



Andrew Wilkowske signs "Lucy's vocabulary" in the world premiere production of *Lucy*. Photo by Erik Pearson.

## FAMILY VALUES

### ADVENTURES WITH OUR CLOSEST BIOLOGICAL RELATIVES

In the 1960s, psychotherapist and chimpanzee breeder Dr. William Lemmon began a series of experiments out of his Institute for Primate Studies in Norman, Oklahoma. Lucy, adopted by Maurice and Jane Temerlin in 1964, was one of a number of infant chimps sent to live in species isolation with Lemmon's students, patients and colleagues.

The caretakers' humorous anecdotes about their adopted children's antics reveal something about the environments in which the chimps were raised. Nim Chimpsky, who lived in a brownstone on West 78<sup>th</sup> Street for the first year of his life, later learned to sign "stone" "smoke" "now" when he wanted to unwind with his caretakers. Lucy demonstrated her dexterity by locking Temerlin out of the house — while he was doing yoga in the nude on the porch. Signing up for the "cross-fostering" experiment required a certain sense of adventure and a certain disregard for conventional values; the presence of a chimpanzee inevitably intensified the charged atmosphere that already existed in these households. Marriages cracked open — and often stayed that way. A typical chimp placement lasted scarcely a year.

While it may be true that prospective parents never really know what they are getting into, the participants in the "cross-fostering" experiments of the 1960s and 1970s seemed particularly innocent of reality. Looking at his "adorable newborn daughter," wrote Temerlin, "I never realized that in eight to ten years she would weigh one hundred pounds and be five to seven times as strong as I was."

At the heart of the various placements were questions about what makes us human. Could chimps — who share more than 98% of our genetic material — become even more "human" when immersed in an enriched environment? Jane Goodall had already observed chimps making and using tools in the wild. For many scientists, language was the final frontier. Early experiments had failed: in 1931, Winthrop and Luella Kellogg raised Gua side-by-side with their infant son and attempted to teach her to speak by manipulating her mouth; almost two decades later, Keith and Catherine Hayes took a similar (and equally unsuccessful) approach with Viki. Recognizing that chimpanzees' vocal apparatus simply isn't set up for a sophisticated spoken language, Beatrix and Allen Gardner proposed that chimps might learn to master a different kind of language, and in 1966, Washoe, working with Roger Fouts, became the first chimp to use American Sign Language (ASL).

In 1970, Fouts and Washoe moved to the Institute for Primate Studies, and Fouts began to work with some of the chimps that had been placed in human homes,

including Lucy. For the Temerlins, Lucy's acquisition of a language they could share was interesting, although not essential. "I did not feel that if Lucy acquired ASL it would enhance communication between us," wrote Temerlin. "All four of us could read one another's moods and feelings with ease, and most of the time Lucy understood and obeyed my spoken words."

Lucy and many of her peers demonstrated proficiency with ASL. Even when removed from their human "families," they attempted to use signs to communicate with both chimps and humans (including mystified attendants at research labs). In some sanctuary environments, sign language use spread among chimpanzee residents. Washoe passed her signs to her adopted son, Loulis. Still, at least one prominent scientist argued that the chimps' use of ASL did not constitute a genuine language.

Lucy lived with the Temerlins for more than a decade — the longest time any chimp had ever spent in a human home. As the seventies wound down, so did Dr. Lemmon's project. The Institute for Primate Studies shipped its first batch of chimps to a research facility at NYU in 1981 — just a few years after the Temerlins concluded they could no longer keep Lucy at home — and closed down completely by 1985.

As Dr. Lemmon's experiments came to an end, the results regarding language were inconclusive, but certain facts were undeniable: Chimps have a rich emotional and intellectual life, one that can be shaped by living with a human family, but not to the extent that they can stay forever.

The folly of "cross-fostering" seems fairly obvious to us now, but — whether due to willful ignorance or well-meaning naiveté — the inevitability of an unhappy ending seems not to have immediately occurred to the Temerlins or the others who signed up for the adventure of raising a young chimp.

The opera *Lucy*, while inspired by a true story, is an exercise in imagination: How might Temerlin view his family's story after being forced to face its end?

