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## Ethics and Orphans: The 'Monster Study'

■ [Photo gallery](#): The 22 children involved in the experiment

BY JIM DYER  
Mercury News

The package came in the twilight of Mary Tudor Jacobs' life. She stood in the doorway of her home in Moraga, the East Bay town where she had retired, and struggled to decipher the tiny letters scrawled on the wrapper. The address read:

"Mary Tudor Jacobs The Monster."

The 84-year-old woman breathed faster. She looked at the name of the sender: "Mary Korlaske Nixon Case No. 15 Experimental Group."

"Oh dear," she said. She shook her head. Her hands began to tremble.

The package came from Iowa. A lifetime ago, as a graduate student, she had conducted an experiment on children in an orphanage there.

The experiment used psychological pressure to make children stutter. It was designed by her professor, Dr. Wendell Johnson, to test his new theory on the cause of stuttering. Several of the children suffered lasting damage, but the research helped support the theory and Johnson went on to become one of the nation's most prominent speech pathologists.

But he never disclosed the research. The study had ended just before World War II, and as the world learned of Nazi medical experiments on living subjects, the professor's associates warned him to conceal his work on the orphans rather than risk comparisons that could ruin his career.

The orphans were not told what had been done to them.

Mary Tudor spent half a century trying to forget.

Every so often a call would come from a researcher asking about the experiment. Then last year, a reporter called and Tudor began seriously examining that part of her life.

Now there was this package, addressed to her, addressed to The Monster. At the University of Iowa, where she had been a graduate student, the experiment came to be called the "Monster Study."

She looked at the sender's name again. Mary Korlaske? She couldn't place it. There had been so many orphans, 22 boys and girls, and most of their names—Norma, Clarence, Hazel, Elizabeth—had faded in her mind, just as they had on the hundreds of pages of records from the experiment that she had stored in her home all these years.

What had remained was a deep ambivalence about the experiment.

### ABOUT THE PROJECT

**First of two parts:**  
In 1939, researchers thought their work with orphans could find a cure for stuttering. But they left some of the children scarred for life.



*Photo courtesy of Mary Tudor*  
As a graduate student in the late 1930s, Mary Tudor, above, was thrilled to work under the respected Dr. Wendell Johnson.

"That was the pitiful part—that I got them to trust me and then I did this horrible thing to them," she said.

She carried the package into her dining room and sat down at the antique oak table.

"I hope it isn't a bomb," she said.

## **Just a number: remaining objective**

Mary Tudor says she doesn't remember the first time she met Mary Korlaske. According to the careful records that she kept of the experiment, it was Jan. 17, 1939.

On that day, Tudor and five fellow speech pathologists from the University of Iowa had gone to the Iowa Soldiers' Orphans' Home in Davenport, a small city on the Mississippi River, to begin screening children as subjects for an experiment on what causes stuttering. A complex of 22 cottages, a school and an administration building, the orphanage housed 500 to 600 children whom the state deemed neglected or dependent.

Tudor, a 23-year-old graduate student, had been told to remain objective and indifferent, to assign case numbers to the children and to refer to them in her records only by those numbers.

"It was scientific research, so I was supposed to remain detached," Tudor recalled.

Mary Korlaske, a 12-year-old fourth-grader, was one of 256 children screened for the experiment. The notes from that day follow her through the initial series of evaluations. First, she read aloud while the speech pathologists graded her fluency. Then she underwent a battery of eye and dexterity tests.

"She craved attention," Tudor noted.

Then, the records show, Tudor entered Mary Korlaske as "Case No. 15 Experimental Group IIA. Normal speaker."

## **A baffling torment: What causes stuttering?**

Stuttering, to the one in 100 among us who stutter, is much more than an annoyance or inconvenience. It is a condition that quickly defines people, both to themselves and to others. It earns torment from children and doubt from adults. It is disabling. And to this day it baffles the experts who try to treat it.

Johnson made it his life's work to find the cause, and cure, for stuttering. When he arrived at the University of Iowa as a student in 1926, he intimately understood the affliction. Johnson was a severe stutterer. He brought with him the nickname Jack, after the prizefighter Jack Johnson, because of how he responded to teasing from classmates: He punched them.

A star athlete and student, Johnson arrived on campus with two goals: to become a writer, and to receive speech therapy. The university was a leader in the new field of speech pathology. The leading theory on stuttering at the time was that it had a genetic, or organic, cause.

Johnson spent hours in the speech clinic, often offering himself up as an experimental subject. Eventually he focused his graduate studies on speech pathology, especially stuttering.

In the clinic, Johnson was hypnotized, psychoanalyzed, prodded with electrodes, and told to sit in cold water to have his tremors recorded. Like Demosthenes, the ancient Greek stutterer, Johnson placed pebbles in his mouth. Johnson had his dominant arm, the right, placed in a cast to help prove his professor's controversial "cerebral dominance" theory; the idea was that forcing him to use his left arm would equalize the imbalance of the hemispheres of his brain.

Nothing seemed to work for long. In 1936, Johnson wrote in his journal, "I'm a professional white rat."



*Special to the Mercury News*  
Dr. Wendell Johnson, a severe stutterer, was committed to finding a cause—and a cure—for the condition.

Still, Johnson persisted. He intimately knew the harmful effects that stuttering had on emotional and social growth and lectured about them, to packed auditoriums, throughout the Midwest. Children who stutter often experience a drop in grades, a loss of morale and self-respect, and self-imposed isolation, he said. Fear, humiliation and dread can lead to suicide attempts.

