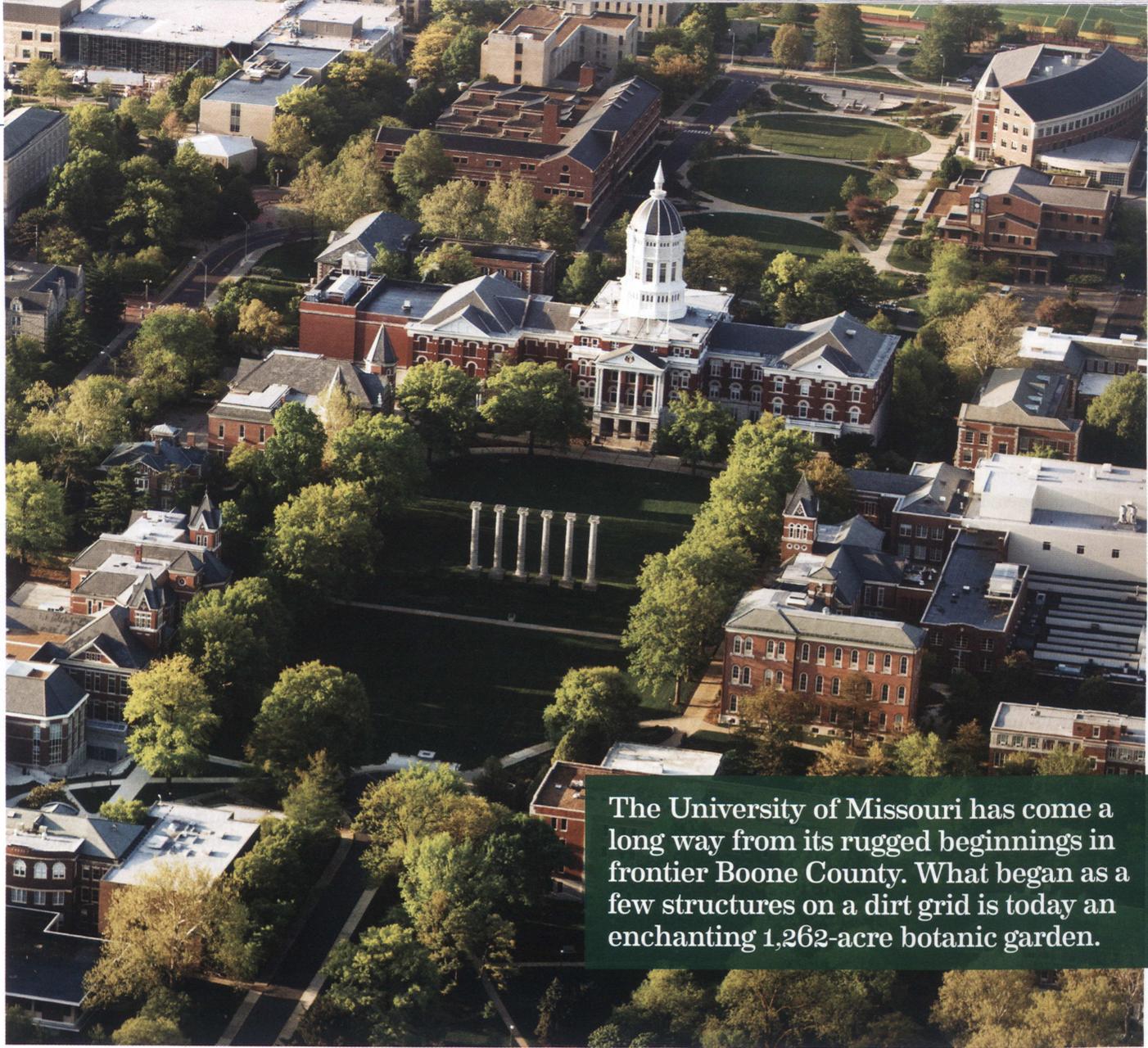
1843
The university holds its first commencement — a three-hour ceremony — for two

graduates, cousins Robert L. Todd and Robert B. Todd.

1853
The Alumni Society (later the University of Missouri Alumni Association and, after Jan. 1, 2007, the Mizzou Alumni Association) is established.

1862
The university closes from spring to fall because federal troops engaged in the Civil War are quartered in Academic Hall.

President Abraham Lincoln signs the Morrill Act, which creates the nation's land-grant universities.



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1867

The state allocates its first appropriation to the university — \$10,000 to rebuild the president’s home, which had burned; repair war-ravaged Academic Hall; and establish the Normal College for the preparation of teachers.

1868

Women are admitted to the university for the first time, though their enrollment is limited to the Normal College.