When Temerlin wrote *Lucy: Growing Up Human*, Lucy's future was still anyone's guess. As he described his journey with Lucy, he proudly related stories of his daughter's accomplishments, recording and analyzing her interactions — with family members, other humans, a kitten, a herd of cattle — in a series of episodes that are by turns touching, amazing, hilarious and disturbing. He was particularly fascinated by her experimental interactions with members of other species. "I often have the feeling," wrote Temerlin, "that the deeper I look into Lucy, the more I see of my own basic nature."

— Kelley Rourke

# BRINGING UP PRIMATES

## A TIMELINE

	1930	Robert Yerkes establishes the Yale Anthropoid Experiment Station. (Orange Park, FL)
Gua moves in with Kellogg family. (Orange Park, FL)	1931	
	1946	Dr. Benjamin Spock publishes <i>Baby &amp; Child Care</i> .
Viki moves in with the Hayes family. (Orange Park, FL)	1947	
	1951	The comic film <i>Bedtime for Bonzo</i> , in which a psychology professor attempts to teach human morals to a chimp, is released.
Ford begins to offer seat belts as an option in new cars.	1955	
	1956	Breastfeeding rates in U.S. drop to close to 20%.
B.F. Skinner publishes <i>Verbal Behavior</i> .	1957	
	1959	Noam Chomsky challenges Skinner's behaviorist approach to language.
Jane Goodall observes chimpanzees making and using tools in the wild. (Gombe Stream National Park, Tanzania)	1960	
	1961	Ham is the first hominid launched into outer space.
William Lemmon acquires the first two chimps for the Institute of Primate Studies (IPS). (Norman, OK)	1962	
	1962	Thomas Gordon teaches his first Parent Effectiveness Training (P.E.T) course; within a few years, P.E.T. is offered in all 50 states.
Charlie Brown, age 3, is adopted by Maurice and Jane Temerlin; he dies in an accident a year later. (Norman, OK)	1963	
	1964	Lemmon acquires newborn Lucy from Mae Noell, a circus breeder; he facilitates her adoption by his secretary, Jane Temerlin, and her husband, Maurice.
Allen and Beatrix Gardner begin a sign language study with one-year-old Washoe. (Reno, NV)	1966	
	1966	David and Ann Premack teach chimps a language based on small, colorful tokens. (Orange Park, FL)
Stella Brewer starts a program to rehabilitate young captive chimps to the wild. (Gambia)	1969	
	1970	Washoe and Roger Fouts arrive at IPS; Fouts teaches ASL to Lucy and other "cross-fostered" chimps.
Nim Chimpsky, born at IPS, begins a Columbia University language study. (New York City and Riverdale)	1973	
	1975	Maurice Temerlin publishes <i>Growing Up Human</i> .
The Convention on International Trade in Endangered Species treaty is entered into force.	1975	
	1977	Nim Chimpsky is returned to IPS.
The Temerlins send Lucy to Stella Brewer's sanctuary in the care of Janis Carter.	1977	
	1977	NIH creates Interagency Primate Steering Committee to assure short- and long-term supplies of nonhuman primates for bio-scientific purposes.
Fouts leaves IPS, ending the signing program.	1979	
	1981	Lemmon begins to ship IPS chimps to the Laboratory for Experimental Medicine and Surgery in Primates (LEMSIP). (Sterling Forest, NY)
Nim Chimpsky is sent to LEMSIP; he is released after public outcry.	1982	
	1983	Michael Jackson adopts Bubbles; when the chimp become too much to handle, he is sent to a sanctuary, where he attempts suicide.
Ham dies at the North Carolina Zoo.	1983	
	1985	Judging Lucy ready to survive on her own, Janice Carter moves away from the island sanctuary.
IPS is shut down.	1985	
	1987	Lucy's body is found, with hands and skin removed.

# LUCY

Music by John Glover  
Words by Kelley Rourke

## PROLOGUE

*Temerlin's study: a desk plus a set of shelves or cabinet holding books, notebooks, tape reels, mementos, etc. Temerlin enters, unwrapping a package containing a cassette tape. After retrieving a playback device, he inserts the cassette and presses play.*

"October 6, 1987. The remains of the chimp known as Lucy Temerlin were found in the Gambia last week. The cause of death is inconclusive, although some of my colleagues here..."

