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ANNALS OF SCIENCE

A SILENT CHILDHOOD—II

IN November of 1970, a thirteen-year-old girl came to live at Childrens Hospital of Los Angeles. Since the age of two, Genie (her scientific pseudonym) had been kept under restraints in a bedroom of a modest house in the Los Angeles suburb of Temple City. Her jailers were her parents, called here by their first names, Clark and Irene. Clark committed suicide soon after Genie's discovery; Irene, who was nearly blind and had engineered her daughter's escape, was absolved in court of responsibility for the girl's imprisonment.

Having lived for eleven of her thirteen years in virtual solitary confinement, Genie was unable to talk when she arrived at the hospital. She quickly became an object of intense interest to a host of doctors and scientists, among them Howard Hansen, the head of the hospital's Psychiatry Division; the division's chief psychologist, David Rigler, who proposed to direct a multifaceted study of Genie, to be funded by the National Institute of Mental Health; James Kent, the doctor in charge of her case; Jay Shurley, a psychiatrist at the University of Oklahoma who specialized in cases of extreme isolation; and Susan Curtiss, a graduate student at the University of California at Los Angeles, whose field was language acquisition in children, and whose doctoral dissertation on Genie became the child's definitive scientific biography.

CURTISS's dissertation makes no mention of the most significant event of Genie's first summer of freedom. But it was documented by Jean Butler, Genie's teacher at Childrens Hospital's Rehabilitation Center, with whom Genie had developed a strong rapport. Butler's account was written in the form of a diary:

> June 23, 1971—I signed the necessary papers at the Hospital in order to be a volunteer and take Genie on field trips and to my home.

"Home" was a two-story house a block from the Wilshire Country Club, on Cahuenga Boulevard—a house that seemed somewhat beyond the means of a schoolteacher with an income of thirteen thousand dollars a year. But Jean Butler was doing all right. She had recently turned down an offer amounting to almost a quarter of a million dollars for twenty-five acres she owned near the Leisure World retirement village in Orange County. She came from a wealthy Midwestern family; she was unmarried, and she supplemented her income occasionally by writing children's books. Her house had a guest bedroom downstairs, where Genie could sleep.

Not long after she had signed the papers, Butler called the hospital with dire news: she was ill, and her illness had been diagnosed as rubella. Genie had been exposed, and though she never came down with the disease she was at that point presumed to be contagious. Rubella is a havoc wreaker in schools, but in the light of Genie's past there was no humane way to isolate her. The obvious solution was to quarantine her with her teacher, and on July 7th she moved in.

"It was apparent that Genie was happy to be in my home," Butler wrote in her journal. But Butler herself was less than happy to entertain house calls from various members of what she termed the Genie Team. Butler's disparagement of Genie's other caretakers had been evident ever since the May conference at the hospital, where scientists from around the country had gathered to debate Genie's future. She found Susan Curtiss inept, David Rigler self-important, James Kent overpermissive, and all of them ambitious and insensitive.

> July 8—Student Susan Curtiss was in my home recording speech and attempting to amuse Genie. However, she followed the child and hovered over her most of the day. She had a notebook handy and discussed Genie's speech and lack of it and her eating habits in a critical manner in front of her. . . . That

"How about a nice, big coffee-table book about women?"

evening Dr. Rigler phoned and I told him that the "help" he was giving me in the house was not helping me.

James Kent may have annoyed Butler the most. Among Genie's abiding enthusiasms was a fondness for masturbation. She was uninhibited by any concept of modesty, and was frequently an embarrassment in public. Butler believed that Kent, unwilling to constrain a child whose life had been disfigured by constraint, encouraged her in her habit—an allegation that Kent has denied.

The care and feeding that Genie received in the hospital had spurred her development, and not just in behavior. Among other physical transformations, she began developing breasts. Signs of her sexual maturity were splendid news to Curtiss and her faculty adviser, Victoria Fromkin. To properly test the critical-period hypothesis—the theory of the neuropsychologist Eric Lenneberg that a first language can be learned only during childhood—they needed to observe the language-learning attempts of someone past puberty. It was a heartrending serendipity. David Rigler once showed me calendars he had made to follow Genie's progress in conquering her bed-wetting. They illustrated eloquently the child's awful dilemma. There amid the dry days and the wet days were marked the days she had her menses. She was getting her period and being toilet-trained, all at the same time.

"I expressed my fear to Dr. Kent that Genie was being experimented with too much and not being allowed to relax," Butler recounted in her journal. "He said this was necessary." Butler did not feel that she was alone in her concerns:

July 13—Sue Omansky of the Department of Public Social Services visited my home. . . . [She] was extremely critical of putting this child on display as a guinea pig and objected to the U.C.L.A. student hovering and jotting down everything said by the child. Miss Omansky expressed her belief that these men were using Genie to gain fame.

As the summer progressed, the tensions between Butler and the scientists sometimes erupted into full-volume arguments. Her house became the field for a jurisdictional battle of Titans. Sue Omansky, in her position with the D.P.S.S., was Genie's de-facto guardian. Her department had little interest in making Genie accessible to researchers from Childrens Hospital; still, the two institutions were bound together in Genie's name. They had been conferring for months about how to get the child out of the Rehabilitation Center and into a private home. Now the rubella had forced the issue. Butler applied to the D.P.S.S. to become Genie's foster parent, and Omansky felt that the teacher's home was suitable for a permanent placement. But her D.P.S.S. supervisors, after their discussions with Childrens Hospital, had reservations. For one thing, it was against hospital policy to place patients in the homes of people who worked at the hospital. For another, it was felt that Genie would be better off in a home with a foster father as well as a foster mother.

Butler had a handy solution to that problem: she decided to ask her lover to move in. He was Floyd Ruch, a psychologist who had taught for thirty years at the University of Southern California and had written a seminal textbook, "Psychology and Life." He was well-to-do and well thought of, but he was not unencumbered. Ruch was separated from his wife and was living alone, two blocks from Butler's house. In effect, though, he was already on the scene—enough so to be drawn into some of the quarrelling between Butler and the Genie Team. Butler's journal recounts a disagreement between her and David Rigler that turned into a midnight shouting match on the front walk, with Ruch rising to break it up. (Rigler doesn't recall the incident. "Oh, something like that might have happened," he told me. "We did argue about administrative stuff. But not shouting. And not at midnight.")

July 14—I asked Dr. Kent to have Miss Curtiss removed from my home, as she was no help but completely untrained and inexperienced with children and had no awareness of safety factors. Dr. Kent said it was necessary to have her here and the need for phonetic recording of speech attempts was more important than her lack of ability in helping with Genie. I pointed out that Genie did not talk around Miss Curtiss.

A few days after that entry, at the height of the conflict, came the episode

PROSPECT PARK, HOLY WEEK

The mean swan has returned to the pond;
the white ducks are back; the wild ducks are out
in the grass, bobbing between dark tufts of ramp;
the drake's green head gleams like the jewel
from a cocktail ring. A pale jet stream
streaks the sky, a stretch mark on a mother's belly,
and the late-afternoon sun is a bronze fruit
that glazes the pond with its bronze juice.
The black boys on mountain bikes, who pedal fast
as they can down the hill, have drunk that juice,
and the flushed white men who jog in their college shirts
have drunk that juice, and the cyclist with dreadlocks
and shiny black tights pedals his silent racing bike
like that juice was sweet. And you can smell
sweat in your hair and wet earth on the wind
that stirs dried oak leaves and the sheer chartreuse
of the willow. Through the bare trees,
the old Quaker tombstones flash in the sun
like a mound of polished fingernails.
The squirrels sit up on their haunches,
and the magnolia's black branches
shock the air with their waxy, white blooms.
The meadow has blossomed into
all the colors of sweatshirts,
and the football is back, soaring high
above all of us, the pit of that fruit.

—JULIA KASDORF

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of the puppy. Rigler relates it this way: "At one point, I visited Jean Butler's home and had a golden-retriever puppy with me, and Genie must have seen the puppy through the window, because according to Butler she got very upset. Now, this puppy was only ten or twelve weeks old. It was just a fur ball, and it wasn't up against the window, it was still in the yard, but Genie must have been scared of it."

Butler's version is more vivid:

> July 20—Dr. Rigler phoned and said his wife had picked up a puppy and he would like to bring it over to show Genie. I asked him to wait a few days. He said he was anxious. I then said to please keep the dog in his car and let Genie peer through the window. . . .
>
> At about 8:00 P.M., Genie and I were folding sheets and the task was giving her great satisfaction. . . . Just then Dr. Rigler came. . . . He took her hand and led her to the front door, opened it, saying, "Come with me, Genie, I have something to show you." By this time Mrs. Rigler had taken the dog out of the car and placed it on the lawn. From the porch Genie saw the dog and ran back in the house, slamming the door violently. She got in my bed. . . . For a while she watched the dog through the front window. The Riglers left and Genie stayed in my bed for two hours, frequently getting up to go to the bathroom. She said, "No dog," and "Scared." She slept less than two hours that night. At 2:30 she came in to me and took my hand and led me to her bed. I sat by her for two hours while she repeated "Scared."

The artist tries to explain to a TV reporter why he declines to take part in a talk show.

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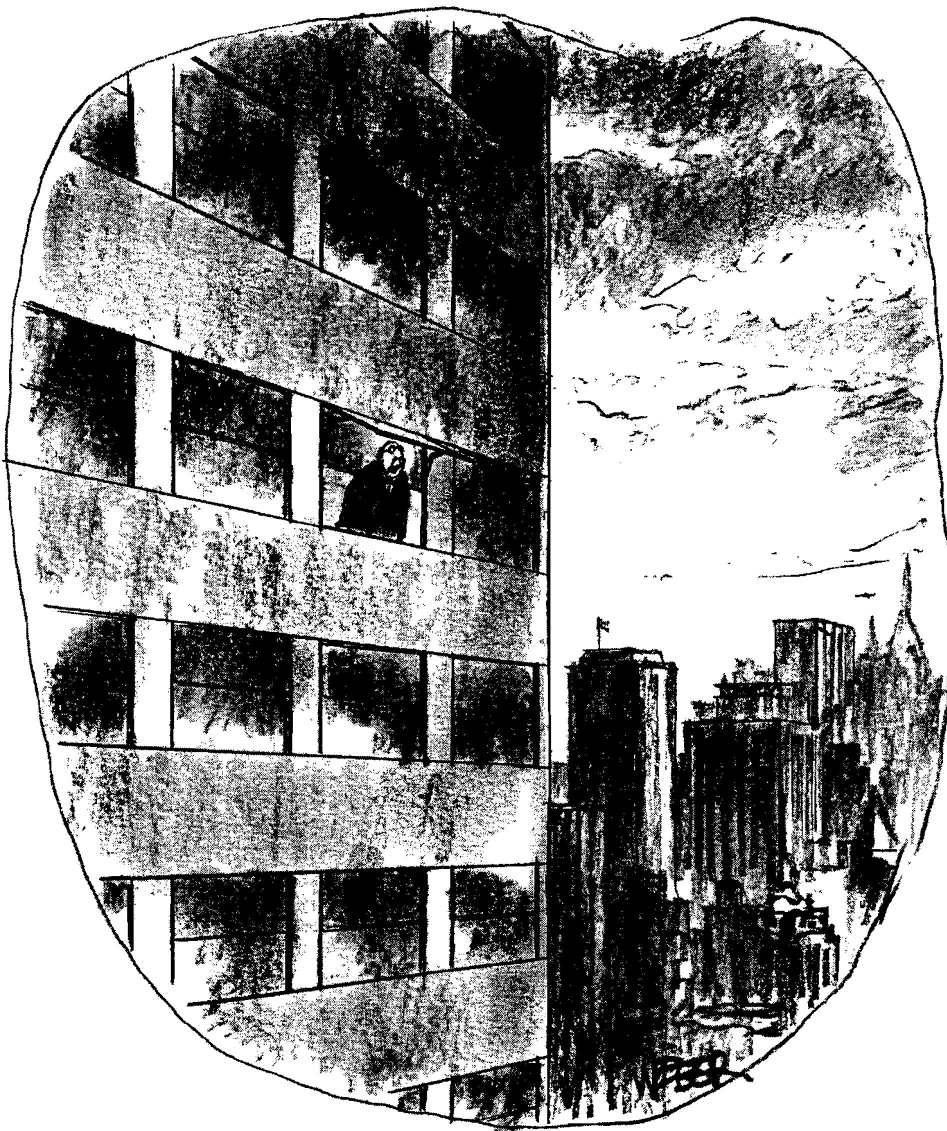
Genie's aversion to dogs was famous even before the incident with Rigler's puppy; Rigler himself had witnessed it during his earliest walks around town with Genie. After one canine confrontation, Rigler had commented to Butler that he had never seen such fear in any child. "The thing Genie would do when she saw a cat or dog, she would climb you like a pole," he told me. "Or she would desert you altogether. You'd look around and she'd be heading for the white line in the center of the road, because it was equidistant from the yards on both sides. And she was bright enough to know that a dog behind a fence was behind a fence, but a cat behind a fence was not behind a fence at all." Floyd Ruch, in particular, spent some time trying to get Genie over her alarm. He watched episodes of "Lassie" with her, and bought her a battery-operated toy dog that barked and wagged its tail. Only years later did he and Butler and the Riglers learn just how deep Genie's fear ran, and why.