1869

Phi Kappa Psi becomes Mizou’s first fraternity.

1870

The federal Morrill Act gives

the university land-grant status, and the state legislature authorizes the establishment of the College of Agriculture in Columbia and the School of Mines and Metallurgy in Rolla.

1871

Female students are admitted to the University of Missouri beyond the Normal College.

1875

The citizens of Missouri give the university and its governing body, the Board of Curators, constitutional status and call on the general assembly to adequately maintain the

“state university.”

1876

MU lecturer and Missouri State Entomologist Charles V. Riley helps save the French wine industry from a vine-ravaging aphid by grafting resistant Missouri rootstock onto French vines.

1883

Thomas Jefferson’s heirs give his original tombstone to MU.

1885

The first vaccine-virus laboratory in the U.S. is established at the veterinary science department.



1888

Under the federal Hatch Act of 1887, the Agricultural Experiment Station is established in 1888 and operates on Sanborn Field in Columbia.



was founded, now known globally for the Missouri Method of teaching students in the authentic media outlets of a daily newspaper, a weekly magazine, an NBC-affiliate TV station and a National Public Radio affiliate.

Between 1870 and 1910, American higher education hit its stride. Enrollment jumped, and benefactors fat with cash from the industrial age enabled the founding and expansion of hundreds of degree-granting institutions. But expansion also shed an unbecoming light on the lack of academic standards among U.S. colleges and universities. In response, 14 higher education institutions' presidents formed the Association of American Universities (AAU) in 1900. Association membership was by invitation only and based on the quality of the university's research, faculty, and undergraduate and graduate education. Charter members included Johns Hopkins, Harvard, Cornell, Yale, Princeton and Stanford.

Granted membership in 1908, the University of Missouri is one of only 34 public universities in the U.S. with AAU status. Former MU Chancellor Brady J. Deaton, who retired Nov. 15, 2013, was proud of the campus's AAU membership but also saw room for improvement. In spring 2013, Deaton announced formation of a committee to examine ways to strengthen Mizou's AAU stature.

The rubber had already hit the road in one focus area: increasing the number of faculty who are members of prestigious academies. Since November 2012, MU has added evolutionary psychologist Martin Daly (the Royal Society of Canada), anthropologist Napoleon A. Chagnon (The National Academy of Sciences) and economist William "Buz" Brock (The National Academy of Sciences). The hires were made with help from the Chancellor's Fund for Excellence, the College of Arts and Science, and Mizzou Advantage — which rolled out in January 2010 to increase MU's visibility, impact and stature in higher education and to foster collaboration in interdisciplinary re-



search and instruction.

"The quality of MU's faculty is reaching new levels, and that is translating into attracting even more top scientists to our campus," says Provost Brian Foster, who will retire Dec. 31, 2013.

Another important barometer of MU academic excellence came in 1973 when The Carnegie Foundation, a respected independent policy and research center with offices at Stanford University and in Washington, D.C., began ranking universities and classified MU as a Doctoral/Research University. MU shares the classification with such high-powered schools as Harvard, Princeton and the University of Michigan.

PAIDALOS: JUSTIN KELLEY

1890

The first residence hall is built to house 25 to 30 men.

Congress passes a second Morrill Act, which creates what are now known as historically black universities and provides more support to land-grant institutions.

causes a deadly fever and discover how to eradicate it.



1892

Academic Hall burns. Alumni and citizens of Boone County prevent the Columns from being torn down.

1893

MU entomologists determine that the cattle tick

1895

MU's yearbook, the *Savitar*, makes its first appearance. In 1908, illustrations by Thomas Hart Benton grace its pages.

1895



A new Academic Hall, renamed Jesse Hall in 1922, opens to replace the original building, which burned in 1892.

JESSE HALL: MU ARCHIVES. C. 01/46/17



← Far left: Dr. John Pardalos, MD '90, examines Carly Ruggles in the Neonatal Intensive Care Unit at the University of Missouri Women's and Children's Hospital. Left: Vegas, a golden retriever, uses the water treadmill at the College of Veterinary Medicine.

The Research We Do

MU is not only a public land-grant university dedicated to a statewide mission of service. It is also a research titan with a global presence. In fiscal 2012, the university spent \$479 million in sponsored research, instruction, public service grants and contracts, and commercial services. Since fiscal 2008, the campus has filed 365 U.S. patents and signed 227 options and leases for new technologies. To date, companies licensing products invented by MU faculty have earned \$1 billion in sales revenue.