*Temerlin abruptly stops the tape.*

## Wondering

Lucy...

When Jane and I decided to adopt Lucy we wondered what she would be like.

Would she learn to love us?

Would she be well-behaved, rebellious, intelligent, or stupid?

We had questions about ourselves, too.

What kind of parents would we be?

We determined to take no chances,

to spare no expense,

to devote ourselves completely to raising Lucy.

*After a pause, Temerlin goes to a shelf and retrieves an old tape reel and a playback device.*

## PART I. OUR HAPPY HOME

*Temerlin starts the reel, and we hear the voice of his research assistant, recorded two decades earlier. We will hear her voice throughout the piece, offering an objective counterpoint to his memories of his unusual daughter.*

"January 24, 1966. The University of Oklahoma's cross-fostering project placed its fourth chimpanzee with a human family this month. By studying the effects of an enriched environment on the subjects' development, we hope to learn more about the primate mind."

## Baby's first year

She smiled and laughed...

From day one she smiled and laughed,

from the day Jane brought her home.

By month two, her eyes would focus

and follow our movements.

After three months our little girl could walk—

she could walk on all fours.

Next thing we knew, at five months, she could escape her crib.

At eight months she'd walk alone, but never far from Jane or me.

"For the first 12 months of life, chimpanzee mothers maintain constant body contact with their infants; young chimps continue to suckle and sleep with their mothers for five years. Since they never need to summon their mothers, immature apes never learn to cry."

## Kinship

As I sit with Lucy, I feel a kinship—a direct line to our common ancestor.

Looking into her clear brown eyes,

I have the feeling

the deeper I look into Lucy

the more I see of my own basic nature.

"Lucy lives with the Temerlin family just outside Norman, Oklahoma. She is treated as a full member of the family: She eats with them, sleeps with them, works with them, plays with them. To the extent possible, the family makes no distinction between their adopted daughter and their biological son, Steve. Lucy has never seen another chimpanzee, except on television or in a magazine."

## Pure chaos

Lucy could take a normal living room

and turn it into pure chaos

in less than five minutes.

She would unscrew light bulbs and drop them, and break them.

She would take books off of bookshelves, and look at them, then toss them.

She would open the refrigerator, take out a piece of fruit, and play ball.

She would disconnect the toilet paper, hold one end, and run laughing through the house.

"Yesterday, Lucy moved into a new wing of the Temerlin house, constructed especially for her; it is made of steel and reinforced concrete. The furniture is held to a sparse but durable minimum, and there are drains in the floor."

## An organized world

I prefer an organized world

in which feces are deposited in the proper place.

But Lucy refuses to adapt.

It is not a matter of aptitude.

She makes her way to the bathroom

whenever she feels the urge

but she always retains half her movement to unload in another location.

She takes great satisfaction

in the utterly natural act

of defecation.

## Tools

We have seen Lucy use the following tools:

wrench pencil dish mirror cigarette-lighter

brush light-switch tricycle knife

matches ladder vacuum ash-tray

rake wastebasket cup

shears key Kleenex

fork book

hose comb pliers

screwdriver toothpick spoon

"In addition to their suburban home, the Temerlins own a large cattle ranch. Lucy enjoys roaming the many acres of dense forest. She screams with apparent delight whenever she observes the Temerlins making preparations for an excursion. She also responds excitedly to the word "ranch"—the family has learned to spell the word when mentioning the property in her presence, unless an immediate trip is planned."

## Completely at home

Lucy in her natural setting

is a sight of great beauty.

The woods hold no fear for her.

Lucy is completely at home and relaxed.

Lucy never loses her balance or seems uncentered.

Her movements are a flowing ballet

of grace and dignity.

## An ideal drinking companion

Lucy is an ideal drinking companion.

She makes sounds of great delight when offered a drink.

The only liquor she's ever refused

is straight crème de menthe.

She never gets obnoxious, even when smashed to the brink of unconsciousness.

Another reason

I like drinking with Lucy:

It wouldn't be right

to drink with Steve.

He is still too young.

It might hurt his liver.