Through July and into August, the haggling continued. Butler struggled to control the intrusions of scientists into her home and, at the same time, struggled to be numbered officially among them. She requested a thirty-eight-per-cent raise in pay, and she also asked to be acknowledged alongside the researchers in their scientific



"Shane, come back!"

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papers. Genie seemed to be the only one growing more relaxed. Photographs of her taken at Butler's house show her animated, cheerful, composed, content. She sits on a hassock with one tanned, hospital-braceleted wrist cradled in her other hand, and looks up with such confidence, so completely self-aware, that it is hard to believe she is not a normal child. In a picture taken on the back porch, her ponytails have gone sodden from playing under the hose, and she tosses toward the camera a grin of unbridled delight. She also went to the beach, where she learned to sample, at least to ankle depth, the terrifying enticements of the Pacific Ocean.

Butler reviewed Genie's progress that summer in her diary: she claimed that Genie was wetting the bed less often, with thirty dry nights out of thirty-seven, and that her masturbation had declined as she gained interest in other activities. Along with everything else, Butler wrote, Genie was talking: "The quality of her speech improved and the quantity increased at least tenfold . . . . I was able to get Genie to say 'Yes' appropriately. This she had never done before. Also, I was able to get Genie to verbalize when she was angry, by saying the word 'angry' and making a hitting motion in the air or hitting certain inanimate objects (such as a large plastic inflatable clown). This was her first verbalization of her hostilities and anger." In a letter to Jay Shurley, who had studied Genie when she was first rescued and was now back at the University of Oklahoma wondering about the summer's events, Butler wrote:

> You asked me about Genie's speech here. The last two weeks Floyd called her "My little yakker." He often said, "You're going to grow up and be a yakker like Jeanie." She talked one evening for 45 minutes after a trip to the pet shop to get four fish. During the day we talked and even argued about ¼ of the time. She was using two- and three-word sentences. She used the negative appropriately, and when I told her that she would have to come inside if she did not stop putting water on the service porch she said "No come in." . . . She often described an object with two adjectives . . . "one black kitty" . . . "four orange fish". . . "bad orange fish—no eat—bad fish," the longest expressed thought. I'll tell you the saga of the fish and their demise when you are here.

Butler's self-congratulatory assessment of Genie's mental state was borne out by an evaluating committee from the N.I.M.H. The committee noted a "striking improvement" in Genie since her transfer to Butler's home. "Rather dramatic behavioral changes have ensued," its evaluation stated. "A visit to the home by two site visitors substantially confirmed the positive behavioral patterns and adjustment within that setting." The visitors reported back to Bethesda that Butler's home "would be an excellent placement" for Genie. In the contentious milieu of Los Angeles, however, the verdict was less sure.

> August 6—Dr. Rigler insisted on driving me home [from a meeting], which he did. On the way home, he said that I was not coöperating as a "trainee" and that he had never had difficulty with students before. I got very angry and told him that I certainly objected to being treated like a student, a trainee, and an idiot. I told him that it was not necessary to tell me why I was using certain methods of discipline with Genie. I explained that he had had the last eight months to handle her and had done a very poor job. I explained that the problems she presented were the product of his department and I think I could at least be respected as an experienced person.

> August 9—Before the regular mail delivery I found in my mailbox a metered but unpostmarked envelope containing a ten-page letter from Dr. Rigler.

The letter, copies of which had been sent to Kent, Hansen, and Omansky, was a pained recapitulation of recent history—an effort to set straight what had been scrambled in all the acrimony. "Dear Jean, I am writing to express my concerns about the current

situation," it began, and proceeded to defend the charter of the research from Butler's charges of exploitation: "This child is not for sale, but in our view and in the view of funding agencies, knowledge obtained from study of this unique child is important knowledge to be employed for humanitarian purposes." Rigler extolled the staff of the Rehabilitation Center, which he described as "one of the best institutions of its kind to be found anywhere," but he also endorsed Butler's claims as a potential foster mother: "In this regard, I would offer my opinion that Genie is receiving excellent and loving care within your home at the present time." Nevertheless, he bemoaned what he saw as Butler's lack of coöperation, and he discouraged her hopes of increased compensation: "It is not likely that any parent or foster parent of a difficult-to-care-for child is adequately compensated for the endless and extraordinary demands placed upon them."

On the morning of August 13th, Sue Omansky and her supervisor from the D.P.S.S. arrived at Butler's house. They brought with them their department's final decision on her application to be Genie's foster parent. It had been rejected. Butler wrote in her journal:

> For about twenty minutes Genie knew something was wrong. She was very upset when I told her that she must go with Mr. Wodowski and Miss Omansky back to Rehab. She said, "No, no, no!" I told her I loved her very much but she must do what I say and go with them.
>
> Just before Mr. Wodowski took out her clothes he thanked me for all that I've done for Genie. . . .
>
> They left at about 10:30.

No sooner had Genie been taken back to the Rehabilitation Center than she was turned over to her new foster parents. Apparently, the policy concerning patients' living with hospital employees was a flexible one: the foster parents were David and Marilyn Rigler.

The sudden end of Genie's short summer on Cahuenga Boulevard marked a turning point of sorts for Jean Butler. Her defeat confirmed her in the struggle against Rigler and the other members of the Genie Team. She began a relentless campaign to avenge the wrong that she felt she and Genie had suffered, firing off letters critical of the team's research to various scientists, and muckraking through the grant proposals and symposium papers of team members for the least sign of misfeasance. Her first move was to complain to the D.P.S.S. about the apparent reversal of its position, claiming that the caseworkers had forsaken their better judgment and capitulated to pressure from the scientists to place the girl in an environment less hostile to research. The charge had no effect on Genie's placement, and David Rigler dismisses it as vitriol.

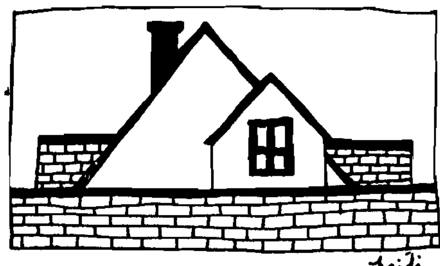
Not surprisingly, there is little coincidence between Butler's version of the summer's events and Rigler's. "She was angry at being turned down," he told me one afternoon, as he and Marilyn Rigler and I sat in his kitchen. "She began accusing us of bizarre behavior, but we found *her* behavior bizarre. She was as destructive as she knew how. She became the Wicked Witch of the West from then on, as far as we were concerned."

When I asked him about Genie's new placement, he said, "We never had any intention or plan to be Genie's foster parents. Howard Hansen had discussed the idea with me. My wife and I consulted our respective navels, and each other's navels, and retired to our individual corners to think this out. And we decided to take Genie if no one else could. We told the Social Services Department that if they absolutely couldn't get anyone, we would take her in for a limited period of time, that being—oh, how long, Marilyn?" He turned to his wife.

"Oh, a year."

"No, no. It was much shorter. I think it was three months. And then Genie arrived. I remember the date—it was Friday, August 13th. And she stayed with us for four years."

In Horatio Algeresque fashion, Genie now arrived at the grandest of her new accommodations. David and Marilyn Rigler lived in Laughlin Park, an exclusive enclave in the Los Feliz district of Los Angeles. The neighborhood is a self-conscious exception to its surroundings—self-conscious enough so that a gate has been erected at each of its entrances. Within, the streets are hushed, their manorial houses hidden behind massive boxwood hedges and stuccoed walls. The Riglers' house, at least until Genie arrived, was an orderly sort of place. David and Marilyn had three adolescent children, a cat, and Tori, the golden-retriever puppy, whom Genie had already met. Genie was given a downstairs bedroom and a bathroom of her own. There was a large back yard where she could play, and even some neighbors she could visit: the Hansens also lived in Laughlin Park, several blocks away.



The presence of a new family member occasioned immediate adjustments. "For one thing, we prize books," Rigler told me. "Genie's room was a room in our house that had been a sort of library. Two walls were filled with books and magazines. Genie was fascinated by them, especially the *National Geographics*, and she had her favorite issues. She could also be destructive. I can't bring myself to mark passages in books. But if she liked a page she might just tear it out."

And she might just do other things as well. On her arrival at the house, Genie ran her fingers nervously around the perimeter of each room, then defecated in Rigler's daughter's wastebasket. She urinated every ten minutes, wherever she happened to be. That habit eased almost immediately, but others didn't. She hid feces in her room (she had also done this at the hospital—once, to Rigler's great amusement, spraying them with deodorant to mask the smell), appropriated possessions of the family's other children, sat at the table with her cheeks bulging, waiting for her saliva to break down the food that she had still not learned to chew. That worked passably well with the cereal and apple sauce she was accustomed to eating, but as Marilyn Rigler added tougher foods to her diet the method entailed copious spitting.

The Riglers spent the first several days trying to get Genie to accept her old nemesis, Tori. "We found that Genie and the puppy couldn't be in the house at the same time," David Rigler told me. "So we instituted a program where they could get to know each other. We had them on opposite sides of the sliding glass porch door. Then when Genie had got used to that, we opened the glass and left the screen closed, and then we opened the screen.

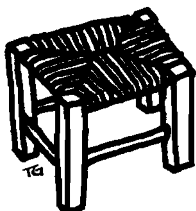
She eventually reached out when the dog was turned the other way, and touched its tail, and from that time on she was fine."

The success of fur-ball therapy reinforced a general optimism. Genie was at last settled in a home; she was at last free of vituperative bureaucratic wrangling. The grant from the N.I.M.H. had come through. Over the next two years, it was to provide a hundred thousand dollars through Childrens Hospital for a wide range of research efforts, including the language studies of Susan Curtiss and Victoria Fromkin. David Rigler, as the principal investigator, was released from his duties at Childrens Hospital for almost half his time, with no reduction in pay, to attend to his work with Genie. Under the grant's terms, his wife—who, advantageously, was working toward her graduate degree in human development—would be paid from five hundred to a thousand dollars a month for her ministrations. Los Angeles County would also furnish the Riglers with foster-home support, amounting to two hundred and thirty dollars a month. (Eventually, it would rise to five hundred and fifty-two dollars a month.) From now on, the research could proceed unimpeded, the only constraint on its pace provided by Genie herself.

Susan Curtiss kept up at the Riglers' her almost daily visits, recording in her notebooks as much of Genie's speech as she could catch. When, at the beginning of September, she began administering the first of a series of linguistic tests that she and Fromkin had devised, she found out quickly how exhaustingly stubborn and restless Genie could be. Even on the child's coöperative days, when she obeyed orders and participated in activities, she never initiated anything, and her participation was minimal. She was, Curtiss decided, lazy. How was one to know whether such a child was really still at the one- and two-word sentence level or was just disinclined to use sentences of greater complexity? Much later, when Genie began using sentences of several words, she would compress them into one or two syllables, so that "Monday Curtiss come" would end up sounding something like "Munkuh." This behavior earned her the nickname, among the linguists, of the Great Abbreviator. She would pronounce the uncondensed

version only on firm request. Genie's capabilities, Curtiss decided, were "masked by her behavior."

Another masking behavior was so ingrained as to be metabolic. Genie was slow. Unless confronted with a dog or some other alarming apparition, she moved as though walking through water. This behavior had been observable from the beginning—ever since she shuffled into the Social Services office on the day of her discovery—but it became more evident as her comprehension of verbal commands increased. When she was asked to do something, she would often not move at all until many minutes had passed, and then would suddenly obey, as though the request had just registered. She had the same "latency of response" with language tasks. There was no sure way to know whether the child could not answer a question or had simply not answered it yet.



Curtiss had taken to reading stories to Genie, of which Genie remained politely oblivious. Then, on October 13th, the oblivion broke. Curtiss saw the girl's facial expressions reflecting the content of the tales. Genie had always heard; now she was listening. She was listening in general—tuning in to talk not aimed at her. In a word, she was learning to eavesdrop. As Curtiss and the Riglers became friends, Genie often seemed to be doing the observing while the scientists did the talking. Sometimes she would try to obstruct the conversations between the adults, but at other times she listened in and occasionally even interrupted with apropos comments.

Her new home was a fertile environment for such progress. In their parlor the Riglers had a Steinway concert grand. It was not often played by members of the household, but Curtiss, usually just before dinnertime, would give recitals for her audience of one. If Genie merely tolerated being read to, she was a rapt concertgoer. "Music sent her into a reverie," Curtiss told me. "She would be compelled to stand there, and may even have hallucinated. I don't know where she went. She may have been musing on the past." But Genie was transfixed only if the music was classical, and only if it was performed live. Rigler's explanation for this goes back to the years in the little room: during part of Genie's incarceration, a neighbor's child took piano lessons, and his practice sessions, filtering in through the barely opened window, were Genie's matinées. Whatever their source, Genie's tastes were adamant. If Curtiss's repertoire strayed too far into the popular, Genie would pull her hands from the keyboard and replace the sheet music with a piece she recognized as being more highbrow.