"The stuttering child is a crippled child," he wrote.

In diaries, he methodically recorded his own progress, noting his delight on days he spoke well and his dejection when he relapsed. In public life, he hated formality and enjoyed telling jokes and reciting limericks. He found that humor relieved stress and reduced his stuttering.

By 1936, Johnson began to doubt the prevailing theory that stuttering was an inborn condition and proposed experiments to test its validity, his diaries show. Two years later, he reached a turning point with a series of case studies, in which he conducted interviews with parents and their stuttering children. Every child, he discovered, had been labeled a stutterer at a very early age.

"Stuttering begins in the ear of the listener, not in the mouth of the child," he theorized.

All children have trouble with their speech when they are young, often repeating words and syllables. By drawing attention to their speech, he reasoned, overzealous parents would make their children so self-conscious and nervous that the children would repeat more words. In time, the children would become so sensitized to their speech that they would not be able to talk without stuttering.

Johnson came to attribute the origins of his own stuttering to a first-grade teacher who misdiagnosed his normal repetitions as the early stages of stuttering. She had told Johnson's parents, who corrected him. Unfortunately, the more the boy tried to talk normally, the worse he stuttered.

"The affliction is caused by the diagnosis," Johnson said.

## Testing a theory: The study starts

It was revolutionary thinking at the time, a 180-degree turn from the established theories. Yet, by 1938, Johnson was convinced. Applying the principles of how people react to language, he began formulating what was to become his “diagnosogenic theory”: Diagnosing and labeling young children as stutterers when they stammer will worsen the problem and turn them into stutterers.

But he needed direct evidence, preferably research conducted in a controlled environment.

He turned 50 miles east, to the state-run Iowa Soldiers’ Orphans’ Home. The university had already conducted numerous research projects using orphans there, among them a decades-long study to see if developmental retardation would be more common among children who remained in the overcrowded and unstimulating orphanage than among children placed in a special new preschool.

“They used that orphanage as a laboratory rat colony,” said Franklin Silverman, a professor of speech pathology at Marquette University who studied under Johnson at the University of Iowa in the 1960s.

In the autumn of 1938, Johnson received permission from orphanage officials to begin his experiment. Then he called Mary Tudor into his office.

“Have you chosen anything for your master’s thesis?” Tudor remembers Johnson asking her.

Tudor remembers Johnson outlining the experiment and telling her that he had chosen her because he noticed that she had a great rapport with children. She listened attentively as he explained the details of the experiment.

Tudor would work with two groups of children: one of stutterers, and another of normal speakers. Half the children from each group would be assigned to an experimental group, the other half to a control group. Children in the control groups would be labeled normal speakers and receive positive therapy. Children in the experimental groups would be labeled stutterers and given negative therapy.

First she would make sure the children in the experimental groups knew what stuttering was. Then she would warn them they were showing signs of stuttering. She would systematically sensitize them to their speech, stopping and lecturing them whenever they repeated a word.

Tudor was told she would have to lie to the orphanage’s teachers and matrons, telling them she was there to do speech therapy, so that they would become unwitting participants in the experiment. If Tudor labeled a child a stutterer, the teachers and matrons would have to reinforce that negative label, Johnson said.



*Joanne Hoyoung Lee—Mercury News*  
Now 84 and living in the East Bay, Mary Tudor says she believes the stuttering experiment led to important advances in treatment of the affliction, but feels bad about the orphans who suffered lifelong damage from the study.

Tudor was excited that Johnson had chosen her. She knew how much weight a thesis directed by Wendell Johnson would have in her career. Moreover, his theory made sense to her. She remembered the case studies of the children in the clinic that summer and was intrigued by the prospect of helping her adviser find the cause, then possibly a cure, for stuttering.

But she had not expected the depressing conditions she found when she arrived at the orphanage, nor how difficult she would find it to hurt the children.

After reviewing the speech of 256 orphans, she and the other speech pathologists culled 22 subjects: 10 stutterers and 12 normal speakers. They paired the children based on similarities in age, sex, IQ and fluency. Then they randomly assigned one from each pair to the control group and the other to the experimental group.

With the stroke of her pen, Tudor split up friends and siblings. She placed Jane Anne Pugh in a control group and her younger sister, Norma Jean Pugh, in an experimental one. She divided the Albertson brothers, Lester and Noah, in the same way. Mary Korlaske and her friend Marion Higdon were paired; Mary landed in the experimental group and Marion became her control.

"There but for the grace of God, I could have been placed in an experimental group," Donna Lee Hughes Collings, another of the orphans, said 62 years later. "It could have been my life that was destroyed."

## Eager to please: Hoping for new mother

Mary Tudor can no longer remember meeting Mary Korlaske that first cold January day.

Mary Korlaske, however, has never forgotten. It had been one of her best days at the orphanage, she remembers. She had thought that Mary Tudor might become her new mom.

Korlaske, 74, recalled those days in conversations with a reporter over the past six months. When she was located by the Mercury News, she did not know about the experiment or understand what had happened to her in the winter and spring of 1939. Nor did Collings or any of the other subjects from the experiment who were found by the Mercury News.

But many of them vividly remembered their years in the orphanage—none more than Mary Korlaske.

She still remembers how beautiful Tudor looked to her—tall and slender with dark wavy hair and welcoming brown eyes. The graduate student reminded Korlaske of her own mother.