What would the neighbors say?

Drinking with Lucy is less complicated.

And she is so grateful.

"While studying chimps in their natural habitat, researchers have identified 32 distinctive sounds and 66 gestures that the animals use to communicate with one another. Lucy is one of several chimps participating in a language study being conducted here at the university. So far, Lucy has learned the American Sign Language signs for more than 100 words."

## Lucy's vocabulary

airplane babydoll ball banana barrette berry bird  
blanket blow book bowl bow tie broom brush candy  
can't car cat catch clean coat cold comb come corn  
cow cry cup dirty dog drink eat enough fish flower food  
fork fruit go grass hammer handkerchief hat hug hurry  
hurt key kiss leash light lipstick listen look make me mine  
mirror more no nut oil open orange out pants paper  
pen pick pipe please purse radio ring rubberband run  
shoe smell smile smoke spoon sorry string swallow tea  
telephone that tickle want what yes you yours

## Using her signs

Lucy had torn every leaf from our potted banana tree.

The trunk was in several pieces, the soil strewn all over the floor.

I lost control. I screamed.

I raised my hand to strike her.

Lucy looked me in the eye, smiled her little-girl smile, brought her hand to her nose, with forefinger and thumb extended, using her signs to say: "I'm Lucy."

## PART TWO: ME TARZAN. SHE DAUGHTER. YOU DEAL WITH IT.

## No pets allowed

Lucy sits in the cart as we shop at the grocery store.

Occasionally a manager will say,

"No pets allowed."

We are indignant.

"Lucy is not a pet.

Lucy is our daughter."

## Tarzan fantasies

When I was an adolescent,

Tarzan the ape-man captured my imagination.

I spent many an afternoon wrapped up in Tarzan fantasies. With the idea of the noble savage as backdrop, adopting Lucy seemed perfectly logical.

"Mrs. Temerlin made all of the arrangements for Lucy's adoption, flying to the East Coast on the day the infant was born. She fed the mother a Coca-Cola spiked with phenylclidine. When the mother fell asleep, the handler took the baby from her unconscious body. Mrs. Temerlin placed the baby in a bassinet and covered her face with a lacy blanket before returning home on a commercial airline. There were several humorous incidents on the plane as well-wishers asked to see the baby."

### **A real kick**

Lucy never tires of play. She makes me behave in ways that go completely against my grain. I am surprised to hear myself whine, submissively, "How could you do this to me?" I get a real kick out of calling her "Precious darling," when I know she could tear me limb from limb.

### **Obsession**

When we introduced the kitten, Lucy reacted violently. We thought she would kill the kitten. But then it began to follow her and we saw her attitude change. She would carry it on her back like a mother chimp carrying a child.

She was obsessed with her "baby." It was dangerous for anyone to try to separate them, but sometimes the kitten needed a break.

"Chimpanzees are five to seven times stronger than humans. They have denser bones, and thicker skin, making chimps and humans unevenly matched play partners."

### **Satisfaction**

Colleagues visited less. They had difficulty relating to Lucy. They were hesitant to say, "I'm afraid of your daughter." Relatives visited less. They had difficulty relating to Lucy. They were hesitant to say, "I'm afraid of your daughter." Friends visited less. They had difficulty relating to Lucy. They were hesitant to say, "I'm afraid of your daughter," much less "Keep that goddamn ape off me." I had been brought up to be a conventional person. I gained great satisfaction from breaking away and living an unconventional life.

### **Lucy's emotions**

The emotions Lucy exhibits most clearly are affection, anger, fear, tenderness, greed, jealousy, anxiety, protectiveness.

### **Many people will not**

I saw my daughter eyeing our guest's drink, but not soon enough. In a flash, she snatched it, swallowed half, dug out the cherry and handed the rest back to our guest. Lucy's act startled her less than what I did next.

I had to show Lucy this was unacceptable in the world of human beings. So I grabbed her and bit her on the ear. She knew she deserved it so she didn't fight back. I failed to notice our guest did not touch what was left of her drink. Many people will not drink after Lucy has used the same glass.

## **PART THREE : CLOSE ENCOUNTERS**

### **Who can we trust?**

Who can we trust? Even when Lucy was little, we had difficulty finding babysitters. After their first experience, few people agreed to come back.