Research is wide-ranging. Fu-hung Hsieh, a biological engineering and food science professor, and Harold Huff, BS Ag '74, MS '81, head of MU's Food Engineering Lab, labored a decade to invent a chicken alternative that hit the marketplace in June 2012. Months later, the Beyond Meat factory that produces the

product opened in Columbia, creating Missouri jobs. In February 2013, Professor M. Frederick Hawthorne published in the online journal *Proceedings of the National Academy of Sciences* his research on a radiation therapy that causes cancer remission in mice without discernible side effects. Plans are to begin clinical trials on human patients once funding is obtained and infrastructure built. If all goes as planned, the therapy could be available by 2018, says Hawthorne, a National Academy of Sciences member.

Hawthorne credits the campus's interdisciplinary approach, the strength of its biomedicine department and the MU Research Reactor for the therapy's development. Indeed the reactor, opened in 1966, has been a boon to MU innovation. Under the hood of most hybrid cars is high-current electrical

1896

The Dunn-Palmer Herbarium becomes the first public library of plants west of the Mississippi River and one of the few in the U.S. It includes specimens from the 1830s and samples of Missouri's endangered species.



1899

The first doctor of philosophy degree is awarded.

1900

Enrollment reaches 1,038 with students from 42 states, territories and

foreign countries.

1903

Read Hall, a dormitory for women, is built.

1904

University Elementary School and University High School are established.

1908

With the advent of the School of Journalism,



Dean Walter Williams also establishes the *University Missourian* to provide practical training for journalism students.

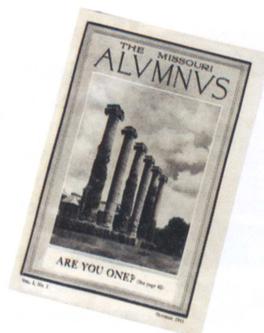
The University of Missouri is invited to become a member of the Association of American Universities, the organization that continues to represent the most prestigious public and private research universities in the U.S. and Canada.

1910

University of Missouri Extension begins spreading the benefits of university research to the citizens of Missouri.

1911

MU hosts one of the first university Homecoming celebrations in the nation.



1912

The Missouri Alumnus magazine, now MIZZOU, is founded.

1914

The federal Smith-Lever Act establishes a system of cooperative extension services connected to land-grant

universities to inform people about developments in agriculture, home economics, public policy, leadership, 4-H, economic development and many other subjects.

1917

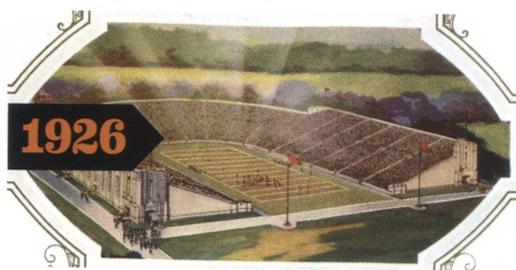
Faculty scientists conduct soil-erosion research that provides the impetus for Congress to create field stations nationwide to focus on the problems of erosion and drought.

1918

Influenza pandemic hits Columbia and closes the university for three weeks.



† Incoming freshmen run across Francis Quadrangle in the Mizzou Alumni Association's traditional Tiger Walk the Sunday evening before fall classes begin.



1926

Memorial Stadium is dedicated.

1927

MU geneticist Lewis J. Stadler discovers that radiation multiplies mutations in plants, a breakthrough that leads to faster development of new varieties of plants.

1930s

Ralph H. Parker, who later

became director of the MU Libraries and dean of the School of Library and Information Science (now part of the College of Education), publishes the first paper in the world to talk about using computers in libraries. In 1964, he instituted the first automated

circulation system in the nation.

1936

Barbara McClintock begins a five-year stint as an assistant professor at MU. She goes on to become a member of the National Academy of Sciences and is honored as the 1983 Nobel Laureate in Medicine for her discovery of mobile genetic elements.

1938

Engineer Donald Waidelich initiates a three-decade study of repeating



electronic patterns that provides the key to interpreting radar and sonar signals.

1941-47

During World War II, head of all war production is Donald Marr Nelson, BS CIE 1911, LLD '42. The war reduces enrollment from 5,725 to 1,938 in 1943. The return of veterans and the GI Bill push enrollment to 11,452 in 1947, and temporary dormitories house these new students.

1944

Researchers Leonard Hase-man and L.F. Childers dem-

onstrate a diet that protects bees from a disease that threatens to wipe out the nation's bee colonies.



1945

William Albrecht collects a soil sample from Sanborn Field that provides the golden mold used to make the penicillin-like drug Aureomyacin.

