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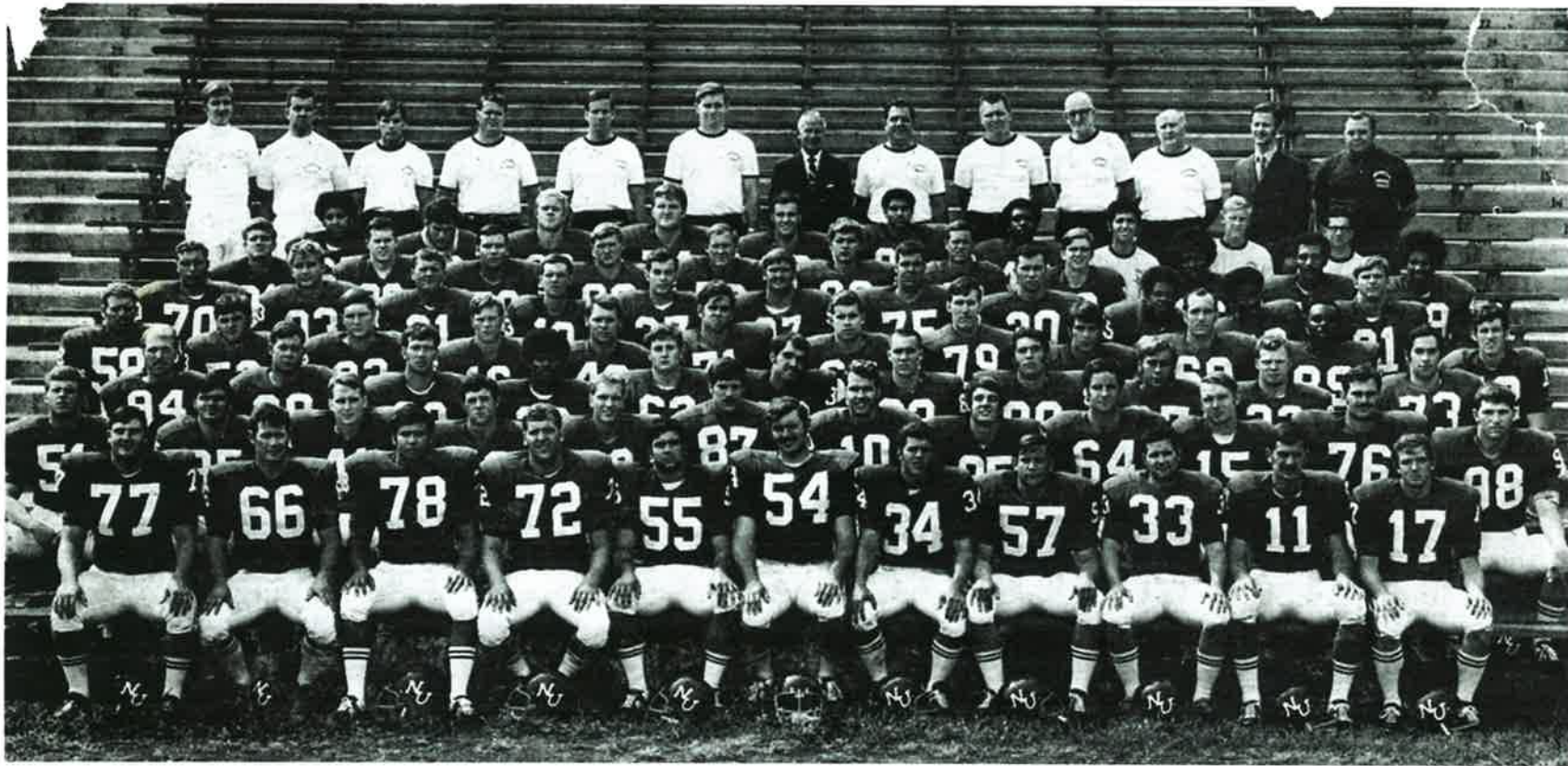
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WHAT FOOTBALL DID FOR US AND...