### **Guilt**

We locked Lucy into her room and left for work.

When we came home Lucy was loose.

The next day we locked her in and drove away but returned ten minutes later. I caught her unlocking the door to her room with a key. The minute she saw me she put the key in her mouth.

"In behavioral terms, aggression is energy expressed in the direction of the environment. Hostility, on the other hand, is an expression of a wish to hurt or destroy. Lucy first exhibited hostility at five-and-a-half months. As Lucy has matured, she has demonstrated an ability to control both aggression and hostility. But she does not always choose to apply these controls."

### **Aggression**

When Steve brought his cat for a visit, Lucy attacked the minute she saw it – the first cat she'd seen since the death of her kitten. Steve grabbed the cat and pushed Lucy away. Lucy whimpered uncomfortably. I had never seen her attack so savagely. But I wasn't surprised:

"Aggression or hostility is often mobilized in humans as a response to grief or loss."

### **Such great people**

Lucy sat down on the couch with Steve on the other end. Jane was sitting across the room and I was in my favorite chair. I looked at Lucy eating her apple, completely at home, completely relaxed, completely grown. I felt myself moved to tears. Here we were, a regular family. We had been through so much together and yet Steve and Lucy had made it; each had become so warmly human, each of them such great people.

"Today Dr. Temerlin introduced Lucy to a colleague who is developing her own combination of movement and Gestalt therapy. At one point, Lucy ran toward Natasha, who took a step toward Dr. Temerlin for support. Lucy misinterpreted the movement and charged, springing at Natasha and biting her."

### **I hated Lucy at that moment**

I hated Lucy at that moment. It was only a small wound, but enough to be painful. I hated Lucy at that moment. Natasha was a friend and a guest. I felt responsible. I hated Lucy at that moment.

### **Terror**

Lucy picked up the phone, held it to her ear, and started dialing. I snatched it away, afraid she would hit on a combination of numbers that connected her with Tokyo or Tel Aviv. She charged at me, angrily, screaming her head off. The next thing I knew my arm was in her mouth. Her scream of anger quickly changed to a scream of terror. Before her teeth had broken the skin she released my arm, withdrew, whimpering, terrified of her own impulse.

*The tape reel has ended. After a pause, Temerlin rewinds the cassette he stopped at the top of the show. He pushes play.*

### **Natural causes**

"The remains of the chimp known as Lucy Temerlin were found in the Gambia last month. The cause of her death is inconclusive, although some of my colleagues point out she would have been easy prey for poachers. It's true that Lucy would have been quick to approach any human that appeared on the island, whether friend or foe.

"The Temerlins participated in the cross-fostering study longer than anyone else; the bond between Maury Temerlin and the chimpanzee he referred to as his 'daughter' was remarkable. They lived as a family for eleven years, after which it was determined that an island preserve would be the most appropriate place for Lucy to spend the remaining decades of her life.

"We all made the journey together; I stayed with Lucy for the seven years it took to habituate her to life in the wilderness. Growing up in suburban America had left her unprepared and unwilling to sleep outdoors and forage for unfamiliar foods. She had to be taught – coerced – into doing all kinds of things that should have been utterly natural for her.

"I went back to her island only once, and it wasn't long before Lucy came running out to greet me. I'll never forget her obvious delight at seeing one of 'her people' again. Now, looking back, I know that visit was a mistake.

"Despite all the human behaviors she adopted, Lucy could never truly be one of us. Nor could she ever become a fully assimilated member of a wild chimp community. Perhaps another chimp turned on her. Or perhaps she had a final, terrifying encounter with a human – the species she felt closest to. I'd like to think she died of natural causes, although I'm not sure if the word 'natural' can be applied to any part of Lucy's story, not after what was done to her."

### **Completely at home**

Lucy, in her natural is  
The woods hold no fear for her.  
Lu completely at home  
Lucy never loses her balance or seems  
Her movements

in her natural setting  
is a sight of great beauty.

Lucy is completely at home and relaxed.  
Lucy never loses her balance or seems uncentered.  
Her movements are a flowing ballet  
of grace and dignity.