On November 10th, Curtiss was playing some nursery songs she had discovered that Genie would tolerate, and singing along. To her surprise, Genie clapped, danced, and stamped her feet to the music when Curtiss asked her to, and she sang, changing pitch in a semblance of tonal control she had never previously demonstrated. A week later, music provided the context for another innovation—not in inflection this time but in volume. During a drive to the hospital, Curtiss sang Genie an improvised song about their destination. Genie joined in, repeating "hospital" over and over, and once, in defiance of her fear of vocalizing, belting the word out. Some months later, she defied that fear again, this time letting out a scream when David Rigler tried to remove some wax from her ear. The event went straight into the notebooks. As far as the researchers know, the scream was her first and her last. But coming from a child whose explosions were almost always underground it was remarkable.

Advances in speaking came packaged with behavioral leaps. The person unofficially in charge of teaching Genie how to act was Marilyn Rigler. To show Genie how to chew, she chewed with Genie's hand held to her jaw. In four months, Genie had learned to move her own jaw in approximate fashion, and the Rigler dinner table recovered a semblance of normality, disrupted only by Genie's gesturing. Instead of asking for what she wanted, Genie would grab Marilyn's face or arm and then point or otherwise gesture to indicate her need. Her gestures were a kind of language, peculiar and peculiarly effective. To express pleasure, she would moisten two fingers in her mouth and rub them quickly against Marilyn's nose. But communication at dinnertime required conversation of a more conventional sort, and soon Genie was pressured into

learning to state, not manually indicate, her desires.

After Genie had had a while to adjust to life at the Riglers', she was enrolled in a nursery school, and, later, in a public school for the mentally retarded. At home, she was given speech therapy and taught some sign language—in part because it seemed to suit her predilection for manual expression. In general, though, she remained extremely taciturn. Curtiss and the Riglers saw no evidence of the chattiness or the long-string sentences that Butler had reported. Her lack of expressiveness was nowhere more dramatically demonstrated than in her tantrums, which she still conducted in a straitjacket of silent self-destruction. Marilyn Rigler painted Genie's fingernails, predicting, accurately, that vanity would discourage her from tearing at the walls and floor. Knowing how much Genie loved to be called pretty, she told her that she was not pretty when she scratched herself or ripped at her face. Marilyn found herself in the strange position, for a parent figure, of teaching a child how to have a good king-hell-buster of a fit—how to slam doors and stamp her feet. She would drag Genie out of the kitchen so that she could do her stamping outdoors.

"He was well on his climb to the top when they declawed him."

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Here, too, gesture gave way to word. In Genie's iconography, a shaking hand indicated frustration, while a shaking finger signalled the imminence of a full-blown tantrum. Seeing these storm warnings, Marilyn would say to her, "You are upset, you are having a rough time." Soon she had only to say "You are upset" for Genie to assent, "Rough time." Eventually, "Rough time" became a verbal shaking finger, a spontaneous phrase by which Genie could broadcast distress. Curtiss witnessed a further breakthrough in emotional expression one morning when she arrived to find Genie crying. She had had a cough and a cold and had complained that her ear was aching, and had just learned from Marilyn the scary news that she would have to go see a doctor. "I noticed the striking change in this girl who such a short time previously did not sob or shed tears," Curtiss wrote in her dissertation. In mid-June of 1972, Curtiss recorded an event that approximately marked the first anniversary of her acquaintance with Genie. As with other accounts in Curtiss's dissertation, it is hard to tell who, subject or scientist, was being more changed by the experiment. "Today I took Genie into the city," Curtiss wrote. "We browsed through shops for about an hour. We sang and marched and carried on in our own nutty, special way as we walked. Genie seemed elated and delighted by everything I did. She commented, 'Genie happy.' So was I. Our relationship had developed into something special."

In September, the eightieth annual convention of the American Psychological Association was held in Honolulu, and several of Genie's watchers flew there to participate in a symposium chaired by David Rigler. In the Mynah Room of the Hilton Hawaiian Village, Howard Hansen delivered a paper about Genie's early life in Temple City, James Kent spoke of the eight months she had spent in the hospital, and Marilyn Rigler recounted the trials of the year just past, in an address she titled "Adventure: At Home with Genie." Then Victoria Fromkin related what she and Curtiss and Stephen Krashen, another of Fromkin's graduate students, had observed of Genie's language.

"By November of 1971, a year after she was admitted to the hospital, Genie's grammar resembled, in many respects, that of a normal eighteen- to twenty-month-old child," Fromkin said, and she delineated some ways in which that situation had changed. In the weeks before the convention, Genie had finally shown that she knew the difference between singular and plural nouns; when Curtiss said "balloons" to her, or "turtles" or "tails," Genie now responded to the final "s" and pointed to a picture of two balloons or turtles instead of a picture of one. Similarly, she knew the difference between positive and negative sentences. She understood the meaning of some prepositions, so that when Marilyn asked her where elephants are found she replied, "In zoo." She understood yes-or-no questions, and she used possessives of a sort: she could say "Curtiss chin" or "Marilyn bike." (Only after another half year did she figure out how to insert a verb, and say, "Miss Fromkin have blue car.") Her com-

prehension and production had progressed from one-word to two-word sentences, with an occasional three-worder thrown in. "Now, two-word utterances are very complex, when you think of what this entails," Fromkin told her Honolulu audience. "She wasn't just stringing together any two words randomly; the two words which she put together in her sentences were very strictly controlled and rule-governed. They were not random strings."

"Rule-governed" was code, a hint to the hip that Genie was in the process of pulling off a coup that would rock the linguistic world. Fromkin had a hard time toning down her excitement at the prospect. The rough draft of her speech betrays her expectations. "It is clear that Genie is acquiring the rules of English grammar," she wrote, and then amended that to read "some of the rules." On a later page, "Genie is acquiring syntactic rules" was pencilled over to read, more firmly, "has acquired." And on another page came the declaration "Genie at this stage has a grammar." All three references were deleted by the time Fromkin reached Hawaii.

The possible significance of Genie's achievement was made clear in another section deleted from the final speech: "This summary of Genie's syntactic and phonological development indicates that language acquisition can occur after the age of five and even after the onset of puberty. Genie's linguistic development thus seems to contradict the conclusions of some that language acquisition occurs during the period when cerebral dominance, or lateralization, is developing." Fromkin went on to mention the "some" by name. Genie was going to debunk Eric Lenneberg: she was going to learn syntax, even if the prevailing theory of the time said she could not.

There was a certain justice in that. Both Lenneberg and Noam Chomsky had been invited to participate in the research on Genie, and both had declined—on the ground that her case, which they saw as complicated by the emotional trauma of her incarceration, was too muddy for good science. Fromkin and Curtiss strongly disagreed with this argument. "At first, Genie's natural state was non-talking, and that state might have been a reflection of her emotional state," Curtiss told me, getting (as she tends to do on the subject) a bit emotional herself. "But as she grew socially, and acquired the ability to be happy and live life, it became clear that her problems with language were not related to any distress or emotion. I don't see how an emotional profile could allow some aspects of language to grow but not others. There are a variety of views of language acquisition. The one I can best tell you about is my own, though my view is shared by most generative linguists. That view is that emotion has little to do with it. Certainly Genie was an emotionally disturbed child, but that wasn't relevant to my concerns."

It is easy to see why Lenneberg, in particular, might have overlooked the merit of Curtiss's argument. For him, Genie presented a dismal test case: at best, she could provide a flawed endorsement of his theory; at worst, a ringing refutation. If Genie could not learn language, her failure would be attributed ambiguously—either to the truth of the critical-period hypothesis or to her emotional problems. If Genie did learn language in spite of all that had happened to her, how much stronger the rebuttal!

And, for that brief time, learning language was what she appeared to be doing. In retrospect, the September, 1972, conference in Hawaii seems the point at which the tide of optimism was taken at the flood. If François Truffaut had made "The Wild Child" about Genie instead of about Victor of Aveyron, this is where the story would have stopped and the credits begun to roll.

IT must be said, in looking back, that the prospects for Genie's eventual triumph were already beclouded that summer. One piece of the orthodoxy of language acquisition is the notion that, no matter how slow or how fast children learn language, they all go through the same stages, in the same order. After children get two-word phrases, they are poised for an explosion. It is as though they had been pushing a sled up a hill, and all of a sudden they were over the edge and racing down the slope; their skills accelerate as abruptly as that. Genie had been using two-word strings even before her stay at Jean Butler's, but month after month passed and the explosion never came. She continued

to plod along at a slow, sled-pushing pace.

One thing that normal children learn quickly is how to form a negative sentence. They begin by saying "No have toy," and proceed directly to the next stage, where they bury the negation within the sentence: "I not have toy." Then they figure out how to use a supporting verb and say, "I do not have a toy," and the prodigies contract the verb to "don't." Genie stayed stuck at the "No have toy" stage for almost three years, and four years after she was talking in strings she was still speaking in the abbreviated non-grammar of a telegram.

Nor could she ask a real question. Normal children are sometimes thought by their parents to be much too adept at what linguists call the WH interrogatives. But any child who says "Why?" at every turn is doing what Genie could not. Since February of 1972, she had been able to understand all questions involving "where," "when," "who," "how," "why," or "what." But when she was pushed to produce such a question herself, she mouthed monsters: "Where is may I have a penny?" or "I where is graham cracker on top shelf?" One of the obstacles to forming true questions lay close to the core of Chomskian theory. To make a WH question, one must engage in what linguists refer to as "movement"—that is, deriving the word order of the surface sentence ("When is the train coming?") from the word order of the declarative sentence underneath ("The train is coming [soon]"). Movement was a facility that Genie did not have.

She also had a problem with pronouns. Most were missing from her lexicon entirely. "I" was her favorite, and "you" and "me" were interchangeable. Here the grammar reflected Genie's egocentrism—the lack of a border between her person and her world. She never figured out who she was and who was somebody else. "Mama love you," Genie would say, pointing to herself.

"Genie was highly motivated to interact socially and to use language in that interaction," Curtiss told me. "She could be almost frantic about it. She would stare at people's mouths as they talked. She was very inventive, very sensitive to whether she was communicating or not. For instance, she would often try to describe what she had done in phys-ed class at school. It's hard to do. It's an area where tense markers are needed, and where you have to indicate who's doing what to whom. And an area where she couldn't make herself understood. She would draw pictures, mime, use homonyms—try anything to get you to understand. If you thought you did but it wasn't what she had in mind, she would try again. She was very intense about this."

That Genie's language seemed motivated by her social strivings contained a pathetic irony, because she was especially incompetent at the array of interactions known as automatic speech—the interactions essential to social discourse. She could not learn to say "Hello" in response to "Hello," could not grasp the meaning of "Thank you." She would come when she was called, but, with rare exceptions, could not summon anyone herself. She complained of a boy who was pestering her in school, but no one was ever able to teach her how to ask him to cut it out. She inhabited a prison not unlike a stroke victim's, with more to say than she was able to say, and aware of her inability. Nonverbally, however, she had no such handicap. "Without a word," Curtiss wrote in her dissertation, "she can make her desires, needs, or feelings known, even to strangers."

Faced with Genie's failure, many scientists have fallen back on the explanation—put forward by her father—that she was retarded. Curtiss disagrees. She noted to me that on some of the tests she and Fromkin administered Genie scored higher than anyone had ever scored. "On spatial tests, Genie achieved a perfect adult score," she said. "She could imagine a figure with pieces missing, and she could look at something from one perspective and know how it would look from a different perspective. She could draw silhouettes. She could categorize. Some people have said that categorizing is the key to learning language—that grammar is just organizing things into smaller and smaller categories. Genie could organize, but she couldn't learn grammar. Whatever she brought to bear on categorizing wasn't what she had to bring to bear on grammar. I would give her complex hierarchical

models to copy, and she could do it effortlessly and flawlessly. Genie could apprehend the most complex structure. One time, we asked her to copy a structure made of a set of sticks. The sticks were different colors, but we didn't think about that—we were interested in the structure's shape. When Genie re-created the structure from memory, she got not only the shape but all the colors correct—every last stick—even though that was not part of the task. She could do all these things that are supposed to be related to grammatical structures, but she couldn't get grammar."

Genie's specialty—her ability with the spatial and the concrete—was reflected in her talk. Most children concentrate their conversation on activities and relationships: what happened when, what So-and-So did to So-and-So. Genie concentrated instead on objects, meticulously describing and defining them by color and shape, number and size. A normal child would rarely utter among its early several-word phrases the ones that dominated Genie's speech: "big, rectangular pillow," "very, very, very dark-green box," "tooth hard," "big, huge fish in the ocean."

