Love at Goon Park

Harry Harlow and the Science of Affection

DEBORAH BLUM

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TWO

Untouched by Human Hands

The apparent repression of love by modern psychologists stands in sharp contrast with the attitude taken by many famous and normal people.

Harry F. Harlow,
The Nature of Love, 1958

THE FRUSTRATING, IMPOSSIBLE, TERRIBLE THING about orphanages could be summarized like this: They were baby killers.

They always had been. One could read it in the eighteenth-century records from Europe. One foundling home in Florence, The Hospital of the Innocents, took in more than fifteen thousand babies between 1755 and 1773; two thirds of them died before they reached their first birthday. In Sicily, around the same time, there were so many orphanage deaths that residents in nearby Brescia proposed that a motto be carved into the foundling home's gate: "Here children are killed at public expense." One could read it in the nineteenth-century records from American orphanages, such as this report from St. Mary's Asylum for Widows, Foundlings, and Infants in Buffalo, New York: From 1862 to 1875, the asylum offered a home to 2,114 children. Slightly more than half—1,080—had died within a

year of arrival. Most of those who survived had mothers who stayed with them. "A large proportion of the infants, attempted to be raised by hand, have died although receiving every possible care and attention that the means of the Sisters would allow as to food, ventilation, cleanliness, etc."

And yet babies, toddlers, elementary school children, and even adolescents kept coming to foundling homes, like a ragged, endless, stubbornly hopeful parade. In the orphanages, the death of one child always made room for the next.

Physicians were working in and against an invisible lapping wave of microorganisms, which they didn't know about and couldn't understand. Cholera flooded through the foundling homes, and so did diphtheria and typhoid and scarlet fever. Horrible, wasting diarrheas were chronic. The homes often reeked of human waste. Attempts to clean them foundered on inadequate plumbing, lack of hot water, lack even of soap. It wasn't just foundling homes, of course, where infections thrived in the days before antibiotics and vaccines, before chlorinated water and pasteurized milk. In the United States, more than one fourth of the children born between 1850 and 1900 died before age five. But foundling homes concentrated the infections and contagions, brought them together in the way a magnifying glass might focus the sun's rays until they burn paper. The orphanages raised germs, seemingly, far more effectively than they raised children. If you brought a group of pediatricians together, they could almost immediately begin telling orphanage horror stories—and they did.

In 1915, a New York physician, Henry Chapin, made a report to the American Pediatric Society that he called "A Plea for Accurate Statistics in Infants' Institutions." Chapin had surveyed ten foundling homes across the country; his tally was—by yesterday's or today's standards—unbelievable. At all but one of the homes, every child admitted was dead by the age of two. His fellow physicians rose up—not in outrage but to go him one better. A Philadelphia physician remarked bitterly that "I had the honor to be connected with an institution in this city in which the mortality among all the infants under one year of age, when admitted to the institution and retained there for any length of time, was 100 percent." A doctor from Albany, New York, disclosed that one hospital he had worked at had simply written "condition hopeless" on the chart as soon as a baby came into the ward. Another described tracking two hundred children admitted into institutions in Baltimore. Almost 90 percent were dead within a year. It was the escapees who mostly survived, children farmed out to relatives or put in foster care. Chapin spent much of the rest of his career lobbying for a foster care system for abandoned children. It wasn't that he thought foster homes would necessarily be kinder or warmer—he hoped only that they wouldn't kill children so quickly.

By Chapin's time, of course, thanks to researchers such as Louis Pasteur and Alexander Fleming and Edward Jenner, doctors recognized that they were fighting microscopic pathogens. They still didn't fully understand how those invisible infections spread—only that they continued to do so. The physicians' logical response was to make it harder for germs to move from one person to the next. It was the quarantine principle: Move people away from each other, separate the sick from the healthy. That principle was endorsed—no, loudly promoted—by such experts of the day as Dr. Luther Emmett Holt, of Columbia University. Holt made controlling childhood infections a personal cause. The premier childcare doctor of his time, he urged parents to keep their homes free of contagious diseases. Remember that cleanliness was literally next to Godliness. And remember, too, that parents, who weren't all that clean by doctors' standards, were potential disease carriers. Holt insisted that mothers and fathers should avoid staying too close to their children.

