



# Malformed

By Adam Voorhes and Alex Hannaford

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MALFORMED  
Forgotten Brains of the Texas State Mental Hospital

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Text © 2014 Alex Hannaford

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ROBIN, THANK YOU



MANY WHO HAVE ENTERED OUR PORTALS WITH THEIR REASON DETHRONED, AND IN WHOSE MIND THE DEMON OF DISEASE HELD FULL SWAY, HAVE DEPARTED WITH THE CLOUDS DISPELLED AND THE GLORIOUS LIGHT OF INTELLECT ONCE MORE IN THE ASCENDANCY. ... THE MIND OF AN INSANE MAN IS PEOPLED WITH MORE TERRIBLE DEMONS THAN WERE EVER DREAMED OF BY THE BLACKEST WITCHCRAFT OR THE MOST ANCIENT MYTHOLOGY.

— Preamble to Superintendent's Report, Texas State Lunatic Asylum, 1894

## DISCOVERY

Somewhere in a little-used room in the bowels of the Animal Resources Center on the campus of the University of Texas at Austin sit around 100 or so large glass jars. They're stored two-deep on a wooden shelving unit that takes up an entire wall. Glass doors do a fairly good job of keeping off the dust and protecting them from the occasional visitor to this air-conditioned storeroom. The last thing you'd want to do is inadvertently knock one over.

For those jars house an unlikely collection. Each contains a complete — or, in a few cases, a sliced or diced — human brain, submerged in formalin, a formaldehyde and methyl alcohol solution. And on most are affixed labels, faded with time but still legible, inscribed with three pieces of information: a reference number, the condition from which the patient suffered (described in archaic Latin) and the date of death.

The specimens, which date back to the 1950s, all belonged to patients at the Austin State Hospital, formerly the Texas State Lunatic Asylum, a still-functioning institution that sits on a shady lot off Guadalupe Street, about 3 miles north of downtown Austin.

Due to lack of space at the hospital — and because staff members couldn't legally dispose of the formaldehyde the brains were preserved in at that time — the collection was gifted to the University of Texas in 1986. Since then, the collection has been curated by Dr. Tim Schallert, an affable psychology professor. A tall, thin man who is passionate about the collection, he wants to ensure its preservation. Over the last three decades, Schallert and his colleagues have used the brains repeatedly as a teaching tool, and he hopes that the specimens can be used in future scientific research studies, as some already have. With the advent of MRI technology, for example, scientists can now look inside the frontal, parietal, temporal and occipital lobes without the need for dissection, meaning the brains, and therefore the entire collection, can remain intact.

It's rare to find such a large collection of brains, much less one dating back so far and representing so many conditions. Most institutions just don't have room to store them. Plus, the formalin preservation solution clouds quickly and needs to be replaced every couple of months, which is costly. It was reported that Harvard Medical School wanted the brains, so

important did they perceive the collection to be, but hospital administrators decided they should stay in Texas.

There are inevitably many tales and anecdotes attached to a medical collection so old, and the UT brains are no exception. One account claims the collection includes the brain of one of the most notorious murderers in Texas history; another report indicates that half the collection mysteriously disappeared some time during the last 30 years. Then there's the story of the Austin State Hospital itself — the institution where these patients once lived — that offers a fascinating glimpse into their lives.

Of course, there's the narrative of hope that some of Texas' best neuroscientists believe could be contained within those cloudy jars tucked away in that quiet campus storeroom — an optimism that these brains could one day offer science a key to conditions that ended these patients' lives, some of which still afflict mankind.

It's these stories that breathe life back into the people who left their organs to science.