Mary had been living in the orphanage for five years. Her mother had sent her and her two older brothers away when she was 7 years old. The Great Depression had devastated the young girl's family, sweeping through Iowa and bankrupting farms and businesses in her hometown of Emmetsburg.



*Joanne Hoyoung Lee — Mercury News*

As a youngster, Mary Korlaske, above, looked forward to her sessions with researcher Mary Tudor. But the experiment caused her to stutter, damaging her self-esteem and making her withdrawn and uneasy around people.

Mary said that as a child in the orphanage, she often thought about her last day at home and tried to figure out why she was sent away. That day had started out gloriously: Her mother had taken her to town and bought her a pretty oilcloth purse and a new white handkerchief. But when they got home, her mother ushered her into a waiting black car.

"You'll be safe," she told her baby girl. She pressed a keepsake, a silver thimble, into her hand. "You'll be all right."

As the car pulled away, Mary clutched the thimble and watched her mother from the rear window.

Five years later, Mary Korlaske met Tudor. Throughout the experiment, she wondered if Tudor was married and had any children. She hoped Tudor had come to adopt her. She remembers waiting impatiently during school to be called into the speech therapy sessions and eagerly following Tudor to the testing room. To make a good impression, she talked a lot.

## Negative therapy creating anxiety

The experiments took place so long ago that the people involved struggle to remember details.

Tudor's memories are impressionistic. She remembers staying overnight and feeling depressed when she awoke to find the children scrubbing floors and working around the institution. She remembers setting up her experimental room and walking into the school to pull the children out one by one.



*Davenport Public Library*  
The Iowa Soldiers' Orphans' Home was overcrowded and understaffed during the Great Depression. A matron helps young children in one of the orphanage's brick cottages in the 1930s.

But she saved hundreds of pages of records from the experiment, including transcribed dictaphone recordings of the sessions. The documents provide a clear, clinical picture of how the children were used.

The first experimental session was held on Jan. 19, 1939. Tudor asked Mary Korlaske if she knew anyone who stuttered and Mary said she knew a girl named Dorothy Ossman. Then Mary eagerly began to tell Tudor a story. In the middle of it, Tudor interrupted her when she made a simple repetition, warning the 12-year-old that she was not only beginning to stutter, but that if she didn't work hard to improve it, she would stutter as badly as Dorothy.

"She reacted to the suggestion immediately," Tudor noted in her report on the session, "and her repetitions in speech were more frequent."

Then Tudor gave Mary advice that she said would help. In fact, it was negative therapy, designed to make the girl more conscious of her speech:

"Take a breath before you say the word if you think you're going to stutter on it. Stop and start over if you stutter. Put your tongue on the roof of your mouth. Don't speak unless you can speak correctly. Watch your speech all the time. Do anything to keep from stuttering."

Tudor observed that Mary was "very easily influenced." Her suggestions caught on immediately and Mary became so conscious of her speech that by the following session she was already repeating words.

Every week or two, Tudor returned for more sessions. By March, Tudor's dictaphone recordings showed Mary's speech had deteriorated markedly. The girl was having particular problems with words beginning with "w" or "s" or "r."

In a subsequent transcribed session, Mary Korlaske had regressed to incomplete sentences. Tudor asked the girl: "How is your stuttering, Mary?"

"Stuttering is stopping."

"How do you know it is?"

"Because I listen to myself talk."

"What do you hear?"

"Hear myself going ah ah—saying words twice."

"Did you ever listen to yourself before?"

"No, teacher has been stopping me and having me say it over."

Tudor was pleased the teachers were reinforcing the stuttering labels and the negative therapy.

Mary said she was having trouble reading in class. Tudor noticed that her speech interruptions increased steadily throughout the experimental period. Over the course of four months, they had more than doubled.

The other children in Mary's experimental group showed similar effects. Six-year-old Norma Jean Pugh, a first-grader with curly, light brown hair and blue eyes, spoke freely and connectedly at the beginning of the experiment. At the end, she was barely speaking.

Her speech became jerky and hesitant, and she covered her face and slid down in her chair during the sessions, according to Tudor's records. She knew exactly when she would stutter. During one session, she started to say the word "red" and changed suddenly to "pink" because she "was afraid she'd stutter on 'red,'" Tudor wrote. By the April 24 session, her speech had become completely disjointed. Tudor asked her to tell a story and, after much coaxing, Norma finally replied:

"There's a jar. There's a fox. Got a coat on. There's a tree. Little girl. An' here's some flowers. An' there's a fence. Teapot. Flower bowl."

She stuttered on words like "hand" and "got," and when she read "The Three Bears," she stuttered on "porridge," although months earlier she had little trouble reading the story.

Nine-year-old Elizabeth Ostert and 12-year-old Phillip Spieker saw their grades plummet because they became afraid to talk in class. "It's almost impossible to get the boy to speak in a situation other than play," Tudor wrote.

Other boys at the orphanage began teasing Clarence Fifer, a chubby 11-year-old, because of his speech, which during the experiment went from normal to "jerky and laboured," Tudor wrote. The boys on the playground noticed.

"They kind of laughed," he told Tudor during one recorded session.

"What did you do then?"

"Walked away."

"Does it bother you much?"

"Yes, feel pretty bad."

Hazel Potter, a skinny 15-year-old, was showing more severe effects. "During the experimental period she developed mannerisms characteristic of some stutterers, such as snapping her fingers to get a word out. . . . and occasionally she presented the phenomenon of writing the same word two or three times in her compositions," Tudor wrote.