Before Holt, American parents usually allowed small children to sleep in their bedrooms or even in their beds. Holt led a crusade to keep children in separate rooms; no babies in the parental bedroom, please; good childcare meant good hygiene, clean hands, a light touch, air and sun and space, including space from you, mom and dad. And that meant avoiding even affectionate physical contact.

What could be worse than kissing your child? Did parents really wish, asked Holt, to touch their baby with *lips*, a known source for transmitting infection?

If parents had doubts about such lack of contact, Holt's colleagues did not. In the 1888 *The Wife's Handbook* (with Hints on Management of the Baby), physician Arthur Albutt also warned each mother that her touch could crawl with infection. If she really loved the baby, Albutt said, she should maintain a cautious distance: "It is born to live and not to die" and so always wash your hands before touching, and don't "indulge" the baby with too much contact so that "it"—the baby is always "it" in this book—may grow up to fill a "useful place in society."

In foundling homes, wedged to the windows with abandoned children, there was no real way to isolate an ailing child—nor did anyone expect the foundlings to occupy many useful places in society. But administrators did their best to keep their charges alive. They edged the beds farther apart; they insisted that, as much as possible, the children be left alone. On doctors' orders, the windows were kept open, sleeping spaces separated, and the children touched as little possible—only for such essentials as a quick delivery of food or a necessary change of clothes. A baby might be put into a sterile crib with mosquito netting over the top, a clean bottle propped by its side. The child could be kept virtually untouched by another human being.

In the early twentieth century, the hyperclean, sterile-wrapped infant was medicine's ideal of disease prevention, the next best thing to sending the baby back to the safety of the womb. In Germany, physician Martin Cooney had just created a glass-walled incubator for premature infants. His *Kinderbrutanstalt* ("child hatchery") intrigued both manufacturers and doctors. Because preemies always died in those days anyway, many parents handed them over to their physicians. Doctors began giving them to Cooney. He went on an international tour to promote the hatchery, exhibiting his collection of infants in their glass boxes. Cooney went first to England and then to

the United States. He showed off his babies in 1902 at the Pan American Exposition in Buffalo, New York. During the next two years, he and his baby collection traveled to shows as far west as Nebraska. Cooney settled in Coney Island, where he successfully cared for more than five thousand premature infants. Through the 1930s, he continued, occasionally, to display them. In 1932, he borrowed babies from Michael Reese Hospital for the Chicago World's Fair and sold tickets to view the human hatchlings. According to fair records, his exhibit made more money that year than any other, with the exception of that of Sally Rand, the famed fan-dancer. The babies in the boxes were like miracles of medicine; they were alive when generations before them had died. Cooney said his only real problem was that it was so hard to convince mothers to take their infants back. Oddly enough, they seemed to feel disconnected from those babies behind the glass.

Sterility and isolation became the gods of hospital practice. The choleras and wasting diarrheas and inexplicable fevers began to fall away. Children still got sick—just not so mysteriously. There were always viruses (measles, mumps, things we now vaccinate against) and still those stubborn bacterial illnesses that plague us today: pneumonias, respiratory infections, drearily painful ear infections. But, now, doctors took the position that even the known infections could be best handled by isolation. Human contact was the ultimate enemy of health. Eerily unseeable pathogens hovered about each person like some ominous aura. Reports from doctors at the time read like descriptions of battle zones in which no human was safe—and everybody was dangerous. One such complaint, by Chicago physician William Brenneman, discussed the risks of letting medical personnel loose in the wards. Nurses weren't allowed enough sick leaves and they were bringing their own illnesses into the hospital; interns seemed to not appreciate that their "cold or cough or sore throat" was a threat. Physicians themselves, Brenneman added sarcastically, apparently felt they were completely noninfectious when ill, as long as they wore a long "white coat with black buttons all the way down

the front." How could you keep illness out of hospital when doctors and nurses kept coming in?