This story begins at a brain research lab in Massachusetts, and it will end there, too. But on the way it moves about the country, as I visit with my old Northwestern teammates and talk to them about the sport we played together years ago, the one that shaped us, rewarded us, wounded us. It was an uncertain time, the late 1960s and early 1970s, a time marked by the Vietnam War abroad and social unrest at home. Blows to the head were both figurative and literal for us young men. All around, things were escalating, ending, going up and down in flames. And through it all we played football. Where has it led us? **By RICK TELANDER, Pages 22-24**



...WHAT FOOTBALL DID TO US

THE STORY OF THE 1968-1970 NORTHWESTERN WILDCATS

'YOU GO FROM BEING HORRIFIED TO ADMIRING WHAT HE WENT THROUGH. I DON'T KNOW HOW THESE MEN CONTINUED TO FUNCTION.'

DR. ANN MCKEE, on examining brains of former NFL players



THE TEAM

PART 1



In this series, Rick Telander catches up with former teammates, who describe how football helped them in their lives, but also how injuries suffered 40 years ago haunt them today.

by RICK TELANDER

Dr. Ann McKee's office is small and filled with medical books. Light streams through the window behind the neuropathologist's desk. Though it's cold on this spring day on the campus of the sprawling New England Veterans Administration Medical Center outside Bedford, Mass., the sun is bright in the clear sky, and its rays give things inside the aging brick building a hopeful cast.

There are photos of football players on McKee's walls. One is an old, framed black-and-white shot of her uniformed brothers, former prep stars posing in front of the high school bleachers back in the family's hometown of Appleton, Wis. The older brother, Chuck, went on to become an All-America quarterback at Lawrence University. McKee, a tall, slender, cheerful woman with blond hair and gold hoop earrings, is a competitive jock at heart. "If I hadn't had the misfortune of being born a girl," she says, "I would have become a football player." There is, it should be noted, a mini-statue of Brett Favre — in a Green Bay Packers uniform — on her bookshelf.

There is also, on McKee's desk, a life-sized plastic brain.

"Who would you like to see?" McKee says to me. "Lou Creekmur?"

McKee holds nearly a dozen glass slides in her right hand. Creekmur, I recall, was a Hall of Fame lineman for the Detroit Lions. He died last summer at 82. McKee riffles through the thin slides, pulls one out.

"Tom McHale?"

She sees my wrinkled brow.

"He played at Cornell and then Tampa Bay. He died of substance abuse at 45."

I ponder this, feeling, not for the first time, a kind of vertigo. I've been traveling the country for some weeks, to New York and Los Angeles and Boston, to southern Illinois and northern Wisconsin and rural Missouri, visiting with old Northwestern football teammates — all of us now in our late 50s or early 60s. I've been asking my gridiron friends about the violence, the lessons, the primitive beauty and damage of the sport we played so long ago. My basic query to all has been this: What has football done for you? What has football done to you?

I've asked myself those same questions. And I have wondered what, if anything, it has done to our brains. That McKee loves football and yet is astounded by the effects of trauma on the most precious of human organs is indicative of the mixed feelings the

game provokes. My vertigo comes because I feel an uneasy link to her research, and to the unnerving idea of a man's essence being displayed on a thin plate of glass.

"Wally Hilgenberg," I say.

McKee nods.

"Walter Hilgenberg. I have him here."

I remember Hilgenberg as a standout linebacker for the Minnesota Vikings, a tough guy who played in all four Vikings Super Bowls. He's former Bears center Jay Hilgenberg's uncle. Indeed, Jay's middle name is Walter. Jay and I have talked about his uncle. Wally died in the fall of 2008 after a struggle with amyotrophic lateral sclerosis (ALS, or Lou Gehrig's disease). Wally was 66. His family donated his brain to McKee's laboratory, and by their donation, the Hilgenbergs enabled McKee to further her stunning research into a brain disorder that no one had seriously attributed to the effects of football — a disorder called chronic traumatic encephalopathy, or CTE.