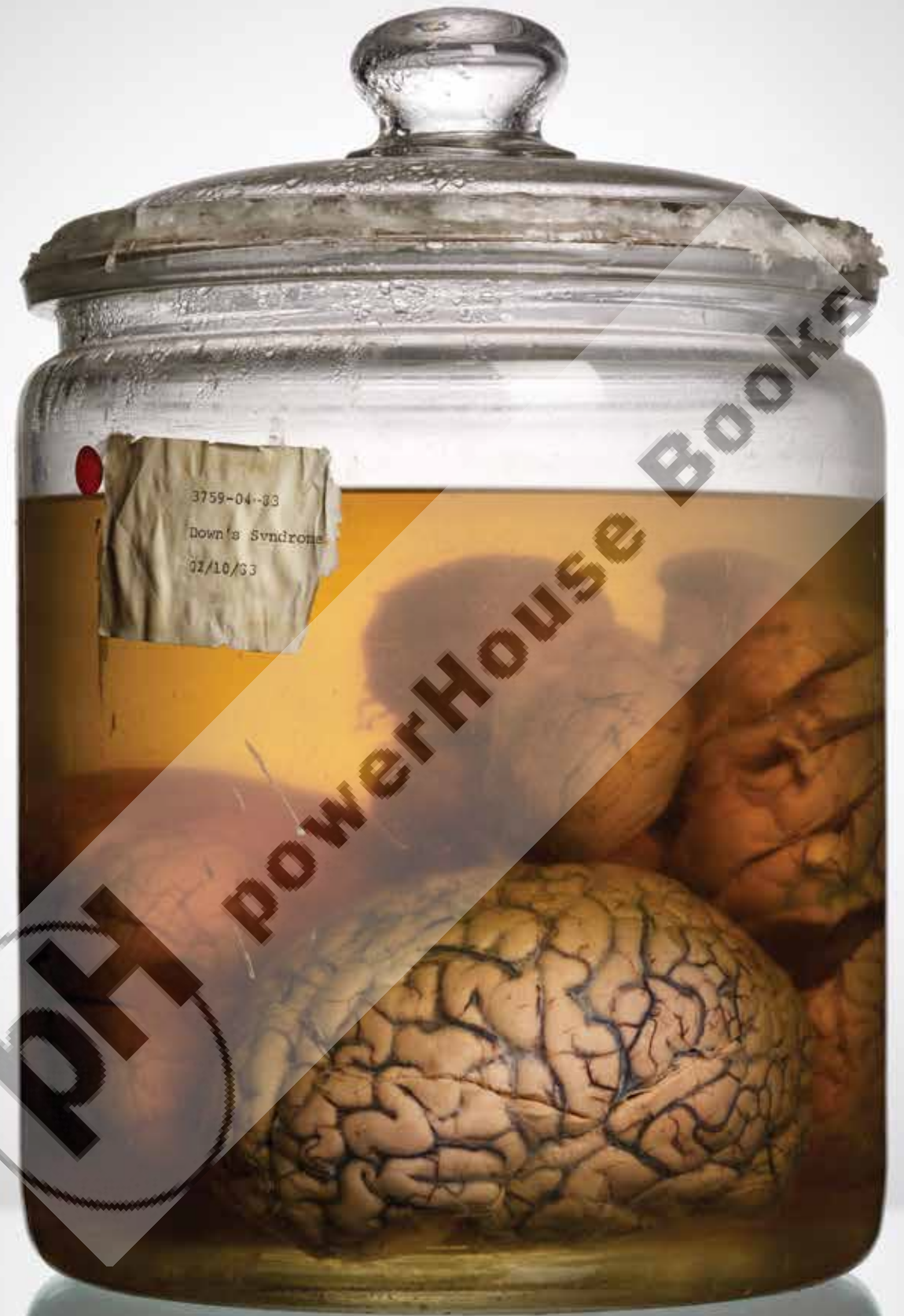
To walk along the shelves of glass jars, to spin each around gently in order to see the spongy anatomical structures inside from every angle, is strangely unnerving. In some, the liquid has turned opaque, even brown. In others, the glass lids are speckled with condensation, making the brains within almost seem alive.

The specimens themselves are in differing conditions. Some possess the telltale dark-black contours of hemorrhage. On others, there are no fissures at all — an indication of the disease from which they suffered. A good number look normal, yet the labels on their jars tell a different

• 3759-04-83

Study No. 9:  
Down's Syndrome,  
02/10/83

Upon discovering the collection, the first vessel that moved me was this one, containing three Down syndrome brains. I was confused. I still struggle to understand why a person with this disorder would spend his or her days in a mental institution, particularly in such recent years. I wondered about their families and about society's perceptions. I wanted to know their stories. I hoped the numbers on this label would bring clarity.







THIS UNFORTUNATE CLASS OF  
PERSONS CALL LOUDLY, PERHAPS  
MORE LOUDLY, UPON OUR CHARITY AND  
SYMPATHY THAN ANY OTHER.

— Beriah Graham, Texas State Lunatic Asylum superintendent, 1866

## HISTORY

The history of the Austin State Hospital, or what was known until 1925 as the Texas State Lunatic Asylum, is fascinating. In its darkest days, it was known, as journalist Rachel Swarns wrote so poetically in the *New York Times* about a similar institution, “as the home of the psychotic, the manic and the hopeless. For generations, invalids here have sipped life through feeding tubes, grown men with the minds of children have hummed tuneless melodies and patients tormented by delusions have banged their bodies against the walls with wordless screams.”

Wayne Thornton, the hospital's current director of adult psychiatric services and its de facto historian, regularly leads tours around the campus. They begin on the lawn outside the original hospital building — a beautiful three-story, mansion-style structure of Texas limestone with sash windows and white pillars supporting three balconies.

Although it has been used for administrative purposes only for several years now (the few hundred patients still treated here are housed in modern, single-story buildings elsewhere on the campus), there's still the distinctive “hospital smell” of cleaning fluid throughout the halls when I visit.