By spring, the experiment had become emotionally and physically draining for Tudor. She had found it hard to maintain the scientific detachment her adviser recommended. In many of the entries in her records, she referred to the children by name, only subsequently crossing the names out and replacing them with case numbers.

After every session, she left the orphanage more disillusioned by the effect the experiment was having on the children. She remembers handing in her results to Johnson and hoping he would stop the research. But he seemed more excited after each session.

"I didn't like what I was doing to those children," Tudor recalled. "It was a hard, terrible thing. Today, I probably would have challenged it. Back then you did what you were told. It was an assignment. And I did it."

On May 24, 1939, Johnson drove to the orphanage with Tudor and the crew of speech pathologists to see firsthand the final testing of the 22 orphans. In the experimental groups, subjected to negative therapy, speech had deteriorated for five of the six normal speakers and for three of the five stutterers. In the control groups, only one child suffered more speech interruptions at the end of the experiment.

Tudor doesn't remember talking to Johnson about the experiment after the final session. She recalls only the long hours afterward, transcribing the dictaphone recordings, and counting and logging every speech irregularity of the children.

By the end of the summer her 256-page thesis was done. The experiment had ended. She moved on to a job as a speech therapist in northeastern Wisconsin, a day's drive from the Iowa Soldiers' Orphans' Home.

But the orphans remained, and the teachers and matrons continued what they had been told was therapy to help the children with their speech.

"When I left that orphanage, that experiment was over for me," she said. "Apparently, it wasn't over for those children."

## **An accusation: 'You destroyed my life'**

Six decades later, Mary Tudor is still haunted by having turned the children into stutterers and then having left them to cope on their own.

"I can't see the orphans' faces, but I can see that orphanage and where I stayed overnight. If you do a study like that, you don't ever forget it," Tudor said.

The unexpected package from Mary Korlaske that arrived in March brought Tudor's hazy memories into painful focus.

Tudor slowly tore open the wrapping. Inside was a letter and another package—small and curiously shaped, tightly bound in tissue paper and white medical tape.

She picked at the thick tape, but couldn't break the binding. She tore open the envelope instead and pulled out a three-page letter, creased and folded into a small square.



*Special to the Mercury News*

Hazel Potter, who was 15 in 1939, above, says she knew the orphans were used for research. Her speech worsened after the stutter experiment ended.

The writing was messy and at times incoherent. There were many spelling errors. But the message was clear.

“You destroyed my life,” the letter said. “I could have been a scientist, archeologist or even president. In stead I became a pityful stutter. The kids made fun of me, my grades fell off, I felt stupid. Clear into my adulthood, I still want to avoide people to this day.”

Tudor’s brown eyes welled. Her hands shook. She stared at the small package, still unopened on her dining room table.

Part 2: *The aftermath of the experiment, and a startling revelation.*

## An experiment leaves a lifetime of anguish

**The study's young victims were left in ignorance, to cope alone. Experts debate whether the benefits justified the harm.**

By the summer of 1939, 12-year-old Mary Korlaske was stuttering so badly that she thought it was fortunate that Mary Tudor had given her speech therapy. She didn't know that it hadn't been therapy at all.

Tudor had been a graduate student at the University of Iowa, and Korlaske had been part of an experiment. The experiment, on 22 children living at the Iowa Soldiers' Orphans' Home in Davenport used psychological pressure to induce children who spoke normally to stutter. It was designed by one of the nation's most prominent speech pathologists, Dr. Wendell Johnson, to test his theory on the cause of stuttering.

Mary Korlaske remembers that she had thought her sessions with Tudor were sponsored by the university to help her speak better. She had also hoped the pretty graduate student would become her new mom.

As her speech worsened, her behavior changed.

She remembers other orphans teasing her: "Hey Mmmmary. Wwwwwhat's gggggoing on?" Furious, she would strike out, pummeling with her fists.

"She was always fighting kids," said Dolly Hamer Sweeney, Mary's best friend at the orphanage. "She didn't like to be made fun of." Sweeney, now 75 and living in Southern California, had a brother who stuttered and was included in the experiment as part of a control group.

The more Mary fought, the more the children teased her. She grew to hate the orphanage. Her grades fell. She rarely spoke. She felt a ringing desperation to be alone. One day she found a way to climb into the attic of her cottage. It was dark and quiet. She sat for hours on the dusty planks, gazing out the window at the other children.

That summer a boy made fun of classmate Dorothy Ossman's stuttering, and Mary slugged him. The girls became instant friends. Mary didn't know it, but 14-year-old Dorothy, who had been a severe stutterer all her life, had been Case No. 9 in the experiment.

Mary showed Dorothy her secret hideaway in the attic and it became their refuge. They played with the old clothes stored there, brought up fruit they raided from an orchard and consoled each other.

Korlaske says she especially remembers one day in the attic. That day, Dorothy was crying over the teasing. Mary handed her friend a cherished keepsake her mother had given her when she sent her away to the orphanage -- a silver thimble, etched with forget-me-nots.

"It's my tiny cup for tears," she said. Dorothy said the thimble wouldn't be big enough for the tears of both of them. So Mary took it and rammed it against a nail protruding from a beam. She showed Dorothy the hole in the bottom.

"Now it'll never overflow," she said. The girls laughed.

### ABOUT THE PROJECT

Second of two parts:  
In 1939, two researchers thought their work with orphans could find a cure for stuttering. But they left some of the children scarred for life.