In the late nineteen-seventies, after Curtiss finished her dissertation, she subjected Genie to a broad range of psychological tests that measured cognitive skills other than language, and she compared the results with those from tests administered to Genie by other scientists from the beginning. "I found some interesting things," Curtiss recalled. "I found that for every year that Genie had been out of isolation she had advanced a year in mental age. Given a chance to interact with her environment, she was growing. This is the strongest evidence that she was not mentally retarded. You never see a case of a mentally retarded child in which the mental age increases a year with every year. Also, with retarded kids the lexicon is very impoverished. They'll get a case correct but the semantics wrong. They're not sure of gender or number. Genie was always correct on cognitive matters. She knew how many and of what kind. Besides, being with Genie wasn't like being with a retarded person. It was like being with a disturbed person. She was the most disturbed person I'd ever met. But the lights were on. There was somebody home."

At home with Genie in Laughlin Park, the Riglers, too, felt that they were dealing with an intelligence. "This was not a dumb kid—no way," David Rigler told me. "She had energy and personality and incredible curiosity. She most emphatically responded to approval and was dismayed by reprimand. She craved affection and she gave it. She had a wonderful sense of humor." Around the house, Genie handled complex tasks: she ironed, and sewed both by hand and with a sewing machine. And she drew. Her drawings seemed actually to be part of her lexicon—a compensatory, self-taught speech. When Genie was failing to transmit some idea, she would grab pencil and paper, and sketch what she could not describe. She sketched more than objects: she could depict her thoughts and desires. Curtiss remarked on her ability to convey with a few deft strokes on paper the gestalt of a situation—the juxtaposition of people or things central to one of her tales. Her perception of gestalts was uncanny. Her mind had no trouble seeing the organization behind a chaotic scene or perceiving a whole from scattered parts. It was on the gestalt tests that Genie scored higher than anyone in the literature. But her portrayal of her complex comprehension was better achieved through visual than verbal means.

Throughout her emergence, Genie grasped her everyday experiences by relating them to images in magazines and books. When fear of the Riglers' pets was her greatest concern, she clipped photographs of similar cats and dogs and collected them, as though they had the magical protective qualities of voodoo dolls. When she saw a helmeted diver at Sea World, she did not calm down until she had got Curtiss back to the house and shown her a picture of the selfsame monster in *National Geographic*. Curtiss's early conjecture was that Genie had been programmed by a childhood that was almost devoid of event or society and was dominated instead by visual experience—an experience as static as a postcard. For her, the vision frozen in *National Geographic* may have been fully as alive as the one that moved at Sea World. Later, when investigations of Genie's brain unveiled the utter dominance of her "spatial" right hemisphere over her "linguistic" left, a more mechanical cause suggested itself.

Genie's progress was withal too slow to really be called steady, but progress she made, through some idiosyncratic landmarks. She learned to fantasize verbally, and she learned to manipulate, and in March of 1974 she combined the two skills and learned to tell an outright lie. She came home from school one day with a story about how her teacher's demands had made her cry. It was a fictional event, calculated to gain sympathy from Marilyn. Her use of language to relate past events posed the question of whether she would be able to put into words events that had happened before words were part of her world. Would she have any memories from that time? And how would they be encoded? The answer—part of it—came all too horribly. "Father hit big stick. Father is angry," Genie said one day. And on other occasions, "Father hit Genie big stick" and "Father take piece wood hit. Cry." The scientists were learning about that part of the child's life they had not known, and learning it, moreover, from the child. "We worked with her fear of her father," Rigler told me. "We kept assuring Genie that her father was dead and was not going to appear and punish her. We had a problem communicating to her the concept of death. She was always afraid that he would return. As she learned to talk more, a stock phrase became 'Father hit.' Hundreds of times. Thousands of times."

Typically, one of her worst revelations was wordless. One day she would not come when she was called, and Rigler found her in her room sitting before a magazine, paralyzed with fright. The magazine was open to a photograph of a wolf. Genie was too terrified to explain her weird behavior, so when the Riglers had the opportunity they questioned her mother. They recall Irene's explanation—that on the rare occasions when Clark had interacted with his daughter he had imitated a dog, barking and growling at her. Sometimes, Irene said, he would stand in the hallway outside her closed bedroom door and bark.

The psychologists and psychiatrists familiar with Genie's case remain haunted by this image, and I have asked several of them, "Why a dog?" The nearest thing to an explanation

was offered by Jay Shurley, who began by admitting his bafflement. "All I can think is that it had to do with Clark's appointing himself his daughter's guardian," he said. "Remember, he was going to protect Genie from the world, and at the same time he was punishing her with his protection. And people are often guarded by their dogs." He shrugged. "So he became a dog."

SINCE the November day in 1970 when Genie and her mother walked into the Los Angeles County welfare office, Irene had been a ghost in her daughter's life. She had never, perhaps, been much more—a blind, sad momentary presence from the world beyond the door. After the two escaped from their home, things had become better, and worse. It was not by any means merely an escape for Irene. If that had been all she was after, she could have escaped alone. But she confronted her husband and abducted her hostage daughter. If she had not had her daughter to take—had not had the obligation of setting right that blight on her life, worse even than the injustice of her own mistreatment—who knows, Irene might just have stayed at home.

Irene's belated heroism paid harsh dividends in the short term. "Heck, the first rattle out of the box there were headlines in the L.A. papers, and she was yanked into court," Jay Shurley said. "Her husband committed suicide. That was the first week. And then she lost control of the child."

Dismissed by the court, Irene returned to the house on Golden West Avenue. She spent the next five years travelling around greater Los Angeles, haunting the fringes of her daughter's celebrity. She visited Genie's various new homes and was introduced to her new extended family. Among the first people she met was James Kent, when she interrupted his initial session with Genie at Childrens Hospital. He described their introduction in his speech at the Hawaii A.P.A. symposium. "In the course of [Genie's play with a puppet], her mother and brother entered the room. She ignored her brother's greeting, moved quickly to her mother, and, pushing her face within a few inches of her mother's, peered at her without expression for a moment, then returned to the puppet play. . . . As we first observed it, Genie seemed less interested in her mother than in many of the other hospital staff. She would comply with her mother's requests to sit on her lap, but she remained stiff and aloof, and was noted at least once to have an angry outburst of scratching and spitting as soon as she could escape. Genie's mother seemed not to be aware of this notable lack of warmth; on the contrary, she remarked once after such an episode that Genie seemed to 'like me today.' "

Irene took to visiting the hospital twice a week, and as the visits went on they improved. "Genie's mother became more spontaneous and appropriate with Genie," Kent reported, "and Genie, as her relationship deepened with others, became more responsive and relaxed with her mother. Indeed, she began to look forward to the mother's visits with obvious delight."

The change was no accident. Kent credits the efforts of Vrinda Knapp, the hospital's chief psychiatric social worker, who began visiting Irene at home. Knapp's counselling of Irene was part of an attempt by the scientists to keep mother and child together. "We considered it important for Genie to have regular and frequent contact with her mother," Kent told me. "This was her only real link to her past, and we felt that it should be maintained."

The first battle the scientists had had to fight in that regard was keeping Irene out of jail. When she and Clark were indicted on child-abuse charges, Howard Hansen prevailed on a friend of his, a lawyer named John Miner, to attend the preliminary hearing on behalf of Childrens Hospital and argue in defense of Irene. Miner had recently retired as the head of the division of the Los Angeles District Attorney's office which handles child-abuse cases. Since 1964, he had also headed a Los Angeles County committee on the battered-child syndrome, which drafted the legislation that made child abuse a felony in California. Miner's involvement with Genie persisted after the disposition of Irene's case, and in April of 1972 he filed an application with the Juvenile Court to become Genie's legal guardian. An internal memo in the D.P.S.S. noted his concern. "His interest is motivated by his desire to safeguard [Genie's] part of her father's estate," it said. Miner explained to the regional D.P.S.S. bureau director that it would not be customary to become the guardian of a child's estate without also

becoming the guardian of the child.

The estate left by Clark was hardly sizable. In addition to the house on Golden West Avenue, it included about twenty thousand dollars, of which a third went to Irene and a third to each of his children. The court considered two affidavits: one from Irene consenting to the guardianship and one from Genie's "attending physician," Howard Hansen. "In said doctor's opinion," another Social Services memo said, "John Miner . . . would be a suitable guardian of [Genie's] estate and person." On May 18th, the guardianship was assigned, and Miner became the person legally charged with protecting Genie's interests—insuring, for example, that she was not exploited by the researchers at Childrens Hospital.

The convenience of it all did not at first seem dangerous. Letting a patient live with a doctor, a subject with a scientist, was, of course, somewhat unorthodox, but Genie's case was an unusual one. True, the men in control of Genie all knew each other, but at least they all knew each other to be reasonable and honorable men. And, best of all, the goals of research and therapy were seemingly in concert; why, then, should the boundary between them be sharply defined?

The first blurring of that boundary may have occurred with John Miner's presence at Irene's hearing; the hospital was, in effect, participating in a criminal case involving the family of one of its patients. By the time the Genie Team made the decision to rehabilitate Irene, the line was hardly discernible. Vrinda Knapp was instructed to glean from her counselling sessions with Irene a history of the family, and to relay that information to the scientists for their use. Many of the details in Hansen's paper at the A.P.A. convention, and much of what later appeared in Curtiss's dissertation, had been revealed by Irene to her therapist.

David and Marilyn Rigler sometimes drove Genie to Temple City on weekends, and those trips, too, were opportunities for observation. The Riglers frequently filmed Genie in their own home, eating, talking, playing; they also took a camera along to Golden West Avenue and filmed her with her mother.

David Rigler once showed me some of that film. Genie is at the kitchen

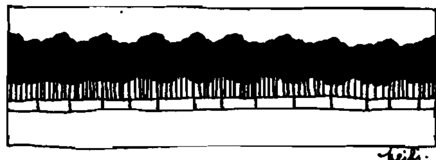
sink, beside her mother. Irene is working at the sink, her hair permed, her face a plain face, worn less with age than with worry. Genie flutters about her with a limby coquettishness, checking the counters and the refrigerator, occasionally coming to rest, like a butterfly alighting precariously, at her mother's side. In a fluty, urging voice she asks for cereal, but her mother says no, cereal isn't for lunch—they have chicken for lunch. As the camera follows, she leads Genie to the stove and lifts the lid on a large pot, so that Genie can see the chicken, and for a moment they are caught with their faces too close to the camera, frozen in grainy black and white. They are smiling. The mother's smile seems a little tight, but the child's is cheerful. When Genie walks off to a corner of the kitchen, the camera pans after her, and you can see her awkward hobble. She asks for orange juice, and for cereal again, and her high voice is all but lost in the roar through the kitchen window of the traffic on Golden West Avenue.

Irene's house had been rearranged and redecorated since the days of Genie's incarceration. "It looked very nice," Rigler told me, but other visitors found it depressing. The potty chair, at least, had been taken out back and burned. Although Irene had lived there for more than a decade before her escape, her new view of her own home was the first she had ever really had. In the summer of 1971, she had undergone an operation to remove her cataracts, and her failed eyesight was largely restored. Hansen and Knapp had arranged for her surgery; like her psychotherapy, it was provided free of charge. But anyone who expected gratitude was in for a disappointment. "Jim Kent, in particular, went to bat for doing things for Irene," Shurley told me. "I suppose Dr. Hansen did as well. Both were interested in converting her into a friend, but they didn't succeed."

It would have been a friendship across a great gap, as difficult to bridge as the chasm between Temple City and Laughlin Park. "Irene was quite looked down on, as the upper class can do toward the lower class," Shurley said. "It was a whole day's journey on public transportation for Irene to get back and forth from Childrens Hospital. She felt bad that she didn't have the right clothing—didn't have a dress to visit her daughter in the hospital. Irene commented to me about this fancy hospital that her daughter was in—how she could not have afforded it if she had had to foot the bill. Neither side had an appreciation of what life was like for the other. Irene was suspicious of the Riglers' intellectualism. And I never felt that Rigler, for his part, saw Irene as human, saw Clark as human. Rigler, Hansen, Kent—they came from environments where they had always lived well. For them, Irene was like something the cat dragged in, and that was a problem for them."

In the unacknowledged class war, the person with diplomatic immunity was Jean Butler Ruch. She and Floyd Ruch had married, and the couple had several homes and a yacht. "Nevertheless, I think Jean was more sensitive to that socio-economic stuff than Rigler was," Shurley said. "She knew how to keep her distance, respectfully, and she didn't use her wealth and position to dominate the situation. She gave Irene advice, didn't usurp, didn't invade."