It was in 1853 that Texas Gov. Elisha Pease requested \$250,000 of federal money be set aside to build a state lunatic asylum. According to the Department of State Health Services, beside its practical value, the appropriation of funds “showed an awareness that the responsibility for care might lie beyond the limited help a family could provide.”

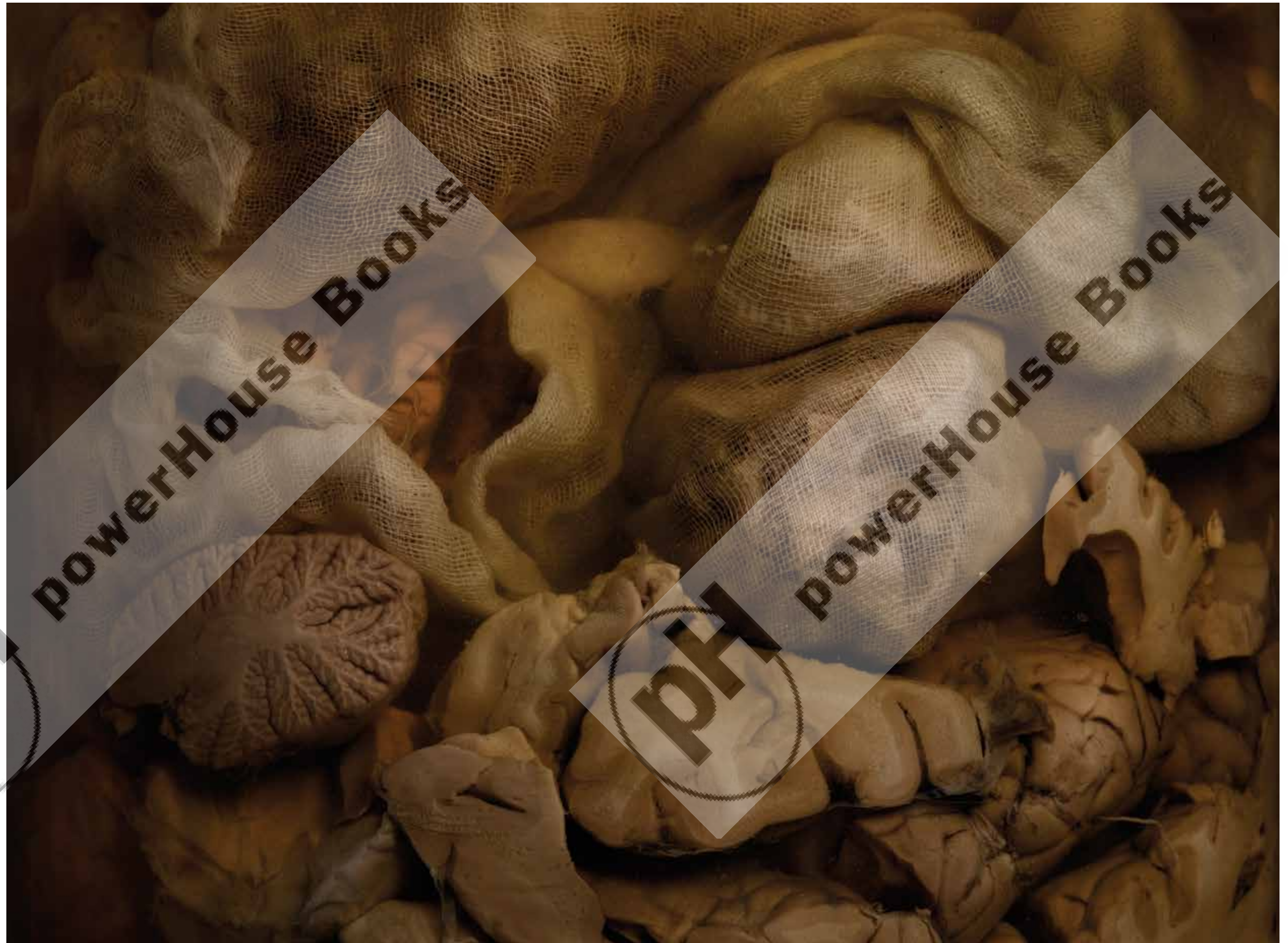
As asylum Superintendent Beriah Graham wrote in 1866, “This unfortunate class of persons call loudly, perhaps more loudly, upon our charity and sympathy than any other.”

Texas in the 1800s, it seemed, was ahead of its time; Peter Wagener Grayson managed to become the first attorney general of the Republic of Texas and a candidate for president of the republic in 1838 despite suffering privately from mental illness. He took his own life that same year, divulging in his suicide note that his mental illness had returned. The Texas Legislature named Grayson County after him in 1846.

Thornton told me Pease had heard that a Pennsylvania-based psychiatrist by the name of Dr. Thomas Kirkbride had developed an innovative way to treat the mentally ill. Kirkbride

• ABSTRACT

Study No. 158



believed in what he called "moral treatment," a theory that the actual environment surrounding the patients, from their daily routine and diet down to the massive sanctuaries they were living in, could help cure their mental illness.