Brenneman, of Children's Memorial Hospital in Chicago, thought children's wards were similar to concentration camps, at least when it came to infection potential. He evoked the prison camps of World War I, where doctors had found that captured soldiers were crawling with streptococcus bacteria. Were wards so different? Tests had shown that 105 of 122 health workers at the hospital were positive for the same bacteria, a known cause of lethal pneumonias. "It is known what the streptococcus did in concentration camps during the World War. One is constantly aware of what it does in the infant ward under similar conditions of herding and massed contact." The less time a child spent in the hospital, the better was Brenneman's rule and he urged doctors to send their patients home; or if they had no home, into foster care, as quickly as possible. And if they had to be hospitalized? Push back the beds; wrap up the child quickly, keep even the nurses away when you could.

Harry Bakwin, a pediatrician at Bellevue in New York, described the children's ward of the 1930s like this: "To lessen the danger of cross infections, the large open ward of the past has been replaced by small, cubicled rooms in which masked, hooded, and scrubbed nurses and physicians move about cautiously so as not to stir up bacteria. Visiting parents are strictly excluded, and the infants receive a minimum of handling by the staff." One hospital even "devised a box equipped with inlet and outlet valves and sleeve arrangements for the attendants. The infant is placed in this box and can be taken care of almost untouched by human hands." By such standards, the perfectly healthy child would be the little girl alone in a bed burnished to germ-free perfection, visited only by gloved and masked adults who briskly delivered medicine and meals of pasteurized milk and well-washed food.

Hospitals and foundling homes functioned, as Stanford University psychologist Robert Sapolsky puts it today, "at the intersection of two ideas popular at the time—a worship of sterile, aseptic conditions at

all costs, and a belief among the (overwhelmingly male) pediatric establishment that touching, holding and nurturing infants was sentimental maternal foolishness." It wasn't just that doctors were engaged in a quest for germ-free perfection. Physicians, worshipping at the altars of sterility, found themselves shoulder to shoulder with their brethren who studied human behavior. Their colleagues in psychology directly reassured them that cuddling and comfort were bad for children anyway. They might be doing those children a favor by sealing them away behind those protective curtains.

Perhaps no one was more reassuring on the latter point than John B. Watson, a South Carolina–born psychologist and a president of the American Psychological Association (APA). Watson is often remembered today as the scientist who led a professional crusade against the evils of affection. "When you are tempted to pet your child remember that mother love is a dangerous instrument," Watson warned. Too much hugging and coddling could make infancy unhappy, adolescence a nightmare—even warp the child so much that he might grow up unfit for marriage. And, Watson warned, this could happen in a shockingly short time: "Once a child's character has been spoiled by bad handling, which can be done in a few days, who can say that the damage is ever repaired?"

Nothing could be worse for a child, by this calculation, than being mothered. And being mothered meant being cradled, cuddled, cosseted. It was a recipe for softness, a strategy for undermining strong character. Doting parents, especially the female half of the partnership, endowed their children with "weaknesses, reserves, fears, cautions and inferiorities." Watson wrote an entire chapter on "The Dangers of Too Much Mother Love," in which he warned that obvious affection always produced "invalidism" in a child. The cuddling parent, he said, is destined to end up with a whiny, irresponsible, dependent failure of a human being. Watson, who spent most of his research career at Johns Hopkins University, was a nationally known and respected psychologist when he trained his sights on mother love. Articulate, passionate, determined, he was such an influential leader in his

field, that his followers were known as "Watsonian psychologists." And like him, they came to consider coddling a child as the eighth of humankind's deadly sins. "The Watsonian psychologists regard mother love as so powerful (and so baneful) an influence on mankind that they would direct their first efforts toward mitigating her powers," wrote New York psychiatrist David Levy in the late 1930s.