As Irene's health improved and she became accustomed to her life as a widow, her affection for Jean Ruch grew, and so, apparently, did her distaste for the scientists who were studying her daughter. One day, after her eye operation, she was leaving the Rehabilitation Center with Genie and David Rigler. They were walking slowly, to accommodate Genie's characteristic shuffle, and, as Rigler recalls, "We got outside, and Irene looked at her daughter and looked at me and asked me, 'What have you done to her that she walks this way?'" Rigler was taken aback. "I don't think Genie's mother ever understood what her role in Genie's condition was," he told me, and he noted that this denial may have been a testament to the success of Irene's therapy. "I think the mother, after her counselling and rehabilitation, had a task of her own—to resolve this in her mind in a way that would allow her to live with it," he said. "Irene saw our presence as a reprimand, an indictment—as a reminder. And we were too busy congratulating ourselves on our benevolence to notice how much we were antagonizing her."



As 1972 became 1973, and 1973 turned into 1974, David Rigler must have been well pleased with Susan Curtiss's progress toward her doctorate. Except for the linguistic work pursued by her and Victoria Fromkin, precious little was coming out of the ambitious experiment of which he was the principal investigator. During her years as a resident in the Riglers' house, Genie had gone from being "the most promising case study of the twentieth century" to being, in Rigler's words, "perhaps one of the most tested children in history." She had not, however, turned into much of an oracle.

"At one point," Rigler told me, "I did a diagram of all the people from around the nation who were involved with researching and helping Genie, and it was a huge circle," and he spread his arms as wide as they would go. The researchers had produced reams of data. But the data piled up uncollated and unprocessed, the sheer volume an impediment to the drawing of any significant conclusions. A handful of papers had ensued, most of them recapitulations of Genie's horrific childhood, and none of them of much more abiding import than the paper David and Marilyn Rigler submitted to the Twentieth International Congress of Psychology, in Tokyo, in August of 1972. The paper was titled "Attenuation of Severe Phobia in a Historic Case of Extreme Psychosocial Deprivation." It detailed how, by the use of such devices as a sliding glass door, Genie had been introduced to Tori.

The N.I.M.H. found the lack of progress troubling. In a series of site visits, its grant overseers expressed their concerns to Rigler. Worried that the data were being collected in haphazard fashion, they suggested new tests to fill in gaps, and asked that others be readministered. In the fall of 1973, Rigler was given an extension and additional money for "developing an adequate research plan" and analyzing the research he had already done. A year later, with the extension running out, the N.I.M.H. deliberated on his application for a further two hundred and twenty-six thousand dollars to support the research for three more years.

Genie's progress was also being watched, from a greater remove and with a much more jaundiced eye, by Jean Butler Ruch, who gleaned reports of Genie's health and behavior from any available source. Convinced that Genie was not doing as well as advertised, she lobbied aggressively against Rigler, Hansen, and Curtiss with anyone in the scientific community who would listen.

Why did Rigler contend that Genie was acting appropriately in social situations, when she clearly was not, Ruch asked in her letter campaign. Why was Marilyn claiming credit for training Genie to set the table (by rewarding her with ten pennies each time), when Genie had already been a zealous table setter during her summer with Ruch, and before? Why, Ruch asked, did the Riglers say that Genie had arrived at their house unable to dress or clean herself, when the nurses had trained her to do all that at the Rehabilitation Center? Why were Rigler and Curtiss crowing that Genie was making three-word utterances by the end of her third year in Laughlin Park, when in the summer of 1971 she had been able to say "Foy big black car go ride" when she wanted Floyd Ruch to take her out to, for instance, the pet store, and "Bad orange fish—no eat—bad fish" in explaining why she had tossed her new pet goldfish out into the yard? Jean Ruch insisted that the Riglers had reset the chronology of Genie's progress to conceal the fact that Genie had declined in their care. "This sounds terribly self-serving," she wrote to one scientist, "but no one who saw her after her stay with us reports her ever as vibrant and active or acting and looking so 'near normal' as she was in our home."

Ruch charged that Rigler had inflated his original grant application with "imaginary consultants"—listing as collaborators eminent scientists who had done little more than poke their heads in while passing through. When I spoke to Rigler about this particular charge, he frankly admitted that he could not recall meeting one of the psychologists he had listed in the grant application as having spent two days with Genie; however, the listing of all these consultants could just as easily be ascribed to optimistic self-deception as to fraud. Ruch also accused Rigler of callous behavior toward Irene; he had, she said, insisted that Irene visit her daughter in fast-food restaurants and other such places rather than at the Rigler home, and he had refused to abet those meetings with any financial assistance, even though Irene was running through her inheritance and was sewing and selling dolls to make ends meet. "Considering that Rigler et al. went all over the USA, Hawaii, and Japan on Genie Funds, to not give a portion of their State foster-care food allotment to the mother was [viewed as] unforgivable by all who knew her financial problems," Ruch wrote. In her files she catalogued this particular item under the heading "Mother's Need vs. Rigler's Greed." The files were voluminous, running, by Ruch's count, to six thousand document pages. "She used the Freedom of Information Act to go to N.I.M.H. and get all the records of my research," Rigler told me. "And then she got furious when they notified me that she had been given the documents."

Through the error of an inexperienced clerk, Ruch was sent a seven-page paper that should not have been released to her—the grants committee's appraisal of Rigler's application for a new three-year grant. "The rule is that under the Freedom of Information Act you may buy only documents about projects which have been approved," Ruch gloated to one scientist. She characterized the committee's appraisal as "scathing."

The N.I.M.H. grants committee met to decide on its recommendations in September of 1974. A two-day site visit to Los Angeles had convinced the committee that "very little progress has been made" and that "the research goals projected probably will not be realized." Its report continued:

> The Committee feels that the proposed research plan is deficient in its own right and inappropriate for the special needs and circumstances of this unique case study. . . . The failure during the past year to implement the recommendations made by the Committee for which funds were made available . . . is disquieting. The Committee feels that this application is clearly lacking in scientific merit, and, therefore, unanimously recommends disapproval, requesting that its comments be conveyed to Dr. Rigler.

On the bright side, the committee expressed its opinion that the research had posed "no substantial risks to the individual who is the object of this proposal," and observed that "the therapeutic benefits to the subject have been and continue to be considerable." The

well-being of the "subject" was nonetheless a worry:

> The Committee is concerned about Genie's future welfare and how the consequences of disapproval will directly affect Genie. The Riglers have indicated that without support for their research project, they would probably have to terminate their foster relationship with Genie and leave her future care to the State of California. The Committee appreciates that Genie is properly a ward of California, not of N.I.M.H., and feels that the appropriation of research funds for Genie's maintenance outside of a research context would not be in her best interest or that of the Federal Government.

"There were some good reasons and some bad reasons for rejecting the grant," David Rigler told me. "But, essentially, they didn't understand. The study wasn't like most scientific studies. There were no controls. It's a study of a single case, and those are rare. They're anecdotal. They can't be done in the way of normal science. The people on the N.I.M.H. staff are involved with grants. I used to work with them, and I know what that means. There was pressure on me to be much more scientific in my approach. Measurements, that's what they wanted. Not that I didn't want to make measurements, but I didn't want to do so in ways that would be intrusive to the well-being of the kid. I was never able to satisfy people on the committee that I was doing this in the best way for science and for the child."

On June 4, 1975, Rigler addressed a letter to an administrator at Childrens Hospital summarizing Genie's progress over the past four and a half years. She was capable of some autonomy, he said, but she still needed substantial supervision. She could care for her hygiene and even prepare simple meals. Her self-destructive tantrums were less frequent. Rigler described Genie's performance on "a very large number of standardized and custom-designed tests, many of them [administered] repetitively over time," and added that, "the tests notwithstanding, Genie remains in some sense an enigma." She was still an emotionally disturbed child, he said, but there was hope. "At age 18, Genie has not stopped her process of achievement in any sphere," Rigler wrote, noting that she had "clearly established powerful emotional ties to both the foster mother and to her biological mother." He concluded by saying, "As you know, we are contemplating relinquishing Genie's foster care; however, we have a continuing wish to be of service to her in a new placement."

Before the month was out, Genie's bags were packed. She went home to Irene—to the house on Golden West Avenue in Temple City, where she had spent the bulk of a painful childhood and almost every weekend of the previous six months.

"After we gave her up, we were worried how the mother would take care of her," Rigler told me. "We have some money. We can afford babysitters and help. Irene was impoverished. So that first summer we made arrangements for Genie to go to summer school and, when that was over, to day camp. But the mother asked her 'Do you want to go to day camp?' and Genie said no. So she didn't go. She stayed home, and before long the mother was calling for help. Not to us, but to the protective services."

So Genie was moved again, in the fall of 1975, entering the first of five new foster homes. Now she was beyond the direct care of both her mother and the scientists; John Miner's legal guardianship, too, had ended, on the day she turned eighteen.

That she was in crisis was evident from her behavior. She seemed to be intentionally regressing. She closed up, depriving the world of whatever she thought it wanted. A barometer of her happiness had always been her bathroom habits. Her lifelong bowel problems had waned at Jean Butler's house and returned when she moved to the Riglers', only to improve again as she settled in. Now they resumed, forcefully, and the consequence showed just how full circle her life had come. During her childhood, a chronic constipation had been Genie's physical protest. At one point, Clark had tried to remedy his daughter's obstinacy by forcing her to down an entire bottle of castor oil. The overdose had landed her in a physician's office. That battle, as it turns out, was premonitory.

According to Rigler, "the lady running one of the foster homes was rather bizarre." He recalled visiting the home "from time to time," and counselling Genie in her regular outpatient visits to Childrens Hospital. "The woman was very rigid, and Genie had a powerfully strong will," he said. "Ultimately, the collision occurred over the issue of her toilet behavior. What happened in this home was that she became constipated, and

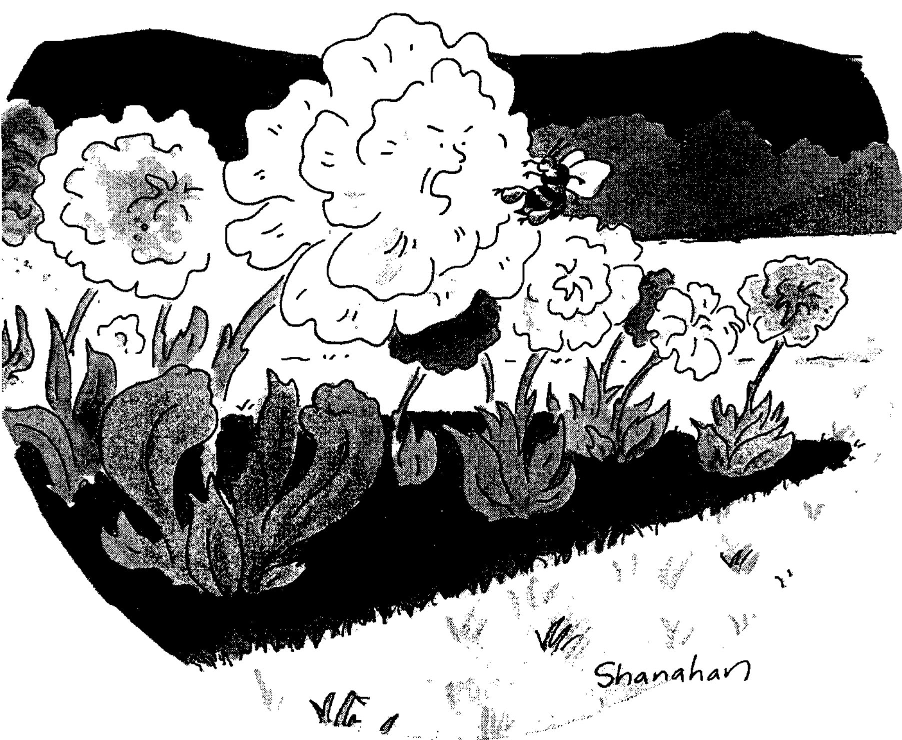
this got to the point where it was very painful. The woman tried to extract fecal material with an ice-cream stick. There was no injury. But she was traumatized."

Genie's reaction to the trauma, as the scientists interpreted it, was to up the ante. If the world would go to that extreme to invade her sovereignty over her body, she would deprive it of something else—something it had desired from her and rewarded her for. For five months, she didn't speak. "Genie wanted to have some control over her life, and she never did," Curtiss told me. "She never had any control whatsoever over what happened to her. The only way for her to control her life was to withhold feces or withhold speech, and so she did. It wasn't an attempt to quit communicating that made her quit speaking. She had had this terrible—a couple of terrible experiences. She had a fear of vomiting, and she had vomited a couple of times and been punished for it. And then—oh, this story is so terrible I can't tell you all of it—she was in one of her foster homes, and it was an abusive home, and they told her that if she vomited once more she would not ever get to see her mother again. She didn't know what she had done wrong, but she was afraid that if she opened her mouth she would vomit. But even during her elective mutism she wanted to communicate with certain people, and one of them was me, and, thank God, she'd been taught some sign language. She signed furiously to me, about how much she loved her mother and missed her—about everything. You could see her wanting to eat, but she would refuse to open her mouth. It was very labored eating. She would—" Curtiss twisted her face sidewise and looked up, like a fish eying a morsel of food on the surface of the water. "And then she would open quickly and gulp it. After not eating, and living with that abusive foster family, she ended up in the hospital."