"Asylums were designed to protect the mentally ill from society, not the other way round," said Thornton, a statement that's echoed by an early report on the asylum written in the late 1800s. "All cases of insanity generally require treatment away from [patients'] families," it reads. " ... It is also absolutely true that many persons laboring under mental alienation are much happier away from their friends than with them."

Kirkbride stipulated the buildings had to be established outside the city (the Texas asylum was built on land 3 miles north of what was then a much smaller downtown); that the structure should be beautiful and have fresh air blowing through it; and that patients should have regular exercise and adequate rest. "Kirkbride said they should have gardens and fountains," explained Thornton. "He believed that taking people out of the environment they were in and putting them in this environment would help them."

Between 1857 and 1861, Texas built its own three-story structure based on the Kirkbride model. The grounds on which it stood were replete with pecan and oak trees and a chain of lakes. The first patients were admitted in 1861. "In 1864, we added another wing, and in 1875, we built one of our most beautiful structures — a Romanesque dorm for women, later torn down in the 1970s," said Thornton.

It's important to remember that back in the mid-1800s, Austin looked nothing like it does now. Today, the gates of Austin State Hospital sit in the shadow of a row of shops, and the campus abuts bustling Guadalupe Street. But at its inception, the asylum was in the wilderness. Comanches and Lipan Apaches would come on the grounds to trade. An early description of the property makes one appreciate just how remote it must have been, surrounded by "a beautiful grove of live oaks, and west is a range of mountains covered with evergreen, while north and east of it stretches the broad prairie; attached to the institution are about 100 acres of excellent arable land."

The asylum also was self-sustaining. "We grew our own vegetables; we had cattle; we had milk," said Thornton. "There was a well here — which is why the oaks and pecan trees are in abundance today."

According to historical documents, the grounds of the asylum were enclosed with a substantial cedar fence. Patients helped tend the fruit orchards and vegetable gardens. If you visited the grounds back then, you'd have seen patients pacing along paths cut between the stately oaks, or sitting on one of the numerous benches. Some worked in the farm or shops — said to be a part of their therapy.

Building plans included provisions for natural ventilation — a hallmark of the Kirkbride model — via spacious corridors, high ceilings and big windows. As the asylum's first superintendent wrote in his inaugural annual report: "Without proper natural and forced ventilation, dysentery and typhoid fever — the peculiar diseases of this country and the scourges of hospitals and asylums everywhere — would soon make ours an opprobrium to the state."

According to Sarah Sitton, author of *Life at the Texas State Lunatic Asylum*, "For more than a century, the asylum community resembled a self-sufficient village, complete with blacksmith shop, ice house, movie theater, brass band, baseball team and undertakers." But "therapy" in this "pleasant, well-regulated environment," she wrote, included "cold tubs, paraldehyde [a sedative] and electric shock."

A few miles away from the hospital, still in the heart of the city, sits the Austin History Center. Another palatial building, this one was built in the early 1930s. Inside, a wooden cabinet contains musty index cards referencing countless newspaper stories about the hospital, archived on thousands of sheets of microfiche. These stories, combined with annual reports written by subsequent superintendents and information from local historians such as Thornton, paint a vivid picture of life for the hospital's patients through the decades — including the years during which its inhabitants included the people whose brains are now in the UT collection.

Sandwiched between ads for Dr. Tutt's Expectorant and Kirschvinck's fashionable shoes, a paragraph in a late-1800s edition of *Weekly Democratic Statesman* reads: "An insane black woman, who made her escape from the lunatic asylum, was arrested after a lively tussle Thursday night by policeman Hicks. She had been going howling about the streets almost in a state of nudity."

In 1879, a Mrs. M. A. Ellis died at the asylum, but, notes the paper, she was a "Christian woman, and what higher compliment is there than this?"

Like its 1800s-era counterpart, the *Penny Illustrated* paper of London, which was packed with salacious details of murder, violence and insanity, the Austin paper exposes a far less sensitive attitude toward mental illness than those working at the nearby asylum would have had us believe.

Just 20 years after Pease heralded Kirkbride's model as a revolutionary answer to handling the state's mentally ill, there were problems afoot. Overcrowding, illness, escape and even some fairly horrific suicide attempts — all were documented in the pages of the local paper.

On Dec. 18, 1881, the *Weekly Democratic Statesman* said, "There are several lunatics in this city whose people are anxious to have them placed in the asylum, but that institution is now crowded, and cannot accommodate them."

Extremely hot Texas summers plus crowded wards were not a good combination, and many patients suffered from heat exhaustion. The asylum was entirely dependent on the winds that blew from the south to cool the building, which meant patients who occupied northern rooms were more susceptible to scorching temperatures.

