THURSDAY, AUGUST 3, 2017



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#### LIFE & CULTURE



#### DENVER ICON TURNING 125

Beatles, presidents and G8 Summit leaders have all played the palace — the Brown Palace. The luxury-hotel stalwart of downtown Denver since 1892 will celebrate its 125th birthday Aug. 12 with a full weekend of programming that highlights a century-anda-quarter of local history and lore. **\*1C** 

#### **SPORTS**

#### NEW LESSON FOR ROOKIE RB

De'Angelo Henderson is learning he doesn't have to be perfect, but it's a hard lesson for the 5-foot-7, 208-pound Broncos running back. Being a perfectionist, after all, is what propelled him from Coastal Carolina to the NFL. \*\*1B\*

## Irish coach Parseghian dies. Ara Parseghian, who took over a

foundering Notre Dame football program and restored it to glory with two national championships in 11 seasons, has died. He was 94. »**8B** 

DENVER & THE WEST



#### PRUITT TO VISIT GOLD KING

Environmental Protection Agency chief Scott Pruitt and Colorado's top politicians will tour the Gold King Mine on Friday. »4A

#### BUSINESS

#### DOW PUSHES PAST 22,000

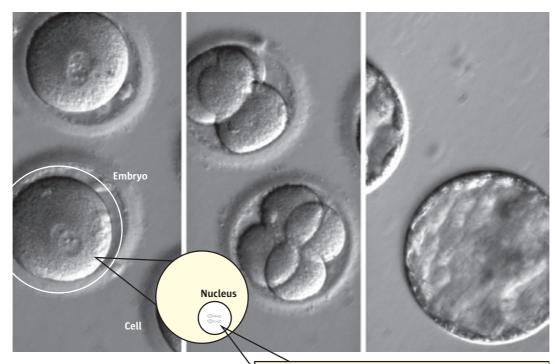
The Dow Jones industrial average closes above 22,000 points for the first time, driven by a big gain in Apple. It just topped 21,000 in March, so is 22,000 a big deal? **\*\*10A** 

U.S. SENATE IMMIGRATION BILL

# Dramatic shift, cuts

**GENE INGENUITY** 

# In a first, scientists edit DNA of human embryos



By Melissa Healy Los Angeles Times

sing a powerful gene-editing technique, scientists have rid human embryos of a mutation that causes an inherited form of heart disease often deadly to healthy young athletes and adults in their prime.

The experiment marks the first time that scientists have altered the human genome to ensure a disease-causing mutation would disappear not only from the DNA of the subject on which it is performed but from the genes of his or her progeny as well.

The controversial procedure, known as "germ-line editing," was conducted at Oregon Health and Science University using human embryos expressly created for the purpose. It was reported Wednesday in the journal Nature.

The new research comes less than six months after the National Academies of Science, Engineering and Medicine recommended that scientists limit their trials of human germ-line editing to diseases that could not be treated with "reasonable alternatives" — at least for now.

In a bid to make the experiment relevant to real-life problems faced by parents who carry genes for inherited diseases, the researchers focused their editing efforts on a mutation that causes inherited hypertrophic cardiomyopathy.

EMBRYOS » 8A

# Guide RNA Scientists customize RNA molecules to guide an enzyme named Cas9 to the correct spot. Cas9 The enzyme precisely cuts DNA like scissors. Either the cell repairs itself or a new piece of DNA can be inserted.

#### "Editing" genes in living cells: The CRISPR-Cas9 technique

These photos, provided by Oregon Health and Science University, show the development of embryos after being injected with CRISPR-Cas9, a gene-editing technology that successfully removed a genetic mutation known to cause hypertrophic cardiomyopathy. The work, a scientific first led by researchers at OHSU, marks a step toward one day preventing babies from inheriting diseases that run in the family.

Sources: University of California, The Associated Press Kayla Robertson, The Denver Post

# "No matter what anybody says, this is not the dawn of the era of the designer baby."

Alta Charo, bioethicist at the University of Wisconsin and chairwoman of the National Academies committee looking at gene editing

Plan would reduce green cards, start merit-based system, diminish family ties

By Ken Thomas and Jill Colvin The Associated Press

WASHINGTON» President Donald Trump on Wednesday embraced legislation that would dramatically reduce legal immigration and shift the nation toward a system that prioritizes merit and skills over family ties.

Trump joined with Republican Sens. David Perdue of Georgia and Tom Cotton of Arkansas to promote the bill, which has so far gained little traction in the Senate.

"This legislation demonstrates our compassion for struggling American families who deserve an immigration system that puts their needs first and puts America first," Trump said during an event in the White House's Roosevelt Room.

It was the latest example of the president championing an issue that animated the core voters of his 2016 campaign, following decisions to pull out of the Paris climate treaty and ban transgender people from the military.

Perdue and Cotton's legislation would replace the current process for obtaining legal permanent residency, or green cards, creating a skills-based point system for employment visas. The bill would also eliminate the preference for U.S. residents' extended and adult family members, while maintaining priority for their spouses and minor children.

Overall, immigration would be slashed 41 percent in the legislation's first year and 50 percent in its 10th, according to projection models cited by the bill's sponsors. The bill would aim to slash the number of refugees in half and eliminate a program that provides visas to people from countries with low rates of immigration.

The rollout included a combative press briefing led by Trump policy aide Stephen Miller, who clashed with the media over the plan and accused one reporter of being "cosmopolitan" when he suggested it would bring in only English-speaking people from Britain and Australia.

The president has made

### CH2M sold to Jacobs Engineering for \$2.85B

By Erin Douglas and Tamara Chuang The Denver Post

International engineering behemoth CH2M, one of Colorado's largest private companies, has agreed to be purchased by Dallasbased Jacobs Engineering Group Inc. for \$2.85 billion, the companies announced Wednesday.

For Colorado, this is a big deal.

Panama Canal big. CH2M, after all, was one of the key contractors hired to manage construction of the third lane for the watery shortcut through the Americas. When the third lane opened last year, CH2M CEO Jacqueline Hinman was one of the few Coloradans personally invited by the Panamanian government to attend the event.

"This is a winning combina-

tion," Hinman said in a conference call Wednesday. "It's not simply about being bigger, it's about offering better: better opportunities for employees and outstanding value for stakeholders."

The acquisition, expected to close — pending approvals — at the end of the year, is all about growth, said Steven Demetriou, Jacobs' chairman and CEO. There

is little business overlap, and the combination expands global reach for both. CH2M's expertise in water infrastructure and environment were target growth areas for Jacobs, which primarily focuses on the aerospace, infrastructure, industrial and energy sectors

"We're a growing company. They're a growing company. We

CH<sub>2</sub>M » 12A

INSIDE Business » 10-12A | Comics » 5-6C | Lottery » 2A | Markets » 11A | Movies » 4C | Obituaries » 15A | Puzzles » 5C, 7C digital first





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