

THE WEEK

WORD ON THE STREET:
BEN ZIMMER

A Campaign Tries a Little Alchemy

IN THE NEW HAMPSHIRE presidential primary battle, former president Bill Clinton, stumping for Hillary, used some language that harks back to the age of the alchemists.

At rally in Milford, N.H., Mr. Clinton derided Vermont Sen. Bernie Sanders and his supporters (though he did not mention Mr. Sanders by name). "Hillary's opponent has a different view," Mr. Clinton reportedly said. "It's a hermetically sealed box. It's very effective. The system is rigged against you by the big banks, and both parties are in the thrall of the big banks. Anybody who takes money from Goldman Sachs couldn't possibly be president."

That "hermetically sealed box" is a useful metaphor to portray Mr. Sanders as out of touch with reality, as if he inhabits a pristine space closed off from all external influence. The phrase "hermetically sealed," in fact, goes back more than four centuries, rooted in the esoteric philosophy of alchemy.

Best known for their attempts to turn base metals into gold, alchemists saw themselves as heirs to an occult tradition that they traced back to a mythical figure known as Hermes Trismegistus, or "Thrice-Greatest Hermes." A fusion of the Greek god Hermes and the Egyptian god Thoth,

Hermetic seals evolved from their mystical roots to airtight containers.

Hermes Trismegistus was revered as the author of a set of mystical teachings named after him, the Corpus Hermeticum.

Following this "hermetic" tradition, alchemists concocted various distillations, such as by melting metals, that they placed in sealed-off glass tubes. The Oxford English Dictionary cites a 1605 tract by the English clergyman Thomas Tymme, who translated alchemical works from French. Tymme gave instructions for creating a "Hermes seal." The result would be a vessel that was "hermetically closed round about, that nothing breathe through."

Hermetic seals outlasted their mystical origins, as airtight containers became valued for keeping out infectious bacteria and other contaminants. But "hermetic" and the phrase "hermetically sealed" have taken on more figurative meanings, to refer to ways that things—or people—could be closed off from the outside world, for better or worse.

The English poet William Cowper, in a letter from 1780, wrote, "If you trust me with a secret, I am hermetically sealed." And in 1881 William Robertson, a New York Republican from the moderate "Half-Breed" faction, warned that having too many "Stalwarts" in President Chester A. Arthur's administration would put reformists "in a political metallic casket, hermetically sealed."

"Hermetic" has also taken on connotations of reclusiveness, as it has been confused with the word "hermit," which has a different etymology (from the Greek word for "solitary"). North Korea's leader, Kim Jong Un, has often earned the label "hermetic" in news accounts, perhaps because he is both sealed off and hermit-like.

Given Mr. Sanders's big win in the Democrats' New Hampshire primary, the Clintons, like the alchemists of old, failed to find that magic golden recipe.



RUTH GWILLY

MY WEEK: CAROLYN PORCO

Is There Life Orbiting Saturn?

SEVERAL MONTHS BACK, eager for the intellectual milieu that only a top-notch university can offer, I accepted a position as a visiting scholar at the University of California, Berkeley, and headed west from Boulder, Colo. Not that my life for the past 25 years, as part of NASA's Cassini mission to Saturn, had been boring: It's not every day that one is given the challenge of leading a team in returning the official visual record of the first in-depth exploration of the most iconic planetary system in orbit around the sun. And there are smaller thrills than watching those wondrous, eye-popping images of Saturn and its rings and moons come streaming back to Earth over the last dozen years.

But even the best job in the inner solar system can crowd out other joys, and I yearned to find out what had happened down here on Earth while I wasn't looking.

I now awaken each morning to a view of Richardson Bay in Marin County, a place made lush and gentle by water. And I am grateful to be here.

I drive to Berkeley and settle into my campus office overlooking Hearst Mining Circle. My day job is still headquartered back in Boulder, where my fabulous staff members are busy keeping things on course; I remain in touch through the marvel of the Internet.

Today, we're working on a news release. On Enceladus, one of Saturn's more than 60 moons, the mission had earlier found 101 towering jets of frozen mist, erupting through the surface from a salty interior water ocean laced with compounds containing carbon. That makes Enceladus the most promising environment yet in which to search for a second genesis of life.

To first set eyes on this rare spectacle in the early days of our travels around Saturn was, in every sense, out of this world. I wondered: Did the first Homo sapiens who stumbled upon the boiling, spouting turmoil in North America's Yellowstone region feel the same rush I did when looking at the geyser basin of Enceladus? It has been an explorer's dream come true—a landmark in the annals of planetary exploration.

By the end of the day, we've announced the

news: The ocean under the surface of Enceladus is in fact globe-encircling—that is, even better than we thought. For the second time today, I feel grateful.