Guards scoured the county for an escapee in May 1883, with the *Statesman* reporting that "it was not known whether he is dangerous or not, but people had best keep a look out for him."

The chatty tone may seem parochial — comical, even — but back then, the daily newspaper was the most reliable source of information through which locals could learn about potentially dangerous patients on the loose.



a rudimentary practice to a precise, scientific discipline." The exhibit, which took 15 years to put together, is named for Dr. Harvey Cushing, known as the "father of modern neurosurgery," who graduated from Yale in 1891 and devoted his life to studying brain tumors. He returned to the university 40 years later as a professor of neuroscience and left his unusual collection to the institution when he died. According to Yale, until the Cushing Center exhibit was created, the brains sat for decades in a basement on campus, gathering dust. Over the years, medical students would sneak down there to "commune with Cushing's spirit and his jars full of brains."

The National Museum of Health and Medicine in Washington, D.C., houses several different human and mammalian brain collections that total more than 600,000 specimens. They are in various states of preservation — some still in jars, some in paraffin blocks, others sliced and placed on glass slides.

Cornell University boasts an interesting acquisition: The Wilder Brain Collection, named after Burt Green Wilder (a Civil War surgeon who later worked at Cornell). It consists of 70 human brains preserved in glass jars. Among its specimens are the brains of Helen Hamilton Gardener, a suffragist who donated it in 1925 to prove that women's brains were in no way inferior to those of men; E.B. Titchener, a late-1800s psychologist; and Edward Ruloff, a convicted murderer who was hanged in 1871.

The University of Mississippi Medical Center in Jackson also has a brain collection; it has been digitized, and the information made available in a secure database. It allows scientists to search vast amounts of data by specific criteria — what the university describes as "a powerful tool for research studies utilizing post-mortem brain tissue."

The *Houston Chronicle* article also reported the Texas brains were destined for the Animal Resources Center for only "temporary storage" until a more permanent (and prominent) display site was selected.

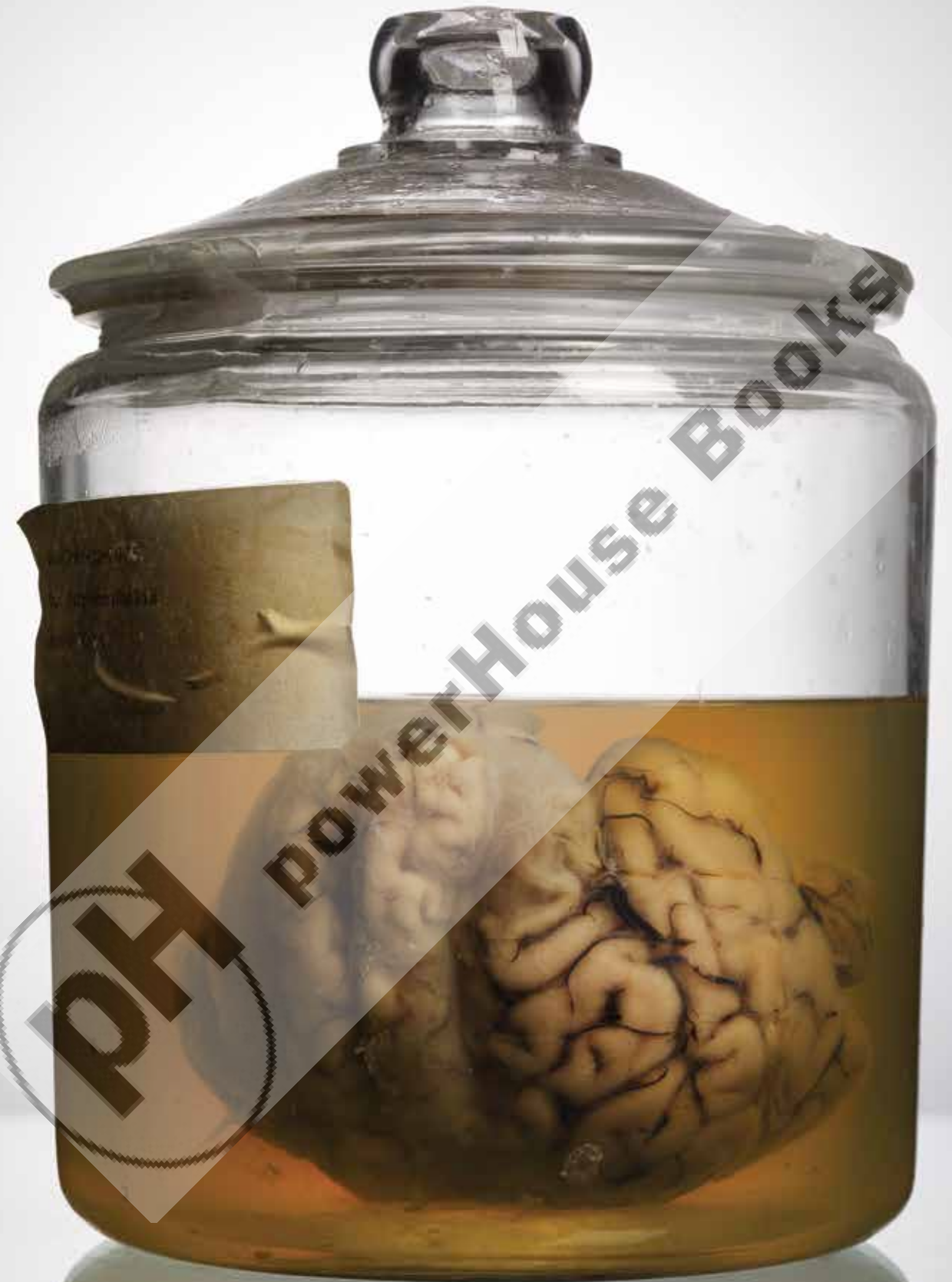
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Among the 200 or so brains trucked from the Austin State Hospital campus to the Animal Resources Center was one that would raise eyebrows among the few people who had the chance to see it. This one belonged to a man named Charles Whitman.