Curtiss's notes from Genie's tenure in foster homes display the girl's longing. "I want live back Marilyn house," Genie said in November of 1975. In August of 1977, it was "Think about Mama love Genie." These notes were intended as records not of Genie's emotions but of her language ability, for Curtiss's pursuit of Genie was still in the name of linguistics. In 1977, she

was on neurolinguistics, and delved into the biological basis of Genie's language skills. Genie's inabilities bore out Lenneberg's theory, at least conditionally. She demonstrated that after puberty one could not learn language simply by being exposed to it. Her scatter was especially confirming. It divided the "learned" skills, such as vocabulary, from those said to be innate, such as syntax. Furthermore, the syntactic abilities, which both Chomsky and Lenneberg had predicted would be biologically determined, had indeed been constrained by Genie's biology—thwarted by her development.

It was a mischievous revelation. Though it appeared to affirm Chomsky, it could also be read as refuting him. If some parts of language were innate and others were provided by the environment, why would Genie's childhood hell have deprived her of only the innate parts? How could a child who lacked language because she had been shut away from her mother be proof of the contention that our mothers don't teach us language? Why should she be unable to gain precisely the syntax that Chomsky said she was born with? The problem was not peculiar to Genie's case. It was constitutional, an aspect of Chomskian thought that seemed, on the surface, paradoxical: if syntax is "innate," why must it be "acquired" at all?



"Get out of my face!"

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and Fromkin received a grant from the National Science Foundation, so they were able to continue their work irrespective of Rigler's fortunes with the N.I.M.H. They were now the only scientists funded to work with Genie. "None of the other research had panned out," Curtiss says.

FOR Curtiss, it was panning out on two fronts. She continued her testing of Genie, and at the same time she was compiling her doctoral thesis—summing up the Rigler years, sorting out all the things that Genie had learned to do from all that she had not. "She had very quickly developed a vocabulary, and put her vocabulary in strings to express complex ideas," Curtiss told me. "She was a very communicative person. But, despite trying, she never mastered the rules of grammar, never could use the little pieces—the word endings, for instance. She had a clear semantic ability but could not learn syntax. There was a tremendous unevenness, or scatter, in what she was able to do."

That scatter had been one of the initial curiosities of Genie's case; now the years of research had seasoned it into significance. "One of the interesting findings is that Genie's linguistic system did not develop all of a piece," Curtiss told me. "So grammar could be seen as distinct from the non-grammatical aspects of language, and also from other mental faculties. The hallmark of cognitive development in normal children is its multiplicity. Everything is going on at once. It's difficult to tell by observing the average child that acquiring language is a cognitive task separate from others, and full of discrete pieces. But we saw with Genie that these things could sprout independently, by means of different mechanisms."

When Curtiss says "mechanisms," she is not being abstract or metaphorical. She means not only psychological but physical mechanisms—structures in the brain. As Curtiss chased her quarry deeper into her dissertation, she chased it more and more in Eric Lenneberg's direction; her last chapter

The answer might lie in Genie's brain; perhaps she was not grasping grammar because she was using the wrong equipment. As early as the fall of 1971, Curtiss, Fromkin, and Stephen Krashen had begun doing neurolinguistic tests in the hope of finding out exactly what part of Genie's brain they had been talking to all those months, what part of Genie's brain had been talking back. The equipment search would have alarmed those early linguists who thought that seeking a biological center for something as ineffable as language was as futile a misadventure as looking for a center of the soul. Nevertheless, modern neurology has found concrete mechanisms for other incorporeal things—or, at least, found where those mechanisms reside. The ability to watch a baseball's flight and know where it will land inhabits the brain's right parietal lobe, above and behind the ear. Getting a joke, understanding a metaphor, and realizing that something is inappropriate to say

in a conversation are also talents of the right hemisphere. The right brain listens to music. Both hemispheres know the meanings of words. Mathematics, logic, and language—at least, the grammatical part of it—have a preference for the left hemisphere.

From the misfortunes of brain-damaged people, it is clear that language tasks are dispersed within their left-hemispheric home. Someone whose brain is injured above the left ear in a region called Wernicke's area may still be able to speak correctly, even glibly, but often there will be no discernible idea behind the voluble word strings. If the injury is forward of that, in Broca's area, the victim will struggle painfully toward expressing his thought, unable to form sentences. From the earliest observations of Genie, it appeared that her brain function was biased: the tasks she performed well were all right-brain tasks; the tasks she failed were all left-brain. Genie's response to tasks requiring an equal collaboration between hemispheres was frustrated and hesitant, with none of the quick confidence she displayed when thinking "right."

The dominance of one hemisphere or one lobe in any given task is never total. Both sides of the brain work on every task, but their collaborations are lopsided. How the tasks are divided depends on the individual. In the fine points of brain layout, we are each different from our neighbors. Genie's deviation, however, was extreme, and Curtiss wanted to know why.

Her opportunity was provided by another aspect of brain physiology. Each side of the brain controls the opposite side of the body. Unfortunately for neurolinguists, you cannot whisper to the left brain through the right ear without the right brain's overhearing you, because each ear is wired to both sides of the brain. The connection to the opposite side is stronger, however, and in one circumstance it has a near monopoly: when a sound is presented to the left ear at the same time that a different and competing sound is presented to the right ear, each ear reports almost exclusively to the opposite side of the brain. This oddity makes possible what is called the dichotic listening test. By playing different things simultaneously into each of Genie's ears, Curtiss was able to speak directly to each hemisphere of

her brain, and measure each hemisphere's response.

"What matters is the material the ear hears," Curtiss told me. "Language is handled better by the right ear, and environmental or musical sounds by the left ear. We played environmental sounds to Genie and checked her response. Each ear alone performed perfectly; both ears with the same sounds were O.K.; but when the two ears competed the left ear performed better. That's normal—but the degree of the asymmetry was not. Then we fed her words the same way." The results bore out long-standing suspicions. Genie's brain was processing language just as it did environmental sounds—on the right. The right brain was handling work usually done across the aisle. The real surprise lay in the degree of the imbalance. Normally, the dominance of one side over the other shows up in the dichotic listening test only as a subtle preference—nothing too pronounced. With Genie, it was pronounced.

Seeking to provide herself with a second opinion, Curtiss took Genie to the Brain Research Institute, on the U.C.L.A. campus. "We attached electrodes to her skull to read her brain waves as we showed her pictures or read her sentences," Curtiss told me. "First, we showed her faces. Her response pattern was parallel to the environmental-sounds test—that is, the right hemisphere showed a greater response than the left. Normal. Then we played sentences." The results, as before, were radical. Genie's performance was as lopsided as that of children whose left hemispheres have been surgically removed. She didn't seem to be using her left brain for language at all. When it came to its central function, her left brain appeared to be functionally dead.

"Why should this be so?" Curtiss asked, in a paper on language and cognition published in *Working Papers in Cognitive Linguistics* in 1981. She continued, "Genie's case suggests the possibility that normal cerebral organization may depend on language development occurring at the appropriate time." To the question "Why must we acquire what's innate?" Genie was suggesting an answer. Eric Lenneberg had claimed that the brain organized language learning. Now it seemed likely that some stimulus was needed to organize the brain. Curtiss had run her finger down the string of Genie's experience until she encountered the fabled, elusive knot—the tie between language and humanity. If Genie was any indication, we are physically formed by the influence of language. An essential part of our personal physical development is conferred on us by others, and comes in at the ear. The organization of our brain is as genetically ordained and as automatic as breathing, but, like breathing, it is initiated by the slap of a midwife, and the midwife is grammar.

A slap is all that's needed. "It seems to take a phenomenally small amount of input to trigger this special process," Helen Neville told me. Neville is a neuroscientist with the Salk Institute, in La Jolla. In Curtiss's 1981 paper, she cites experiments by Neville to corroborate her observations of Genie. In 1977 and 1978, Neville carried out experiments on deaf children who used American Sign Language. Such children have provided the armamentarium of modern linguistics with one of its most potent weapons. Their usefulness lies in their history. Even today, deafness in children is often misdiagnosed as retardation, and the children languish in misdirected programs. The best-intentioned families may feel that their deaf children would be better off learning to read the speaking world's lips rather than the hand signs of an insular culture. Thus, the deaf may have contact with A.S.L., their first bona-fide language, at two or at five or at fifteen years of age. Their plight has provided linguistics with a thousand Genies, and, far better, with Genies who have not been psychologically abused but only linguistically deprived. Neville found that the deaf who learned A.S.L. during childhood had left brains lateralized for language as well as for other tasks, but those who were deprived of sign language in their early years did not. Their brains were unformed. The midwife had not spanked the baby. "Relating Neville's data to Genie's case suggests that language development may be the crucial factor in hemispheric specialization," Curtiss wrote. "When [language] develops, it determines what else the language hemisphere will be specialized for. In its

absence, it prevents the language hemisphere from specializing for any higher cortical functions." The insight promised to redefine some basic intertwined ideas: What does it mean to say that something is a language? Language is a logic system so organically tuned to the mechanism of the human brain that it actually triggers the brain's growth. What are human beings? Beings whose brain development is responsive to and dependent on the receipt at the proper time of even a small sample of language.

In the light of all this, then, what was Genie?

CURTISS's best attempt to grapple with this question remains her doctoral thesis. It is the most significant published result of all the research on Genie—significant enough to be cited in virtually every current American textbook on basic linguistics, sociology, or psychology. In addition (something rare for a scientific thesis), it was picked up for publication as a book. "Genie: A Psycholinguistic Study of a Modern-Day 'Wild Child' " was published by Academic Press, in mid-1977. Besides sporting hard covers, it differed from the dissertation in having a dedication page, which read "To Genie," and a frontispiece, which was a pencil drawing of a smiling person with curly hair and big ears holding a small figure in its left arm. Curtiss's caption for this drawing read, in part:

> Early in 1977, filled with loneliness and longing, Genie drew this picture. At first she drew only the picture of her mother and then labeled it "I miss Mama." She then suddenly began to draw more. The moment she finished she took my hand, placed it next to what she had just drawn, motioning me to write, and said "Baby Genie." Then she pointed under her drawing and said, "Mama hand." I dictated all the letters. Satisfied, she sat back and stared at the picture. There she was, a baby in her mother's arms. She had created her own reality.

Irene's response to Curtiss's dissertation was apparently instantaneous. She disliked it even before she had opened it. "When I saw the title of the book, I felt hurt," she wrote. "My daughter . . . classified as a 'wild child.' " Her rebuttal was handwritten on lined loose-leaf paper and was addressed "To Sam"—R. Samuel Paz, a lawyer in Alhambra. It became Exhibit B in the long season that was about to ensue. Exhibit A was the dissertation itself.

Irene was especially incensed at Curtiss's opening chapter, which recounted Irene's life with Clark and the dreadful tribulations of their children. Irene's letter (in it, she calls her daughter by her real name, which I have replaced) quibbled with much of that description. She wrote:

> I was not frequently beaten. 2 times in the last year.
> He did try 1 time to kill me. . . .
> Genie was never forgotten and I did the best I could in taking care of her. . . .
> It depended on the weather to what she wore while sitting on the potty chair. She was able to move her arms, legs, bend forward and to the sides.
> [Curtiss] writes as though Genie stayed all the time on the potty chair.
> Genie was never forgotten.
> Genie was able to move her arms when she had her sleeping bag on. It was not a straitjacket. It was an oversize infant's crib with wire screen around sides. There was a wire screen top but I never used it. . . .
> Genie did hear speech.
> Our home is very small. . . .
> She could hear the traffic noise from street.
> She heard the neighbors next door coming and going. . . .
> She heard airplanes, birds, neighbors, traffic noises.
> Genie was not forgotten.
> Her father did not beat her.
> The paddle was not left in Genie's room.
> Her father did talk to her.
> Once in a while he did bark at her to distract her making noise without opening door.
> He never barked at her face to face.
> He talked to her.
> He did not scratch her. . . . He did not beat Genie.
> He did not stand outside of her room and bark and growl at her. . . .
> There was a chest of drawers, a chair, a folding bed, 2 large trunks, window shades, and curtains. Oversize baby bed. Potty chair.

Irene's official complaint was not about inaccuracies. It was, rather, the opposite—that depictions as detailed as those related by Curtiss, and by other scientists in various papers and speeches, could only have been pilfered from Irene's own privileged conversations with her therapist, Vrinda Knapp, and with Knapp's supervisor, Howard Hansen. In October, 1979, Irene filed suit in Superior Court against Hansen, Knapp, David Rigler, James Kent, Susan Curtiss, and Childrens Hospital, accusing them of multiple infractions of patient-therapist and patient-physician confidentiality. The defendants had, the suit claimed, "exposed, revealed, and published to the public . . . personal, confidential, and intimate details of the years of imprisonment, suffering, isolation, abuse, and torture" suffered by Irene and

Genie. That wasn't all, or even the worst. The fourth of five causes of action in the suit accused the scientists of subjecting Genie to "extreme, unreasonable, and outrageous intensive testing, experimentation, and observation" under "conditions of duress and servitude"—in short, of performing unethical human experimentation. The remaining cause of action faulted John Miner, Genie's guardian from 1972 to 1975, for not protecting her from harm. Irene asked for both compensatory and punitive damages.