*Joanne Hoyoung Lee — Mercury News*

Mary Korlaske and Dorothy Ossman found refuge in one of the cottages at the Iowa Soldiers' Orphan Home. Children constantly teased them about their stuttering.

## Attempt at a fix: failing to reverse damage

After the experiment ended, Mary Tudor moved to Wisconsin. Several months later, officials at the orphanage became alarmed about the children's speech and contacted Wendell Johnson.

Johnson asked Tudor to evaluate the children and to try to reverse the effects of the experiment using positive therapy.

"If I possibly can, I want to go down to the orphanage during Christmas vacation because I believe it would be very interesting to see them after this length of time has elapsed," Tudor replied in a letter in December 1939.

She finally managed the daylong trip in March 1940, and was shocked by the deterioration of the children's speech, especially that of 11-year-old Clarence Fifer and 15-year-old Hazel Potter.

"I didn't find them as free from the effects of the therapy I had inflicted upon them last year as I had hoped to," she wrote to Johnson. "But as I am still a firm believer in the theory of evaluative labeling, I wasn't too disappointed."

Letters between Tudor and Johnson show she returned to the orphanage two more times to attempt reverse therapy.

On Jan. 3, 1941, she received a final letter from Johnson. The principal had told him that Hazel Potter, Case No. 16, had left the orphanage, her speech "quite bad."

Tudor never made it back to the orphanage.

By spring, Mary Korlaske and Dorothy Ossman had given up any hope of happiness at the orphanage or of escape through adoption. So they decided to run away. Mary put on an old shirt and pants she found in the attic, tucked her curly hair under a baseball cap and ran off with her friend. They hitchhiked west and then north to Mary's hometown of Emmetsburg, where Mary found her mother.

"Keep the thimble to remember me," Mary remembers telling Dorothy. "I've got my mom back."

The next day, Mary sat with her mother beside a lake north of town and soaked up the afternoon, fishing and talking. She didn't notice the men approaching.

"Are you Mary Korlaske?" a police officer asked.

"No," Mary said, bolting up to run away. Her mother gently grabbed her arm.

"Yes, she is," her mother told the officers.

The police took Mary away, to a county jail, and charged her with being a runaway.

Later that day, officers brought in Dorothy Ossman on the same charges.

Mary felt desolate at the thought of returning to the orphanage. Dorothy tried to cheer her up. She reached into her pocket, then handed her friend the silver thimble.

"In case you need it," Dorothy said.

The next day they learned the orphanage would not take them back. Deemed chronic runaways because of Dorothy's history of unsuccessful attempts, they were taken to a higher security state training school for girls, where they spent the war years.



*Joanne Hoyoung Lee — Mercury News*

Mary Korlaske Nixon holds a thimble her mother gave her on the day she was sent to an orphanage. The keepsake gave her comfort over the years.

## A coverup: Methods questioned

When the United States entered World War II, Mary Tudor joined the Navy. She returned to Iowa in 1945. After four years as a procurement officer, she was eager to resume her career as a speech therapist.

Tudor looked forward to seeing Wendell Johnson again; she hoped he would help her find a job. Six years earlier, she remembered, he had grown increasingly excited over her progress reports on the stuttering experiment. The research supported his groundbreaking theory on the cause of stuttering. Tudor had submitted her thesis before the war broke out.

But when she contacted her adviser after the war, she found the once warm and friendly man cold and dismissive.

“It was clear he didn't want me around,” Tudor recalled. “He was worried I'd tell somebody.”

During the war years, some of his graduate students, concerned about the ethics of the orphan study, had begun calling it the “Monster Experiment” or the “Monster Study.” They warned him that although the experiment was hardly unique in having used orphans as subjects, it was a particularly sensitive time: In the aftermath of World War II, observers might draw comparisons to Nazi experiments on human subjects, which could destroy his career.

“This was the kind of stuff you would think they were doing in Auschwitz, and this is why, at that time, people concealed it,” said Franklin Silverman, a student of Johnson's who became a professor of speech pathology at Marquette University in Milwaukee. “They wanted to block it out of their minds and make believe it didn't happen.”

The experiment had become an embarrassment to Johnson, said Bill Trotter, a retired speech pathology professor at Marquette who also studied under Johnson. “I heard some of the orphans didn't recover,” he said. “But I know Wendell Johnson was an extremely ethical and moral person, and if something happened to those children it was because of something he did not foresee.”

Johnson's embarrassment collided with an overwhelming sense of accomplishment for having obtained direct evidence for his theory, said Dave Williams, a professor emeritus of communicative disorders at Northern Illinois University, who studied speech pathology under Johnson after the war.

“It was a very conflictive situation for him,” said Williams, a severe stutterer himself. “He didn't know how to react to it or handle it.”

It created a predicament. Publishing his theory that calling attention to stuttering is one of the causes of the disorder could help millions of children as well as elevate his status in the world of speech pathology. But using the experiment as direct evidence could destroy his career.

So Johnson never published Tudor's thesis nor mentioned it in any of his writings. He forwarded his theory citing other, indirect evidence: Anthropologists had reported that certain Indian tribes had no word for stuttering and were more relaxed about their children's speech development, and had no stutterers.

“The Indian children were not criticized or evaluated on the basis of their speech, no comments were made about it, no issue was made of it,” Johnson wrote in his seminal 1946 book “People and Quandaries.”



*Joanne Hoyoung Lee — Mercury News*

The University of Iowa frequently conducted research at the state-run Iowa Soldiers' Orphans' Home, also known as the Annie Wittenmyer Home, in Davenport.