On Aug. 1, 1966, Whitman, a 25-year-old UT engineering student, took an elevator to the observation deck of the University of Texas Tower — a 307-foot-tall structure that has become the college's most distinguishing landmark — carrying with him guns, food and ammo. A former Marine sharpshooter who had never before committed a crime, Whitman then began methodically shooting people with a high-powered rifle: students walking to class, random shoppers, even a man sitting in a barber's chair.

• [3466-33-1975](#)

Study No. 270:  
Micrencephalia,  
08/18/75





• UNLABELED

Study No. 515

A teaching  
brain segmented  
and held  
together by a  
gauze wrapping.



Back in Schallert's lab in the Animal Resources Center, there was a sudden rush of adrenaline as he and his assistant, Cameron Nobile, realized that the case number on the top of Whitman's autopsy report — 621966 — and the date of death — Aug. 1, 1966 — could be cross-referenced with the nameless specimens on the shelves in the nearby storeroom. Was Whitman's brain among them? We would have to go through and cross-check.

We rushed out the door and into the small room. Schallert opened the glass doors to the shelving unit, and, one by one, Nobile began to pull the heavy jars off the shelves, turning each to read the case numbers on the aging labels. 3759-04-83, *Down's Syndrome*; this patient died in 1983. Another: 3662-28-79, *Dysplasia cerebri*; this person died in 1979. Nobile read the dates from the labels: 1976, 1970. He pulled another jar from the shelf: 2924-39-1969. We were getting closer to the year Whitman died. Then, as he read the label from the next specimen, a hush fell across the small room: "Aug. 6, 1966." A week after Whitman's death. But this brain was preserved in its entirety; it couldn't be Whitman's.