"The suit was right out of the blue," Rigler says. "One Sunday morning, we got a call from a friend who said, 'Did you know your name is in the paper?' So we got the L.A. *Times*, and that's how we learned we were being sued. And it had Genie's real name, and we'd been so careful all those years to keep that away from the public."

The debacle had been brewing. In 1975, when Miner lost guardianship, Irene took receipt of the guardianship papers chronicling Genie's career, and a full awareness dawned on her of just what her daughter had been living through. And in 1978 she had had to defend Genie's estate against a claim filed by Miner and David Rigler; Rigler was requesting compensation for therapy given to Genie in the first six months of 1975, after the N.I.M.H. grant had run out and before Genie had left the Rigler home. Irene's lawyers objected that Rigler had no documentation of the therapy sessions and only an inexact memory of them, and that he had not presented Miner with an itemized bill. The judge agreed that Rigler had benefitted from "substantial sums" paid out by the N.I.M.H., and from the foster-home subsidy from the county, but he praised the Riglers' role in Genie's rehabilitation. Noting that the forty-five-hundred-dollar claim would "virtually exhaust the estate," he awarded the petitioners thirty-one hundred dollars, including six hundred dollars to cover legal fees.

Nevertheless, the biggest provocation for Irene remained Curtiss's book, according to Samuel Paz, who along with another attorney, Louise Monaco, represented Irene in her suit against the scientists. Paz was well prepared for the issues in the case, scientific as well as legal. As an undergraduate at U.C.L.A., he had majored in psychology and had trod some of the same intellectual hallways as Victoria Fromkin and Susan Curtiss. "At one point, I went through Curtiss's book and tallied up the experimenting that was done," he told me. "The intensity and frequency of sessions was high. There were other research papers, too, and if you look through them you will get a good idea of what Genie had to endure. She was on a testing regimen, at one point, of sixty or seventy hours a week. The response when we asked the researchers about this was that it was fun—that Genie thought of most of this as a game." The case provided plenty of other fuel for outrage. In one early deposition, Howard Hansen stated that the records of Irene's psychotherapy, which contained information so sensitive that they were not allowed out of the psychiatric ward, were lost entirely, gone without a trace.

However amply inspired, the suit was remarkably adventurous, coming from a woman who was described even by her lawyers as a timid individual. David Rigler remembers the moment when the mystery was made clear to him, the hidden hand revealed. "When I gave my deposition, Irene's lawyer had a copy of Curtiss's dissertation marked up, with passages underlined that were supposedly slanderous of Irene," he told me. "I asked if I could see the book, and he handed it to me, and the front cover fell open, and the name written inside was Jean Butler Ruch."

In the eight years that Jean Ruch had been Rigler's antagonist within the scientific community, he had had no suspicion of her growing association with Irene. By Ruch's account, that association had suffered a hiatus of four years, after Irene called her one afternoon to cancel a meeting, saying that Rigler had forbidden her to see Ruch under penalty of losing visitation rights with her daughter. When the guardianship was no longer controlled by John Miner, the mother and the schoolteacher were emboldened to find in their common antipathies the grounds for an alliance.

"Ruch stayed in the shadows, but she was constantly chiding Irene—putting a bug in her ear that the

scientists were overreaching," Paz told me. "Her involvement seemed to be the catalyst. My own assessment is that Irene was very passive, that she would never have done this on her own. When she called me, I felt that I wasn't really talking with her but with Mrs. Ruch. She wouldn't sound like herself, she would be very assertive. 'I want to do this!' or 'I know what's going on!' I didn't get the feeling that I was dealing only with Irene."

In length as well as rancor, the court case proved epic: the process of discovery, deposition, hearing, and judgment stretched out over five years. The longer it dragged on, the stronger grew the suspicion on the part of Irene's lawyers that they were contesting marshy ground. The same endless recitation of test procedures and test results which had given rise to the charges of human experimentation made a mockery of the notion that Curtiss had intended her dissertation as a potboiler—had exploited Genie's sad past for the sake of profit. Early in the proceedings, Curtiss had offered a compromise. Paz and Monaco recommended to Irene that she accept it. "We got to the point of settling the case in what I thought were the just interests of Genie," Paz said. "Curtiss had proposed putting into Genie's trust fund money that came from profits on her dissertation or any other scientific work based on Genie. But Irene was prodded by Jean Ruch to decline that offer. Ruch thought that it was unsatisfactory—that Irene should receive a lot of money. But the privacy issues related to Irene just weren't that strong. She had become a public figure."

Faced with Irene's intransigence, Paz and Monaco withdrew from the case. It was to be decided in chambers, and Irene went before the judge representing herself. It was now 1984, and the principal characters were subtly (or not so subtly) changed from those who had been there at the start. Floyd Ruch had died, leaving Jean a widow. Susan Curtiss, now Dr. Curtiss, had married and had given birth to her first child. Paz had become the president of the Los Angeles A.C.L.U. Owing to "economic exigencies," Childrens Hospital had undergone something of a reorganization: James Kent had moved to Children's Institute International, a child-abuse treatment center, and David Rigler, whose position had been eliminated, had opened a small private practice in Northern California.

The complaint was essentially dismissed—or, rather, upheld, in a Tom Sawyerish bit of jurisprudence. The things that Curtiss had wanted to do with Genie she was now instructed to do by the Court. She agreed to direct a program for Genie of linguistic, neurolinguistic, and neuropsychological evaluation and language instruction. Childrens Hospital was enjoined to give Genie yearly physical and psychiatric evaluations. To fulfill such obligations, Curtiss and the other defendants had full access to and use of Genie's records, and were granted the use of Genie's family history in scientific publications and speeches as long as they observed certain modest proprieties and donated any income to Genie's trust fund. As a first step in that direction, Curtiss relinquished $8,383.79, her royalties to date. No other financial penalties were imposed.

Irene's anger overrode the settlement's condition that she not deprive the scientists of access to her daughter. She hid Genie away. Genie currently lives in a home for retarded adults, and visits her mother on one weekend each month. With the exception of Jay Shurley, none of the scientists have seen her. They do not know where she is, nor, except for rumors, have they heard how she is doing. In 1987, Irene sold the house on Golden West Avenue. She left—for the scientists, at least—no forwarding address.

NOT long ago, I paid a visit to David and Marilyn Rigler in their new home, a pretty, two-story frame house on the Northern California coast. The house was smaller than their previous one, but it didn't need to accommodate the life they had led in Laughlin Park: the children were grown, the Steinway was sold, and Tori's ashes were spread beyond a windbreak of eucalyptus in a field across the road. Genie remained only in a voluminous collection of reports, films, drawings, and photographs squirrelled away in the back of the Riglers' garage.

When I asked David Rigler about the claim he had brought against Genie's estate in 1978, he looked uncomfortable and forlorn.

"I didn't do that for the money," he said. "I never had funds in mind when I took Genie in." His memory of the

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claim was both fragmented and adamant. It had been Miner's idea, and not his, he said. He had never seen any money from it. He didn't know if Miner had received the money. And anyway they had intended to put any money they received into a trust fund for Genie.

We were sitting in his office, a downstairs room so strewn with papers, books, old tape recorders, and film projectors that it seemed more the reliquary of a career than a place where one might still be carried on. There was a cloth-covered couch and a gray metal desk, and on the wall, amid the diplomas and citations, a print that seemed an odd choice to grace the office of a therapist. It was the optical illusion by M. C. Escher of an endless circular stairway going nowhere.

Rigler was in his late sixties, burly, gray-haired, and marked by an air of gentle domesticity and an expression of earnest and distracted kindliness. He described his feeling about the telling of Genie's story as "discomfort" and, later, as "dread." But to the degree that he was not reticent he was often confessional. Though he was too jealous of his documents cache to let me peruse it, he made repeated trips to the mysterious garage to drag out paper after video after drawing.

"Understand," he said. "No one ever came to me and said, 'Dave, you should be doing X, Y, and Z'—except for Jay Shurley, who came in with a philosophical point of view. From his work with isolation cases, he said, 'You've got to let up on the pressure gradually, as though you had someone with the bends and you were bringing them to the surface. Let her come out a little at a time.' That had an impact on me. It was a useful notion. I don't think Shurley ever understood how much I tried to use his ideas."

Rigler stared at his hands awhile. "But it's one thing to come up with theories, and another to figure out what to do at breakfast," he said. "Someone had to meet the demands of research, and someone had to meet Genie's therapeutic needs, and I had both roles. And I was always aware that it was tricky mixing the two. I had a lot of ambivalence about it, at times. But in terms of the way we treated Genie—the things we did—I think we did about as good a job as anyone could have done. As far as the complexities of the case went, I wish they hadn't been there. In my hopes, I was blind to the complexities. They inhibited me from working right. There was no way of getting informed consent here, which has become a byword in human research. Genie never gave any indication that the filming or other activities were an imposition. If she had, we would have cut them out. Occasionally, we would get signs that she was stressed by the testing. But it's just like children's anxiety when they go to school for the first time: when they come home, they're very proud of themselves. Genie had a sense of triumph at doing many things for the first time. People don't grow when they're wrapped in cotton wool. They grow when they confront the world. The negative interpretations of the case are oversimplified, from my point of view. My own position—if I can psychoanalyze myself—was not one of expectation but of hope. The sky was not high enough for my hopes, but my expectations were down to earth. One easy out would have been for me to say early on that I would be much less involved. If I'd known what the outcome would be, I wouldn't have touched it—the outcome in general, and for me."

Other members of the Genie Team feel as bruised as Rigler does. They have imposed what amounts to a gag order on themselves and speak of the case reluctantly. As a result, a prominent piece of science has been forced into the shadows. Nevertheless, the research on Genie has proved its utility. "Genie was one of the first times scientists had used a case of an atypical child to understand the typical," Curtiss told me one evening recently, as we sat talking at her kitchen table. "During the Genie research, a lot of other projects of that sort started." Curtiss's house was a modest clapboard bungalow a few blocks from the Santa Monica Freeway, in the vast Los Angeles flatland. The soupçon of yard outside would not have accommodated a vol-

leyball game. Her husband, John, had lured their two young daughters away to leave us alone to talk, and the drone of a television sitcom and an occasional fit of giggles escaped from the living room.

Curtiss is currently studying children who have had diseased or damaged halves of their brains removed. What Genie suffered functionally, they have suffered physically. "I want to know to what extent hemispherectomied children can acquire grammar," Curtiss said. "The question is, how well can the right hemisphere do in supporting grammar functions? Is the left hemisphere essential?"

I recalled that this was a woman who had said of her younger self that hospitals were not her strong point—a woman of whom Jean Butler had said that she did not respond well to children. But watching her with her daughters and with her hemispherectomied subjects, I saw that children draw an easy, playful kindness from her. Curtiss is, in any case, a person of unsuspected softnesses. She had told me firmly when we first met that she would talk only about science—that her personal history with Genie was out of bounds. But at the end of that interview, and of each thereafter, she violated her own restriction and, without prompting, spoke movingly of her feelings for the child she had investigated. "I developed a need for her," Curtiss would say. "I missed her when she wasn't in my life."

Over a meal and dessert, and now over uncleared dishes, Curtiss and I had concluded our final hour of syntax and semantics, critical periods and hemispherectomies. As I folded up a notebook and put away a pencil, she veered again out of the confident realm of research and into that forbidden personal room. There was desolation in her voice. "I would pay a lot of money to see her," she said. "I would do a lot. I haven't heard from her in years. And I've heard only two reports. The last one was that she was speaking very little, that she was withdrawn, depressed. Genie was very lovable. She was beautiful. When John and I first met, I would tell him about her, and he would say, 'Stop! Stop! You're building this person up so much that if I meet her I'll be disillusioned. No one can be that wonderful.' Then he met her, and when we left he said, 'My God! Why didn't you tell me?' "

Curtiss's older daughter pirouetted into the kitchen to show us her sunglasses. The earpieces were gone, and the lenses, perched on her nose, were heart-shaped. She leaned into her mother, and Curtiss put an arm around her shoulder, but her mind was elsewhere, and the little girl skittered back to the living room.

"What is it that language can do for a person?" Curtiss asked. "It allows us to cognize, to think, and that's important to me, because I'm that type of person. It also allows us to share ourselves with others—our ideas and thoughts. And that provides a huge part of what I consider to be human in my existence. Genie learned how to encode concepts through words. She used language as a tool: she could label things, ideas, emotions. It afforded her a completely new way to interact with her world. If I had to choose the pieces of language that would serve me best in being human, they would be the parts Genie had. It was from her we learned of her past. She told us of her feelings. She shared her heart and mind. From that perspective, who cares about grammar? Acquiring those parts of language didn't cure her. She's unbearably disturbed. But it allowed her to share herself with others. For years after I was not permitted to see her again, I would wonder about what I would say to her if I saw her. Not just how would I react—I know I would give her a hug—but what I would say. She is the most powerful, most inspiring person I've ever met. I'd give up my job, I'd change careers, to see her again. I worked with her, and I knew her as a friend. And, of the two, the important thing was getting to know her. I would give up the rest to know her again."