The ocean announcement, the imminent end of Cassini's time at Saturn and the historic photos of Pluto captured by the New Horizons spacecraft a few months ago have driven press requests to a fever pitch. I can barely keep up. American, British and German production crews and other media outlets all want my original, sincere expressions of profound surprise and amazement. After too many interviews, I run out of words and wind up saying the same thing over and over. I laugh to myself, imagining what the producers will say when they find out.

One moon has 101 towering jets of frozen mist, erupting through the surface.

For the past decade, I have pushed passionately—in public and among my colleagues—for a mission back to Enceladus that would do what Cassini can't: take a real shot at finding life within the moon's ocean. The winning card here is accessibility. No other possible abode of life in our solar system is so well understood or presents itself so handsomely, with ocean samples

spraying into space and snowing back down onto the surface, readily available to any passing spacecraft.

But Saturn is far away, the challenge would be expensive, and NASA budgets have been too restrictive to do much.

Until today, that is. I get a call from the director of NASA's Planetary Science Division, Jim Green, informing me of a new NASA announcement: The agency will consider proposals for missions to Enceladus—with hefty, enabling budgets—as early as 2017. The door is finally open! And I know in my bones that I lead a charmed existence.

Dr. Porco is the leader of the imaging science team on the Cassini mission to Saturn, an associate member of the New Horizons mission to Pluto and a former imaging scientist on the 1980s Voyager mission to the outer solar system.

R&D: DANIEL AKST

The Super Bowl Can Make You Ill

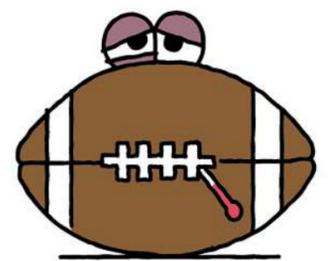
IF YOU'RE over 65 and live in Denver or Charlotte, you might want to be on the lookout for flu symptoms. That's because the Super Bowl can be hazardous to your health—or so a new study suggests.

Having a team in the championship appears to increase hometown flu deaths among older Americans by 18%, according to new research by economists at Tulane and Cornell universities. That is 18% over and above the flu-season toll everywhere else in the country, a toll that itself might be elevated by the big game. "Sending a team to the Super Bowl," the researchers write, "leads to an additional seven reported influenza deaths per million for those aged 65 and older in the home county" of a Super Bowl team.

The economists used mortality, population and weather data for metro areas with NFL teams from 1974 (when teams from Minneapolis and Miami went to the big game) to 2009 (teams from Pittsburgh and Phoenix), and they are confident that the Super Bowl is the culprit. They note that in metro areas sending a team to the game, flu deaths aren't elevated the year before or the year after. Areas that merely send a team to the playoffs see an increase in flu deaths, but not as large. When the Super Bowl coincides with peak flu season, mortality in communities that send a team increases even more, as it does when the prevailing flu strain is particularly virulent.

So older denizens of Denver and Charlotte might look out. Residents of Silicon Valley, on the other hand, can relax. This year's Super Bowl was held in Santa Clara, Calif., but the study found no significant change in the influenza death rate in Super Bowl host cities—perhaps because the NFL often chooses cities that are warm and humid, and the flu virus thrives in places that are cold and dry, the scientists say.

The economists speculate that having a team in the Super Bowl may mean increased socializing—including sharing bowls of snacks, handling serving utensils, double-dipping chips and so on. Such things go on everywhere on Super Bowl Sunday, but having a local team in the game presumably increases game-day partying above usual. Charles Stoecker, one of the study's authors, says that the Super Bowl probably drives up flu deaths everywhere, albeit not as much as in cities that send teams to the game.



Older folks needn't party to be at risk. The additional mixing spreads around the affliction, the theory goes, and the elderly then have a higher likelihood of infection. The implication is that young people probably get sick more too, but that doesn't show up in the mortality data because the flu is deadly mainly to older people.

The authors' advice? Get a flu shot. Wash your hands. Stay home if you're sick. Don't share food or drink. (Or you could just move to a city with a lousy team.)

"Success Is Something to Sneeze At: Influenza Mortality in Cities That Participate in the Super Bowl," Charles Stoecker, Nicholas J. Sanders and Alan Barreca, *American Journal of Health Economics* (Jan. 20)

TIM LUTMAN

PHOTO OF THE WEEK



KARIM SAHIB/AGENCE FRANCE-PRESSE/GETTY IMAGES

Hump Day
Camels raced Friday in this year's Sheikh Sultan bin Zayed al-Nahyan festival at a racetrack on the outskirts of Abu Dhabi.

For more images:
WSJ.com/Photos

Answers to the News Quiz on page C13:
1.A, 2.C, 3.B, 4.D, 5.B, 6.C, 7.A, 8.C, 9.B