Watson believed that emotions should be controlled. They were messy; they were complicated. The job of a scientist, of any rational human being, should be to figure out how to command them. So he was willing to study emotions, but mostly to show that they were as amenable to manipulation as any other basic behavior. The emotion of rage, he said, could be induced in babies by pinning them down. That was a simple fact, observable and measurable and controlled by the mastery of science. If it sounds cold, he meant it to be. Watson, as many of his colleagues, was driven by a need to prove psychology a legitimate science—with the credibility and chilly precision of a discipline such as physics.

Psychology was a young science at the time, founded only in the nineteenth century. Until that point—perhaps until Darwin—human behavior was considered the province of philosophy and religion. Scientists considered physics, astronomy, chemistry as serious research subjects, but those disciplines had hundreds of years behind them. Even one of the founders of the American Psychological Association, William James of Harvard, said that psychology wasn't a science at all—merely the hope of one.

As a child, Watson had been dragged to tent revival after tent revival by his mother. He still remembered with revulsion the sweaty intensity of the faithful. He was determined to wash the remnants of spirituality and, yes, emotion out of his profession. "No one ever treated the emotions more coldly," Harry Harlow would say years later. To his contemporaries, Watson only argued that a scientific psychology was the way to build "a foundation for saner living." He proposed stringent guidelines for viewing behavior in a 1913 talk still known as the Behaviorist Manifesto.

"Psychology as the behaviorist views it is a purely objective, experimental branch of natural science," he insisted. Its goal was the prediction and control of behavior. "Introspection forms no essential part of its methods, and neither does consciousness have much value." Psychologists should focus on what could be measured and modified. In the same way that animals could be conditioned to respond, so could people. The principle applied most directly to children. Watson's psychology was in near perfect opposition to the intimate, relationship-focused approach that Harry Harlow would develop. Rather, he argued that adults—parents, teachers, doctors—should concentrate on conditioning and training children. Their job was to provide the right stimulus and induce the correct response.

And that was what Watson argued, forcefully, in his 1928 bestseller, *The Psychological Care of the Child and Infant*. The British philosopher Bertrand Russell proclaimed it the first child-rearing book of scientific merit. Watson, he said, had triumphed by studying babies the way "the man of science studies the amoebae." *The Atlantic Monthly* called it indispensable; the *New York Times* said that Watson's writings had begun "a new epoch in the intellectual history of man." *Parents* magazine called his advice a must for the bookshelf of every enlightened parent.

From today's perspective, it's clear that Watson had little patience for parents at all, enlightened or not. Watson wrote that he dreamed of a baby farm where hundreds of infants could be taken away from their parents and raised according to scientific principles. Ideally, he said, a mother would not even know which child was hers and therefore could not ruin it. Emotional responses to children should be controlled, Watson insisted, by using an enlightened scientific approach. Parents should participate in shaping their children by simple, objective conditioning techniques. And if parents chose affection and nurturing instead, ignoring his advice? In his own words, there are "serious rocks ahead for the over-kissed child." Watson demanded not only disciplined children but disciplined parents. His in-

structions were clear: Don't pick them up when they cry; don't hold them for pleasure. Pat them on the head when they do well; shake their hands; okay, kiss them on the foreheads, but only on big occasions. Children, he said, should be pushed into independence from the day of their birth. After a while, "you'll be utterly ashamed of the mawkish, sentimental way you've been handling your child."