1947

Faculty member A. Sterl Artley helps pioneer the *Dick and Jane* series of books, which by the 1970s had helped nearly 84 million elementary students learn to read.

switching developed from reactor research, says Robert Duncan, MU vice chancellor of research, who will become the vice president for research at Texas Tech Jan. 1, 2014. MU's reactor is No. 1 in America in shipping radioisotopes for health care applications, he says. In recent years, the following MU-developed pharmaceuticals became commercially available: TheraSphere, for treatment of liver cancer; Quadramet, for bone cancer pain; Ceretec, for use in brain imaging; and Zegerid, for heartburn relief. Three of the four used the reactor during development.

Perhaps surprisingly, MU research has benefited from the university joining the Southeastern Conference in 2012. Faculty are developing research relationships with their counterparts at the 13 other SEC universities. Also, given the broader national stage the SEC offers MU sports, a bounty of people could be motivated to learn more about what Mizzou does academically. Higher visibility might increase donor participation, as well.

At an MU campaign-planning meeting last spring, Duncan said people get motivated to give research gifts to higher learning institutions when they see a successful track record of faculty inventions hitting the marketplace. "Donors recognize that the University of Missouri has the ability to ... serve humanity at every stage of life," Duncan said. "In that we are strong."

Who We Are

In fiscal 2013, MU was 44th out of 50 states in per capita support of public higher education. Tuition revenue has helped fill that gap. From 2001-13, enrollment increased 46.4 percent while state funding declined from \$221 million to \$193 million, a drop of 12.7 percent, budget records show.

To date, companies licensing products invented by MU faculty have earned \$1 billion in sales revenue.

Yet the caliber of faculty instruction remains solid. An indication of quality teaching is freshman retention rate. MU's is 84 percent, while the national average is 78 percent. Furthermore, 71 percent of undergraduates finish in six years (the national average is 57 percent).

Tuition increases have been moderate. While the University of Missouri System raised tuition on its four campuses 2.3 percent annually during the past five years, comparable institutions in surrounding states raised theirs by about 6 percent, UM System President Tim Wolfe told the Board of Curators Jan. 31, 2013. MU stanchied the shortfalls mostly through operating efficiency, Mizzou Online revenue, gifts and endowment income.

Yes, the University of Missouri has come a long way from its rugged beginnings in frontier Boone County. What began as a few structures on a dirt grid is today an enchanting 1,262-acre botanic garden.

To create a more accepting and racially diverse campus, MU launched a diversity initiative two decades ago and in 2006 formed the Chancellor's Diversity Initiative. One year later, MU started the Missouri College Advising Corps, which sends recent graduates into state high schools to help students better understand the nuts and bolts of applying to and succeeding in higher education. Many high school students counseled became first-generation college freshmen at MU and other universities. Students of various ethnicities also spend hundreds of hours in schools as mentors of underrepresented minority students.

"Our campus culture is respectful and inclusive," says Chief Diversity Officer Noor Azizan-Gardner, BS BA '85, MBA '93. "We encourage meaningful diversity, which happens when people meet and engage with one another. It is really exciting to create an atmosphere where there is open engagement." **M**

1950

The first black students are admitted. In 1951, Gus T. Ridgel, MA '51, ScD '96, becomes MU's first black graduate.

1950s

Geneticists Ernest and Lotti Sears develop a strain of wheat that is resistant to rust disease. It becomes a worldwide food source. Ernest was inducted into the National Academy of Sciences in 1964.

University of Missouri administrators, under U.S. Agency for International Development leadership, travel to India to help set up Indian agricultural universities.



KOMU-TV goes on the air as a lab for students majoring in broadcast journalism.

1954

Dr. Fred Robbins, BA '36, BS Med '38, ScD '58, receives the Nobel Prize for research that leads to a polio vaccine.

1955

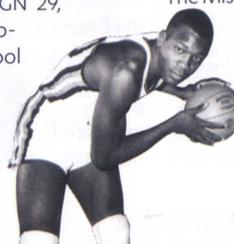
The first class of four-year medical students is enrolled.

1956

Al Abram Jr. is the first African-American to receive an athletic scholarship. He plays basketball from 1957 until 1960, and he is the university's fourth-highest scorer in 1959.

University of Missouri Medical Center, now University Hospital, opens, replacing Parker Memorial Hospital and Noyes Hospital, now Parker and Noyes halls.

Ruby Potter, GN '29, M Ed '45, is appointed School of Nursing dean. She is the first female dean.



1957

Plant scientist Gyorgy Redei is hired. He pioneers the use of *Arabidopsis* as a model for the study of the genetics of flowering plants, which becomes a standard worldwide.

1958

William Peden establishes the University of Missouri Press.

1959

The Missouri Students Association is created, significantly increasing the voice of students in university affairs.