#### ● UNLABELED

Study No. 407

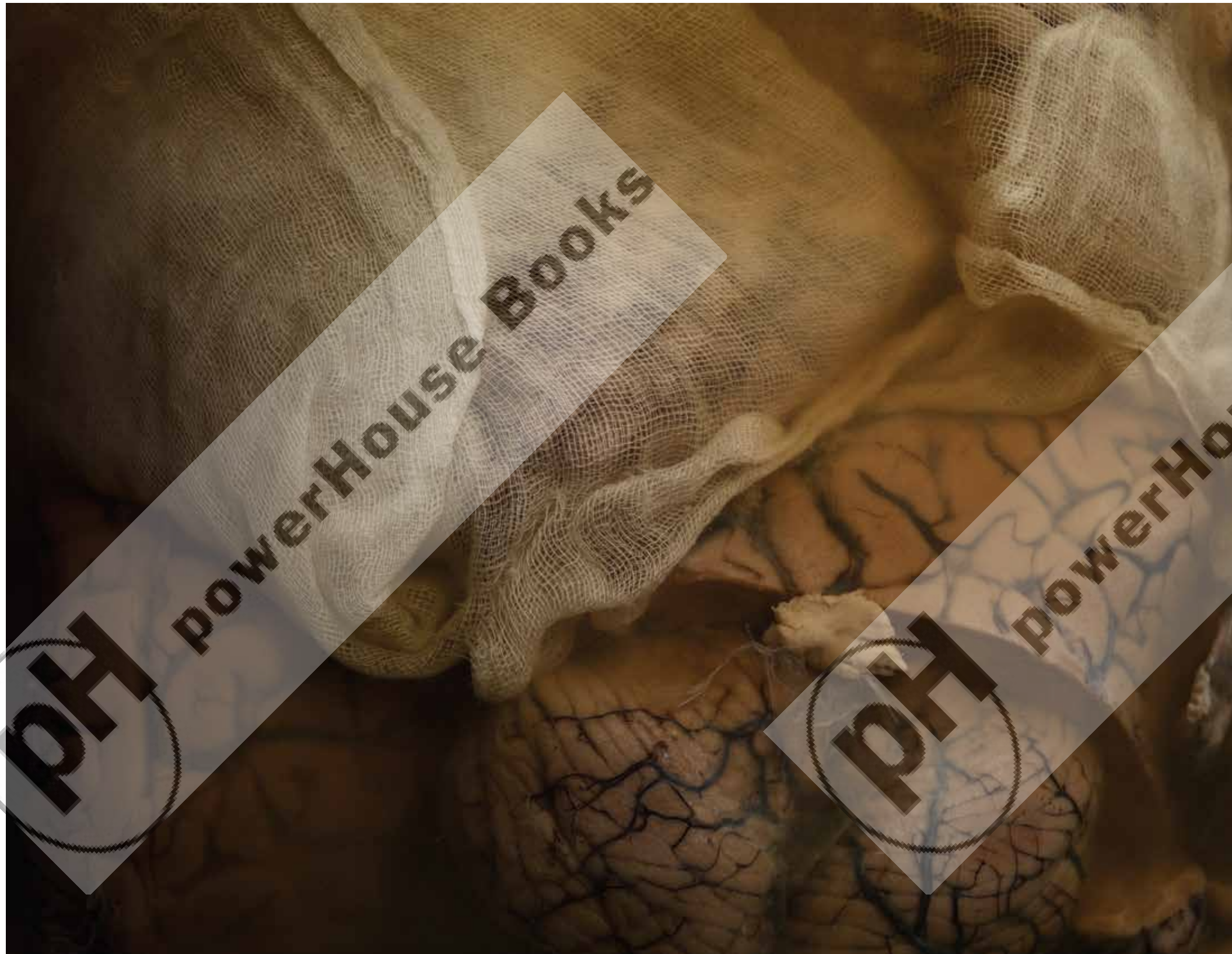
One of three dyed segments of brain used for teaching.

Schallert and Nobile checked every labeled specimen in the collection. Whitman's wasn't there. But there were other brains — sliced and diced and in jars without labels. There were three slices in separate jars with green dye — quite beautiful in their own way — but again, no identifying date or number. Could these be parts of Whitman's brain, dissected in de Chenar's original autopsy the day after the killings?

The pair walked back to their lab and sat down. That's when Schallert casually dropped a comment that felt like a bombshell: "Whitman's brain could have been with the ones that went missing." Prior to that moment, no one had ever mentioned in my presence that the collection was no longer complete.

Whitman's, it transpires, wasn't the only brain missing from the collection. Schallert said that when the brains were first bequeathed to the University of Texas in the 1980s, there were around 200 specimens. They took up much-needed shelf space at the Animal Resources Center, and Dr. Jerry Fineg, the center's then-director, asked Schallert in the mid-1990s if he would move half the jars elsewhere.

By the time Schallert got around to it, he says, they had vanished. "I never found out exactly what happened — whether they were just given away, sold or whatever," Schallert told me, "but they disappeared."



• 2921-34-1969

Following page,  
Study No. 107:  
M. Alzheimeri,  
02/17/69

The few brains  
in the  
collection  
affected by  
Alzheimer's and  
dementia were  
heavily decayed.



THERE'S SOMETHING ABOUT BEING ABLE TO ACTUALLY SEE BRAINS OF DIFFERENT KINDS AND IN DIFFERENT COMPOSURES — SLICES VERSUS THE WHOLE BRAIN, FOR EXAMPLE — THAT'S VERY USEFUL. STUDENTS GRAVITATE TOWARD THEM, AND YOU CAN FEEL THEIR EXCITEMENT.

— Dr. Tim Schallert

## THE FUTURE

In 1989, UT doctoral student Stuart Hall was the lead author on a scientific paper written with neurologists Neal Rutledge (who had accompanied me to see the brain collection) and Erin Bigler, titled "Depression Preceding Choreiform Movements in Huntington's Disease: A Case Study." The authors' research included examining one of the brains in the UT collection. Like all the other specimens, it belonged to a former patient, a woman Hall referred to only by her initials: L.G. (apparently, he was able to access her medical records at that time).

L.G.'s mother was, according to Hall, of normal intelligence, but as a young adult, occasionally displayed outbursts of temper. She married at 17, and L.G. was the third of four children. In 1952, L.G.'s sister was admitted to a state hospital, diagnosed with "psychosis with Huntington's chorea" — which is what Huntington's disease, the neurodegenerative disorder, used to be called.