By the late 1940s, his "diagnosogenic theory" became the most widely accepted theory on the cause of stuttering. In magazines and newspapers around the world, parents were encouraged to let their children work out their speech repetitions themselves and not draw attention to them.

Johnson corresponded with hundreds of people all over the world who sought his advice. A severe stutterer for decades, he had become quite fluent. He found he could speak in front of crowds without stuttering, and his lectures on speech problems attracted full houses across the country.

When he died in 1965 at the age of 59, thousands of letters arrived in Iowa City celebrating his life's work. In 1968, the University of Iowa founded the Wendell Johnson Speech and Hearing Center, which remains one of the nation's leading institutes for speech pathology and audiology.

"Wendell Johnson was a most revered and universally loved man," said Dr. Duane Priestersbach, a colleague and close friend who gave Johnson's graveside eulogy.

## **Positive therapy: applying the theory**

When Mary Tudor found herself cold-shouldered by Johnson, she took a job at the local veterans' hospital. Soon after, she married and took up her career as a speech therapist again.

For 34 years, she worked in school districts, first in Iowa and later in California. She read Johnson's books and was one of the many therapists who used his techniques.

In the experiment, Tudor had subjected half the children to criticism to make them self-conscious about their speech, eventually driving most of them to stutter. With the other children -- those in control groups -- she used positive therapy, supporting and encouraging them whether they spoke fluently or not.

As a school speech therapist, Tudor used only the positive therapy, she said. She would speak in a gentle, supportive tone.

"You're doing so much better," she remembers telling a quiet first-grader in Salinas in the early 1960s. "You're reading so well."

"I know," he replied. "You cured my voice."

She found the therapy successful and taught teachers and parents about Johnson's diagnosogenic theory. She never mentioned the experiment.

But sometimes, she remembers, she would sit in a tiny chair next to a child who was struggling to read aloud and be reminded of the orphans who had sat across from her, wide-eyed and eager to participate.

## **Ends vs. means: assessing science**

For years, Tudor, 84, had rationalized the experiment to herself, saying it ultimately helped many people.

Then, three months ago, a letter and package arrived from Mary Korlaske.

"I remember your face, how kind you were and you looked like my mother," the letter said. "But you were there to destroy my life."

The letter, full of misspelled words seemingly scratched in fits and bursts, called her "monster" and "Nazi."

Tudor was stunned. ``I don't like to be characterized as an uncaring, cold person, because I'm not," she said.

``You see, it was an assignment for me. It was a different world then. You did what you were told. If I got the same assignment today, I wouldn't do it, now that I'm a mother and grandmother."

Tudor looks back at what happened in 1939 at the orphanage as an aberration in her life.

For medical science, however, it was not an aberration. In the early 1900s, physicians in North Carolina, Pennsylvania and Ohio injected dozens of orphans with syphilis and tuberculosis in experiments. Shortly before the stuttering experiment, the University of Iowa conducted other studies at the orphanage, including one that studied the effects of stimulation deprivation on intelligence.

More widely known experiments used other kinds of vulnerable patients without informing them. One of the most notorious was the Tuskegee syphilis experiment, which ran from 1932 to 1972 and in which doctors in the U.S. Public Health Service studying syphilis denied treatment to 399 poor black sharecroppers so they could document the disease's progression. In another government-sponsored study, 18 patients at various hospitals were injected with plutonium in the late 1940s to see how the radioactive chemical spread through the body.

When experts try to evaluate the ethical implications of such experiments, they consider several elements: What was the ultimate value of the experiment? How much harm did it cause the subjects? What were the ethical standards for human experimentation at the time? Was enough done to reverse the negative effects?

A small circle of speech pathologists have been aware of Johnson's stuttering experiment for many years. Most agree that the ``Monster Study" provided direct evidence for Johnson's theory, which changed the way people regarded stutterers and opened the door to effective therapies. But a few reject the theory, in part because they find the experiment's methodology imprecise and subjective.

Ehud Yairi, a professor of speech and hearing at the University of Illinois and a former student of Johnson's, said labeling someone a stutterer may worsen an existing problem, but the objective data in the experiment did not support Johnson's theory.

``There was a motivation to prove a theory," Yairi said, speculating that some of Tudor's conclusions may have been swayed by a desire to prove her adviser's theory.

Johnson's theory dominated until the 1970s, when speech pathologists began to reexamine its premise. Anthropologists had discovered that those Indian tribes not only had words for stuttering, but also had stutterers. Meanwhile, some therapists had noticed that some children continued to stutter even though no one criticized their speech.

Gradually, Johnson's theory fell out of favor and speech pathologists began moving back to organic causes to explain stuttering.

Even today, though, Johnson's theory underlies the widely held view that positive reinforcement is the best therapy for children with speech problems.

For the past decade, a handful of speech pathologists who know about the experiment and support Johnson's theory as one explanation for stuttering have started to think it might be necessary to publicize the experiment. They fear that a growing number of



*Joanne Hoyoung Lee — Mercury News*

Mary Tudor returned to the Iowa Soldiers' Orphans' Home in Davenport in 1940 to try to undo damage caused by an experiment that induced some children to stutter the year before. Her efforts were unsuccessful for some.

experts want to revert to the idea that stuttering is inborn and therefore that it is best to make children acutely aware of their speech problems.

But they are torn: Revealing the truth in order to save Johnson's theory could prove costly to his reputation.