CTE is produced only by blows to the brain; and, for now, the disorder can be discovered only after the fact — that is, in a dead person's brain. Deep incisions must be made. Stark ethical invasions must be al-



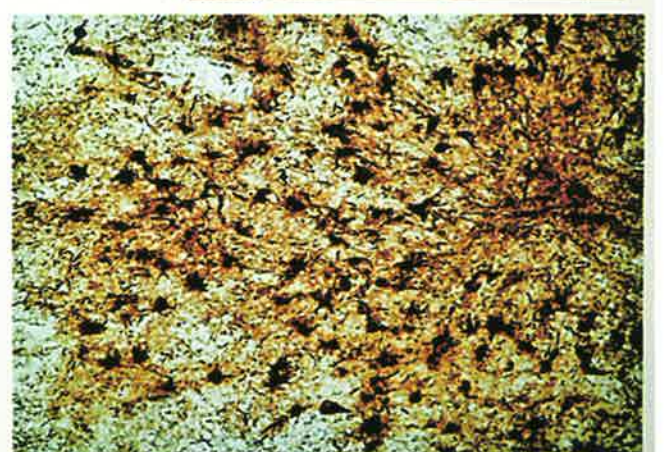
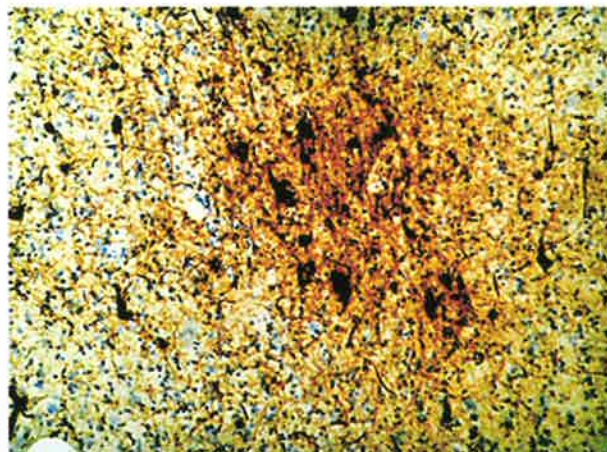
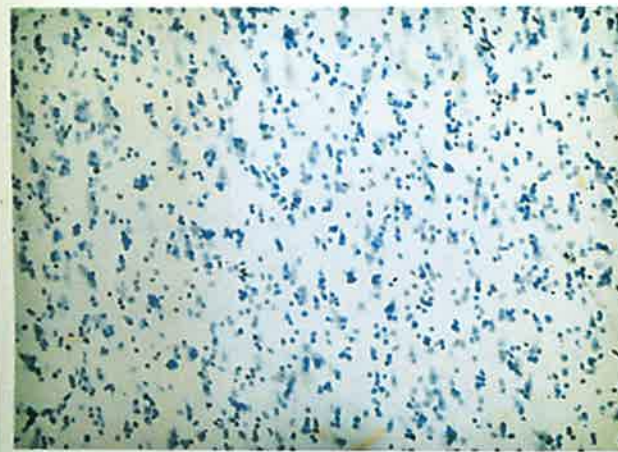
ME IN MY PLAYING DAYS

I was a starting cornerback for Northwestern from 1969 to 1970.

A HEALTHY BRAIN



INJURED BRAINS RIDDLED WITH TAU



The dark spots lining the edges of the damaged brains are examples of tau proteins that clumped together, which indicate physical trauma to the brain. | JOHN J. KIM—SUN-TIMES PHOTOS

lowed. McKee has seen CTE in the brains of battered housewives, boxers, pathological head-bangers, a circus clown shot from a cannon. CTE is a form of brain deterioration characterized by the buildup of the central nervous system protein tau where it should not be, in clumps and jangles and borders of the brain that, when viewed under a microscope, can resemble a pointillist painting gone wild or the rotting edges of meat. CTE is a form of progressive, disabling dementia that is, bluntly, horrifying.

It's not Alzheimer's disease, though it mimics that age-related brain issue and is often misdiagnosed as such. It's not ALS, though head trauma is believed to be a risk factor for that equally terrifying disease. It's something special, with its own genesis, a kind of backward evolution. It's rooted in violence.

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McKee leads the way down the hallway to a room where there are multiple microscopes interconnected so that several people can view a single slide at once. She slips a preserved, gossamer-thin slice of Wally Hilgenberg's brain under the lens. I look through my eyepiece. I know nothing about neurology, but I recoil in shock.