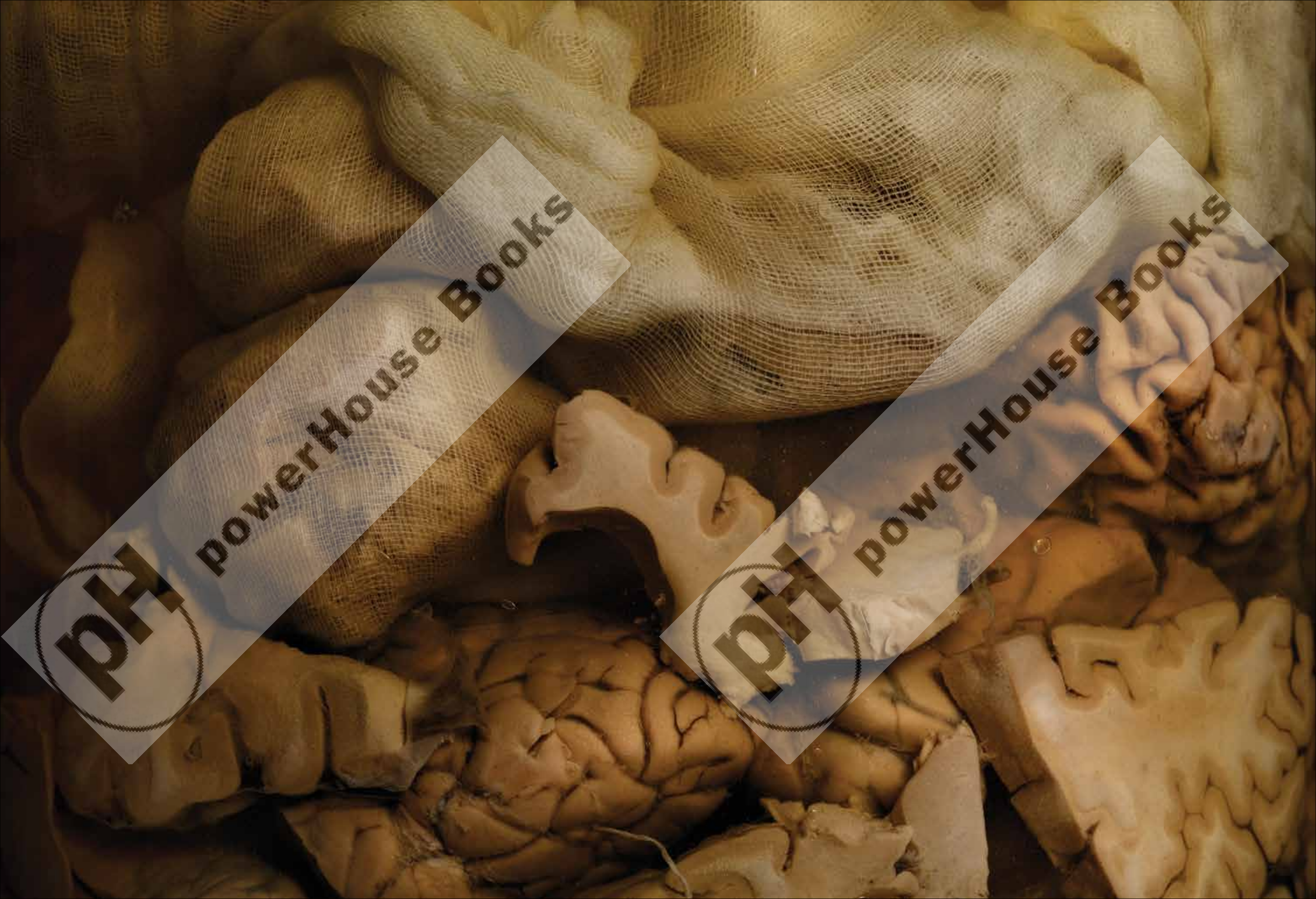
In 1955, at the age of 45, L.G.'s mother was admitted to a state hospital due to "increasingly nervous and bizarre behavior." Hall said her father was admitted to an asylum, too, but that no formal diagnosis was ever made. L.G., meanwhile, got married and had four children of her own.

In 1964, just after the birth of her fourth child, she was admitted to a psychiatric hospital for depression. She would be admitted to the hospital five times before being committed indefinitely. She began exhibiting signs of the movement disorder that often accompanies late-stage Huntington's in 1974, and according to Hall, she remained bedridden until her death in 1982.

An autopsy of L.G.'s brain revealed widespread degeneration of cells and enlarged ventricles. In his paper, Hall said a subject of particular interest was the depression L.G. suffered 10 years before the onset of her Huntington's. Other studies had already shown that the vast majority of patients who had suffered damage to the left side of their basal ganglia — a group of nuclei in the brain associated with motor control, eye movement, emotional function and the like — had major depression.

And so Hall concluded that any doctor evaluating a potential case of Huntington's should have a detailed look at the patient's family history, and that certain studies could indicate a diagnosis of Huntington's "before the behavioral features are fully manifest."





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No.: 3143-40-1970

Dg.: Hydrocephalus internus

Ex.: May 6, 1970



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