AFTER the death of her husband, in 1982, Jean Butler Ruch continued to live in a beach house they had bought in Santa Monica. On visits there with her mother, Genie would stand inside the sliding glass doors, her hands held up before her in her persisting bunny posture, and watch the waves that had once so frightened and delighted her. Ruch's letter writing continued; the campaign culminated in her plans to write a book with Jay Shurley, setting the record straight. ("I was bent on revelation," Shurley says. "She was bent on revenge.") The project was cut short in

1986 by a stroke—the result of vasculitis, which Ruch had suffered since childhood. It left her aphasic, unable to speak coherently; believers in fate might have found her final torment a tragic irony. In 1989, a further stroke killed her.

One late-spring day, I went to see Shurley. His study is an aluminum-sided sun porch tacked on to the back of his home in Oklahoma City. Through the open doorway leading to the back yard I could hear the tinkling of wind chimes, and the constant chirping of finches in the silver maples.

Shurley had unearthed for my benefit two cartons filled with manila folders and set them on his desk. They were his Genie files. As he talked with me during the next several days, he would dip into the boxes for letters, symposium papers, the scribbled logs of phone conversations he had had with Rigler, Ruch, Kent, and Hansen almost twenty years before. There was a file marked "Sleep Spindles" in one of the boxes, but by and large what he had preserved in his cardboard repository was not the science of Genie but the experience. The question that tormented him lay somewhere beyond the data.

"Here," Shurley said, reaching into a carton. The files were labelled "Genie Emerges" and "Jean's Input" and "Genie Book" (in the outline of which Genie's life was divided into Genesis and Exodus). He pulled out one labelled "Photos."

The first picture he handed me was of a nondescript house, seen from across a street through a picket of royal palms. Pages of a newspaper blow across a yard through the cold gray shade of a lemon tree. A second photograph was of the same house, but it was taken from the drive, where Irene stands in a plaid skirt and holds a cloth purse tight against her smooth yellow cardigan, as though expecting a sudden chill. It is the day, soon after her acquittal, when the house was first opened for inspection by curious strangers.

"Irene had all the instincts of motherhood, to my mind," Shurley said. "And she was very thwarted, and she was very weak. Only after a long period of befriending by Jean Ruch was Irene able to stand up and reassert herself. I remember some years ago, when she was living in almost abject poverty, one of the big networks—maybe overseas—came along and offered her ten thousand dollars for the story, and put all these documents in front of her, and she told them firmly 'No.' I was there at the time—at least, I was in Los Angeles and talking with her—and I was amazed at the strength of her fear, or the strength of her conviction."

Shurley set the pictures of the house aside and drew a rectangle on a piece of notebook paper. He divided it up into smaller rectangles. "Here is the room they said was a shrine to Clark's mother," he said. "It was the master bedroom, and it was almost completely filled with the bed. It wasn't very large. Here's the living room, and there was a chair here, and the television, which didn't work. Clark slept in the chair most of the time. He slept there, and here is the pallet where his son slept, on the floor." He drew a square in the corner for Genie's room. "She had a window here, and another around the corner, over here. The dresser was here, between them, and here is where she slept." He drew a small rectangle and labelled it "CRIB."

"And here is the potty chair," he said. "Sometimes it was over here." Shurley looked up and then back, and drew a yard around Genie's house, with a driveway and a lemon tree.

The next several photographs were taken on that same winter day, but they were taken inside, in Genie's room. The room was dim. Here were the closet doors—three plywood panels with chrome pull handles. The dresser was pine and had four drawers. And here were the two windows, the upper half of each covered by a shade. Yellowish half-curtains draped the lower halves, their fabric thin and patterned with red flowers. One window's curtain had been pulled back and was fastened to the wall with packaging tape. "Genie's room was not sensory deprivation so much as sensory monotony," Shurley said. "Monotony. You know, variety is not the spice of life; it's the very stuff of life. To the development of a defensible, adaptable ego, monotony is deadly. In that little room, a person would project internal images, not absorb outside ones, and would become confused about what was real and what was imagined—would lose the ability to differentiate between dream and waking. Socially isolated children usually have psychotic parents who treat them as animals. There is no encouragement of any human closeness. It is typical for them to be locked in a closet—it isn't rare. There was a boy here in Oklahoma City recently who was four years old, and his parents were keeping him penned with the dogs in back of the house. He walked on all fours. Genie remains by a good bit the kingpin of these cases. She has the record. Though it's not a record that anyone would envy."

The next photograph had been taken half a year later. It was summer, and Genie was sitting on a floor, laughing and alert. A note on the back of the photograph read, "This photo was taken about three days after she came to stay with me (she has hospital p.j.s on)." The note is in Jean Ruch's hand. "The ability of that little girl to elicit emotion on the part of the observer was fantastic," Shurley said. "You had to witness it. Just hearing about it would be orders of magnitude from the actual experience. Jean and Floyd Ruch, they were almost obsessed with this child. Jean really did latch on to Genie in the early days, and it was reciprocated. Jean, of course, had never had a child of her own. Rigler had three and felt that experience was on his side. But after I got to know Jean I didn't see anything to suggest that she wouldn't be a good foster parent. She was the teacher, and had developed a very positive relationship with Genie within a couple of weeks. I never found the Riglers to be that warm or empathetic with her. At their house, it was as though Genie were being studied in a cold frame rather than in a hothouse. I understand some of Rigler's feelings about Jean Ruch. She had a very interesting paradoxical streak: she could be extraordinarily kind and sensitive to children—and she was, as teacher to some very disabled and sick children—and then she was capable of doing malicious and, I'll say, sadistic things, not to the children but to those who she felt were in disagreement with her about how the children should be treated. But to several of us, it seemed a pity that Genie could not be with someone like Ruch, who would bond to her as a person and not as a scientific case. Be-

sides, I tend to go with the child. If the child says, 'I like this person,' there's something real there that a child can latch on to. To adults there may be things that don't seem right, that cause concern. But the child's instinct is usually right on the issue that's most important."

There were a few other photographs from the summer of 1971: Genie at an art gallery, stepping into a patch of bright sun in a smart maroon dress with a white collar and big white pockets; Genie in a swimsuit at the beach, concentrating with apparent delight as a receding wave washes around her feet, and holding her hand up in the O.K. sign, the tip of the forefinger joined to the tip of the thumb.

The last two photographs were of someone else, or so I thought: a large, bumbling woman with a facial expression of cowlike incomprehension. In one picture, the woman sits in a car pretending to drive, her eyes at half mast, her front teeth protruding in a drawn grin, a starburst reflection of palm tops floating in the windshield glass. In the second, the woman is indoors. She is about to cut a birthday cake with white frosting. Her eyes focus poorly on the cake. Her dark hair has been hacked off raggedly at the top of her forehead, giving her the aspect of an asylum inmate. Something about her dress is sad and reminiscent: it is shapeless and has red flowers. Her right hand grips the cake knife, and her left hand is held in front of her, forefinger touching thumb.

Shurley watched grimly as my recognition dawned. "Her twenty-seventh birthday party," he said. "I was there, and then I saw her again when she was twenty-nine, and she still looked miserable. She looked to me like a chronically institutionalized person. It was heartbreaking." A note by Shurley on the back of the photograph read, "Genie is very stooped and rarely makes eye contact. This photo was at her happiest, other than when momentarily greeting her mother and me an hour earlier."

As I turned the photograph back over, my association with the dress came clear to me. "Irene sewed it," Shurley told me. "She'd been a master seamstress before her eyesight went." The dress, its thin weight and floral pattern, reminded me of the curtains in the little room.

"What do you make of her expression?" I asked Shurley.

"What do I make of it?" he said. "She looks demented." He paused, and then spoke intensely, as though he were at the center of something. "The way I think of Genie, she was this isolated person, incarcerated for all those years, and then she emerged and lived in a more reasonable world for a while, and responded to this world, and then the door was shut and she withdrew again and her soul was sick." Without looking away from my face, he pointed to the photograph of the woman in the car. "This is soul sickness," he said. "There is no medical explanation for her decline into what appears to be organic, biological dementia."

For a while, Shurley seemed disinclined to speak, and we listened to the finches in the yard. Then he said, "At the time that Genie came to light, I went back to try to find, anywhere I could, any kind of directions. Anything that said, 'In case of tornado do this, in case of earthquake do this, and in case of an experiment in nature do this.' I found it nowhere. There's nothing of the sort. But from my experience the research with Genie could not have been handled worse. The process went off track from the day it was conceived. It went, after a little while, a hundred and eighty degrees from the direction it ought to have taken. There is a fundamental issue here that nobody has grasped. The key issue—I believe now, very strongly, in terms of my own experiences with isolation in many different contexts—is not the acute effects of the isolation. It is the problem of reëntry into the matrix from which the child has been isolated. Isolation places one's own readiness to react in a kind of cold storage. Imagine using a muscle that has been in a cast, or a sling. Once you take the encumbrance off, the muscle has to retrain itself. It's suffering from atrophy, from disuse. Rehabilitation involves figuring out how you allow the strength back without rupturing anything.

"We're born helpless. We are born into the world with no boundary between self and not-self. We spend the first twenty years of our life establishing that boundary. Children who are so abused, deprived, are losing that battle by the age of three or four. I felt

that Genie was one of those—a little girl with no sense of herself as a separate, inviolable entity. I wanted Genie to come into the world as a core ego, capable of trust and mistrust. Proper reëntry is a key ingredient in treatment and in research. A proper reëntry is not one preëmpted by scientific exploitation gone wild.

"A child needs more than approval. She needs a sense of security, safety—the absolute conviction that she is worthwhile. Well, Genie grew up in a house where the father didn't like himself and the mother didn't like herself and no one liked Genie. And later she was a celebrity. All these people looking at this extremely primitive child—this larval child. In this six-year-old body, a thirteen-year-old girl. Talk about a weird kid: Genie was a weird kid. And that's how she was treated by everyone—as a weird kid: 'What do you do with a poor, weird kid like that?' Genie was viewed as a child views feces—first as a treasure, then as shit, in Anglo-Saxon terms. And, really, what did Genie, taken apart, have to offer the world? Except for her unique early-life development, not much. Not much.

"Genie's problem was seen too much as a pedagogical one, not an emotional one. We tried to teach her language. Well, I don't know. There's a problem. In Linnaeus' classification, *Homo sapiens* is known as *cultura*, not as *lingua*. Our advancements take place in a relationship. In order for an infant to learn anything—and this takes you back to Victor, the Wild Boy of Aveyron—there has to be a relationship in which the child gets enough nurturance to proceed. Affective attachment plays the primary role. It is not an intellectual process. Intellect rides on the back of affective bonding. And affection's not easy to come by. Human beings have a unique talent not only for cruelty but for indifference. Compassion was not referred to by the Enlightenment philosophers as the essential or defining characteristic of humankind. It's something in our nature that must be taught."

Shurley waved a hand dismissively. "This is old stuff," he said. "I resolved that if I lived long enough I would do a case study that would show how things should be approached in cases like this. These experiments come along. Victor in 1800. Kaspar Hauser in the eighteen-twenties, I believe. Genie in 1970. None of the wild children have been handled well. All of them were handled the way Genie was. She *could* have been handled well. She would have been a disappointment in some ways, but the outcome would have been happier. Genie arrived at the hospital, and within the first couple of months she became hungry. She came out of an environment that was unfriendly but consistent. Now she was in a new environment, with noise and other kids. A hospital is an overstimulating place. The problem was how to get her out of it and into a home. But she went from one home to another. More noise. She went from famine to feast. Her response was not to take that feast. She was overwhelmed. This is part of the emergence thing. She was enormously starved, but the starvation was so chronic, so long-lasting, that she didn't trust her world to give her what she wanted. She was afraid that part of what she would be given would be toxic to her. As it turns out, she was right. These were not bad people. They just didn't allow this child to develop along normal lines. The course of research defeated the treatment, which defeated the research. The science would have fared better if the human aspect had been put first. We probably would have learned a lot more, and what we learned would have been transferrable to other cases. The only generalization you can get from this is as a bad example—an example of how not to do it.

"What I saw happen with Genie was a pretty crass form of exploitation. I had to realize that I was a part of it, and swear to refrain. It turned out that Genie, who had been so terribly abused, was exploited all over again. She was exploited extrafamilially just as she was exploited intrafamilially—just by a different cast of characters, of which I'm sorry to say I was one. As far as Genie is concerned, it's a fated case. You have a second chance in a situation like that—a chance to rescue the child. But you don't get a third chance, and that's the situation now. We can't do the experiment over. We can't go back. And that's the bitterness."

—RUSS RYMER

(*This is the second part of a two-part article.*)