A FORMER NFL PLAYER'S BRAIN

Dr. Ann McKee holds half of a recently donated brain of a former NFL player during an examination at the Brain Bank of the New England Veterans Administration Center outside Bedford, Mass.

"See the tau?" McKee asks. "It's the brown stuff."

It's everywhere, a landslide, a dried and barren estuary in a ruined desert.

McKee, the veteran scientist who has dissected more than 2,000 brains and has seen these slides many times, is stunned yet. "It is ugly," she says of the degeneration of Hilgenberg's brain. "It is ridiculous."

She puts another slide under the lens, another football player, this being the aforementioned Tom McHale.

In this one, there are flurries of dots and lines and shapes that, to a layman such as I, who nevertheless understands the basic premise of healthy symmetry and order in nature, seem outlandish, crazy.

"For a 100-year-old, this would be incredible," McKee says, her eyes hovering above the microscope. "These slides are from the hippocampus, the learning and memory center. Lisa McHale, Tom's wife, saw this, and she began to understand why Tom changed. They have three young boys. You go from being horrified to admiring what he went through. I don't know how these men continued to function."

We look at more slides. I'm mesmerized. This couldn't possibly have happened — be

CONTINUED ON PAGE 24



THE TEAM

PART 1

FOOTBALL'S DAMAGED HEROES

LOU CREEKMUR

*Detroit Lions, 1950-59
Three-time NFL champion
Hall of Fame inductee*



Creekmur, an eight-time Pro Bowl offensive lineman during an era when many players went without a facemask, broke his nose 13 times. He died in 2009 from complications of dementia after a 30-year decline that included memory loss, a decreasing attention span and increasingly aggressive outbursts, according to Science Daily. Dr. Ann McKee determined that Creekmur had CTE and not another cause of dementia such as Alzheimer's disease. "This is an important case because we are confident many CTE cases are misdiagnosed as Alzheimer's disease," McKee said. "This is the most advanced case of CTE I've seen in a football player."

A slice of Creekmur's brain shows dense areas of tau (dark area) indicative of CTE.



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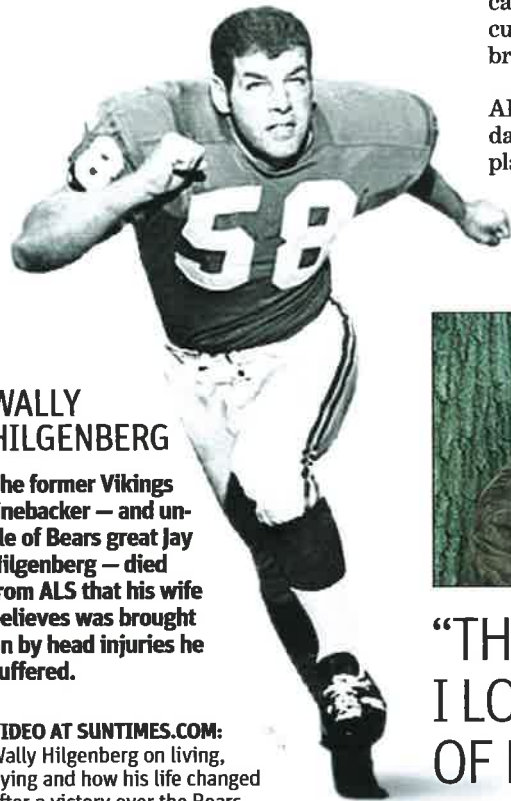
happening — to my friends, to me, could it?

Although a brain injury from a collision during a football game "often seems to cause a sudden change to cognitive ability years later, this change does not just appear out of the blue," writes Dr. Douglas Smith, professor of neurology and director of the Center for Brain Injury and Repair at the University of Pennsylvania, in the May/June 2010 issue of *Scientific American Mind*. "The damage has been building up slowly, unnoticed over time." There is, Smith says, a "tipping point," after which such things as slurring of words, memory loss, personality change, depression, sleep and mood disorders, anxiety, and, finally, full-blown, incapacitating dementia lets everybody know the person is brain-wounded.

McKee pulls away from the table. How does she get these brains? Widows donate them. Families confer and offer them. Some brains have come after embalment. McKee surfs the Internet and reads about recently deceased former football players. "I read about Walter Hilgenberg," she says. "I told Chris, 'We have to get this!'"