`` Johnson was viewed as a god, the Monster Study suggested that he had feet of clay," said Silverman, who reported on the experiment in a 1988 speech pathology journal.

`` The study should not have been done. But since it was done and someone could benefit from the research, we should utilize it."

Many are troubled that Johnson -- a man plagued by stuttering his entire life -- would see the need to induce it in children, especially orphans.

Scientifically, using the orphanage for research was advantageous because it supplied a large, homogeneous group of children. Moreover, Johnson didn't need parental permission -- something that probably would have been denied.

`` I think it's not coincidental that he chose to do it with a group of parentless kids," said Tricia Zebrowski, 45, an assistant professor at the Wendell Johnson Speech and Hearing Center in Iowa, who heads the speech pathology and audiology program established by Johnson. `` This was the only way he was going to get kids."

Johnson's prolific writing provides little insight into his thoughts on using the orphans. There are almost three dozen boxes of Johnson's records stored at the University of Iowa library, including his opinions on subjects from politics to soil erosion, and wide-ranging correspondence with such luminaries as Albert Einstein.

Yet the box filled with meticulously alphabetized files of graduate students who worked under him includes no file on Mary Tudor. His 1939 journal mentions his meetings with Tudor and his trip to the orphanage to witness the final assessments, but nothing more. Anything else he may have written about the experiment could not be found.

In the same journal, Johnson wrote about his concern that his son would become a stutterer. His son was 5 years old -- almost the same age as the youngest orphan induced to stutter in the experiment. `` Bothered by the thought Nicky will notice and imitate my repetitions," he wrote.

Now a law professor at the University of Iowa, Nicholas Johnson, who does not stutter, would not discuss what his father might have thought about the orphans. Standards were different in the 1930s, he said. His father was universally beloved, and when he died, thousands of people from around the world who benefited from his therapy sent letters to his family, he said.

And Mary Tudor doesn't know how her professor regarded the treatment of the orphans. `` I don't know why Wendell Johnson didn't send a therapist from the university over to the orphanage," she said. `` They needed therapy to lose that fear, or the psychological effects could be long-lasting. Wendell Johnson would know that you couldn't reverse it in three sessions of positive therapy."

Reversing both the stuttering and the anxiety and isolation stemming from stuttering is much more difficult than creating it, said Chandler Screven, a former professor of childhood psychology at the University of Wisconsin-Milwaukee.

Screven, who studied under Johnson, likened the orphans' dilemma to that of laboratory rats that receive electric shocks when they hear a buzzer and jump over a barrier in response. Once the animals have been conditioned to jump, those connections remain in their brains. Over time, they may fade, but all it takes is a traumatic event -- a trigger -- and they quickly resurface.

`` The original connections," he said, `` are always there."

In assessing the harm caused by Johnson's experiment, some experts point out that it is hard to separate the damage caused by being labeled stutterers from that caused by

other adversities the orphans faced, such as severe poverty, the loss of a parent, a childhood in an institution.

For Duane Spiestersbach, a close colleague of Johnson who went on to become a professor of speech pathology and otolaryngology at the University of Iowa, the orphan experiment was both justified and ethical.

“It was a different time and the values were different,” he said. “Today we might disagree with what he did, but in those days it was fully within the norms of the time.”

In fact, in its 1936 biennial report, the Iowa State Board of Control, which oversaw all state institutions, openly encouraged and reported on cooperation with the University of Iowa in conducting research using children in various institutions.

But Susan E. Lederer, a medical historian and author of “Subjected to Science: Human Experimentation in America before the Second World War,” said there were numerous codes regarding such experimentation at that time. “There were implicit rules, if not explicit rules, in place, particularly when it comes to inducing a pathology in children.”

James Holmes, superintendent of the orphanage in Davenport in the 1950s and 1960s, was appalled when he heard about Johnson's experiment. “The state must have known about it,” Holmes said. He, too, had approved research at the orphanage conducted by the university, but he was required to inform the state board of control and ensure that he would follow up on the research.

Zebrowski, who refers to the orphan experiment in her courses on stuttering therapy and research, said that Johnson's work made a great contribution by showing that stuttering results from a complex interaction of internal and external factors, and that the desperation to avoid stuttering can make the problem worse.

“Anybody who knows of it or hears about it now would interpret it as a harmful study, that these people were sort of monsters to these little kids,” she said. “No, it wasn't ethical. Do I know why he did it? No. Do I think he was a bad person? No. I just think it was the culture at the time.”

“The real litmus test,” she said, “is what happened to those children.”

## **A traumatic event: Relapse triggered**

The trigger for Mary Korlaske Nixon came in 1999 when, two days before New Year's Day, her husband died.

She had met him in Iowa in 1954, where she settled after a decade of wandering from state to state. He was a tall, outgoing man who never made fun of her speech or lack of education. He encouraged her to socialize.

“I'm proud of you,” she remembers him telling her. “Don't let people put you down.” They married and raised three children. Her speech improved. She forgot about the orphanage. She remembers her life with him as 45 years of happiness.

Then he died, and she started to stutter.

Her oldest son, Jimmy Madden of San Bruno, grew worried.

“I didn't know what was wrong,” he said. “She had problems talking before sometimes but this was bad.”

She tried applying the techniques Mary Tudor had taught her at the orphanage during the experiment, techniques she had been told were therapeutic. She stopped, took a deep breath. She placed her tongue on the roof of her mouth. They didn't help.