Chris is Chris Nowinsky, 31, one of McKee's partners in the project, a former player and pro wrestler who suffered multiple concussions during his sports career. Nowinsky, the co-director of the Center for the Study of Traumatic Encephalopathy at Boston University School of Medicine, will call the families and delicately ask if they would donate the deceased husband/father/son's brain to science. It's not an easy thing to do. But Nowinsky does it because he knows it's important.

In Fort Lauderdale, Fla., at this year's Super Bowl, he told me that at the highest levels of football, until a couple of years ago, "nobody was taking head trauma seriously." He mentioned Andre Waters, Terry Long, Mike Webster — all former NFL players who died young and tragically with severe brain damage. "[Former NFL Players Asso-



WALLY HILGENBERG

The former Vikings linebacker — and uncle of Bears great Jay Hilgenberg — died from ALS that his wife believes was brought on by head injuries he suffered.

VIDEO AT SUNTIMES.COM: Wally Hilgenberg on living, dying and how his life changed after a victory over the Bears.



Neuropathologist Ann McKee's research is shedding light on how blows to the head suffered while playing football can cause chronic traumatic encephalopathy (CTE). | JOHN J. KIM/SUN-TIMES

ciation chief] Gene Upshaw said I was just trying to sell books," said Nowinsky, whose 2006 book, *Head Games: Football's Concussion Crisis*, expresses how deeply he's concerned about ongoing concussions in sport. "Football writers didn't want any part of this. They didn't want to hurt their access to the NFL."

Most of the emphasis to this point has been on the pro game. What about college players? High school players? Pee-wees? Tackle football is tackle football. A brain is a brain. Yes, NFL players will have had more opportunities for extra and more vicious head blows. But how many do you need to reap the dark harvest?

McKee has a brain slide of an 18-year-old football player with the beginning signs of CTE. "I was stunned," she says.

What if she saw CTE in, say, a 7-year-old? "I'd have to give it up."

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Chris Nowinsky believes there's a way to stop most concussions in football. "The fastest solution is stop hitting in practice," he says.

But even that's not enough for Mary Hilgenberg, Wally's widow, who resides in Florida. She believes that CTE can be the catalyst for Lou Gehrig's disease, that concussions, even mild ones, set the stage for brain horrors down the road.

"I believe Wally died of CTE that caused ALS symptoms," she says. "There were days as a player when he didn't know he'd played in a game. I know when the big concussion happened — 1968. He was out cold. Two players dragged him off the field — it was on national TV — so the



"THE BRAIN IS TOO PRECIOUS TO GIVE UP. I LOOK AT IT AS I LOST MY HUSBAND BECAUSE OF FOOTBALL." —MARY HILGENBERG, Wally Hilgenberg's widow

COMING SUNDAY: PART 2

Mike Adamle won't let anything — including his football injuries — stop him.



Vikings weren't charged with a timeout. After he died, Dr. McKee saw that on his brain."

Abruptly, I can hear Mary crying on the phone. There are so many of Wally's teammates who have brain issues, she says, that it's overwhelming. "Their friends and wives are calling me. Their husbands say, 'I can't remember anything. I have to write everything down.' They're getting mean. They have terrible headaches. Some have severe dementia. One is on a ventilator."

I can hear her crying again. "The brain is too precious to give up. I look at it as I lost my husband because of football. I should be with Wally. He should be with his grandchildren." She pauses, collects herself. "Fathers put their sons in car seats, and then they drive their sons to play football. It's too dangerous. Don't do it!"

Millions of American males play football, at some level, each year. A lot of men in this country, thus, have played football at some time in their lives. Is it possible the cumulative head blows, even the slightest ones, being part of an organized and embedded sport over time and a populace, have damaged men in a way that women have not been? Is it unreasonable to think that, as Mary Hilgenberg puts it, "You guys are so masculine, you won't say anything is wrong," and because of that, we pay a terrible price?

My mind is flooded with thought. I wouldn't have given up football. I couldn't have. Could I? Is it possible the beloved game is not only dangerous but as reckless as juggling chainsaws?

I wonder what my former teammates think.