She began to withdraw. She moved into the Iowa Veterans Home in Marshalltown and placed a “Do Not Disturb” sign on her door. She stocked her room with food, crafts, soda and videotapes, and for months she rarely left.

“When she first came here, she said, ‘I’m a loner and my room is my private place,’ ” said Doug Moberly, a social worker at the home.

Last year in May, at her granddaughter’s wedding in Palo Alto, she sat in the far corner of the hotel’s reception hall. “When can I go home?” she repeatedly asked her son.

At Christmas, she could endure only about five minutes of the annual party before she returned to her room.

“I don’t know what’s wrong with me,” she told a reporter who visited her during the first week of January.

## A revelation: anger, sorrow, relief

According to Mary Tudor’s records, the last time anyone contacted the orphans in connection with the experiment was August 1940, when Tudor made her last visit to the orphanage. Six decades later, a search that began with her records identified 20 of the 22 orphans, of whom at least 13 are still alive.

They had never heard about the experiment. When the Mercury News told them, most became angered by the experiment. Some responded stoically. Others cried.

“Oh dear God,” said Donna Hughes Collings of Des Moines, who had been a normal speaker in a control group and therefore suffered no damage. Her husband held her while he lambasted the people responsible, comparing them to the Nazis saying, “The end never justifies the means.”

Others just stared, incredulous. “Why? Why would they do that to us?” asked Ralph Fry of Nora Springs, Iowa. He had been a stutterer, was placed in a control group and given positive therapy, and his speech improved.

Some were not surprised.

“We knew they were experimenting on us,” said Hazel Potter Dornbush, 77, of Fulton, Ill. At 15 years of age, Hazel, a normal speaker induced to stutter, had been one of the oldest subjects. “Every week somebody else from the university would come and start testing us for God knows what.”

Others, like Robert Hamer, 73, of Waterloo, Iowa, listened long and hard before commenting. He was a stutterer included in a control group and retained somewhat halting speech. “They might not have known the negative effects beforehand,” he said. “If they knew, then it was wrong.”

Jane Ann Pugh Fleming, a normal speaker who had been in a control group and now lives in Milwaukee, at first refused to listen to anything about the experiment. “I don’t even want to know,” she said, shaking her hand in front of her face and ushering the reporter out of her home.

For her younger sister, Norma Jean Pugh, learning about the experiment came as an epiphany. At 6, she had spoken fluently, but was induced to stutter in the experiment. She suffered for years, wondering why she found it so hard to be with people.

“At least I know it’s not me,” she said. Now going by the name Kathryn Meacham, she moved from foster family to foster family during her childhood, repeatedly rejected



*Joanne Hoyoung Lee – Mercury News*

After her husband died, Mary Korfiaske Nixon began to stutter again. She moved into a veterans home in Iowa and started to withdraw from society, stocking her room with food, crafts, soda and videotapes. For months she rarely left.

because they considered her a misfit and slow in school. She remembers how classmates teased her about her stuttering.

“My speech bothered me as a young child,” she said. “The kids were cruel.”

Now 68, she lives as a recluse in her tiny town of Linden, Iowa, the one who never attends high school reunions, who never leaves her home, who rarely talks to anyone except her children.

When Mary Korlaske Nixon was told about the experiment, she was stunned. She stared, her smoky blue eyes fixed on every word.

Of the six normal speakers induced to stutter, she retained the most noticeable speech repetitions. She has difficulty with words that begin with “s” and sometimes repeats words in her sentences. When she is nervous, her words jumble and she struggles to get them out.

“It’s affected me right now,” she said. “I don’t like to read out loud because I’m afraid of making a mistake. I don’t like talking to people because of saying the wrong word.”

The orphanage “was a cruel place, but I didn’t realize they was pulling that on me.”

She remembered many of the children in the experiment, including her friend Dorothy, who died last year, and Marian Higdon, who she learned had been her control group counterpart.

“I don’t like what they did to me, but I’m glad it was me,” she said. “Marian might not have been able to handle it. I’m a fighter. I’ll make them pay for what they did to us.”

## **Love and betrayal: a reminder in the mail**

Mary Korlaske Nixon called a lawyer. She started contacting some orphans who were in the experiment. She called the University of Iowa to request a copy of Tudor’s unpublished thesis and current address.

She wondered, though, if any legal action would be resolved before she dies, and if she would ever again meet Mary Tudor, the woman she had once thought would be her new mother.

So, one night in early March, she took a pen and wrote a letter. She wrote about love and betrayal, about hope and despair, about God and forgiveness. Her bitterness spilled out.

She enclosed the letter with a small package wrapped in tissue and white medical tape.

A few days later, it arrived 1,700 miles away in the East Bay town of Moraga.

“Did you get married? Did you have children? Are they insignificant?” the letter said.

“Why experiment on orphans, we have all ready had enough problems, and was unwanted. I have nothing left. You stolen my life away from me.

“As I sit her crying . . . I wondered what I could say or send you to remind you of the hurtful pain that never goes away.

“I’m sending you your own thimble.

“God try to have mercy, or should he? You had no mercy for the children who still cry in the night.

“-- Mary Korlaske Nixon Case No. 15

“P.S. When the tears get realy bad, punch a whole in the bottom of the thimble like I did. Then the thimble won’t over flow.”

Mary Tudor, who so often had struggled with the right and wrong of that experiment so long ago, quietly set the letter down on her dining room table. She carried the package

into the kitchen, pulled out scissors from a drawer, and began cutting through the medical tape.

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