Watson was a hero in his own field, hailed for his efforts to turn the soft-headed field of psychology into a hard science. He became a hero in medicine because his work fit so well with the "don't touch" policies of disease control. The physicians of the time also considered that affection was, well, a girl thing, something to be sternly controlled by men who knew better. The *Wife's Handbook* flatly warns mothers that their sentimental natures are a defect. The book's author, Dr. Arthur Albutt, takes a firm stand against spoiling, which he defines as picking babies up when they cry, or letting them fall asleep in one's arms. "If it cries, never mind it; it will soon learn to sleep without having to depend on rocking and nursing." Dr. Luther Holt took the same stance and his publication, *The Care and Feeding of Children*, was an even bigger success. There were fifteen editions of his book between 1894 and 1935. Holt believed in a rigorous scientific approach to the raising, or let's say, taming of the child. The whole point of childhood was preparing for adulthood, Holt said. To foster maturity in a child, Holt stood against the "vicious practice" of rocking a child in a cradle, picking him up when he cried, or handling him too often. He urged parents not to relax as their child matured. Holt was also opposed to hugging and overindulging an older child.

It's easy today to wonder why anyone would have listened to this paramilitary approach to childcare. Undoubtedly—or at least we might hope—plenty of parents didn't take heed. Yet, Holt and Watson and their contemporaries were extraordinarily influential. Their messages were buoyed by a new, almost religious faith in the power of science to improve the world. The power of technology to revolutionize people's lives was a tangible, visible force. Gaslights were

flickering out as homes were wired for electricity. The automobile was beginning to sputter its way down the road. The telegraph and telephone were wiring the world. There were mechanical sewing machines, washing machines, weaving machines—all apparently better and faster than their human counterparts. It was logical to assume that science could improve we humans as well.

John Watson wasn't the only researcher to publicly urge scientific standards for parenting. The pioneering psychologist G. Stanley Hall, of Clark University, entered the childcare field as well. In 1893, Hall helped found the National Association for the Study of Childhood. His own work focused on adolescence and he believed that the difficulties encountered at this time of life were in part due to mistakes by parents and educators in the early years. Hall admired much about what he called the adolescent spirit and its wonderfully creative imagination. But it needed discipline, he said, moral upbringing, strict authority to guide it.

Speaking to the National Congress of Mothers—a two-thousand-member group organized in 1896 to embrace the concept of scientific motherhood—Hall urged Victorian tough love upon them. Their children needed less cuddling, more punishment, he said; they needed constant discipline. After Hall's talk to the mothers' congress, the *New York Times* rhapsodized in an editorial, "Given one generation of children properly born and raised, what a vast proportion of human ills would disappear from the face of the Earth." Women at the conference left determined to spread the word. No more adlibbing of childcare, they insisted. There were real experts out there, men made wise by science. Parents needed to pay attention. "The innocent and helpless are daily, hourly, victimized through the ignorance of untrained parents," said the Congress of Mothers' president, Alice Birney, in 1899. "The era of the amateur mother is over." (The mothers' congress, by the way, changed and grew and eventually became part of the PTA.)

The demand for scientific guidance was so pressing that the federal government's Child Bureau—housed in the Department of

Labor—after all, childrearing was a profession—went into the advice business. The bureau recruited Luther Holt as primary advisor on its "Infant Care" publications. Between 1914 and 1925, the Labor Department distributed about 3 million copies of the pamphlet. Historian Molly Ladd-Taylor, in her wonderfully titled book, *Raising a Baby the Government Way,* reports that the Child Bureau received up to 125,000 letters a year asking for parenting help. The bureau chief, Julia Lathrop, said that each pamphlet was "addressed to the average mother of this country." The government was not, she emphasized, trying to preempt doctors. "There is no purpose to invade the field of the medical or nursing professions, but rather to furnish such statements regarding hygiene and normal living as every mother has a right to possess in the interest of herself and her children."

The "Infant Care" pamphlet covered everything from how to make a swaddling blanket to how to register a birth. It discussed diapers, creeping pens (which we today call playpens), meals from coddled eggs to scraped beef, teething, nursing, exercise, and, oh yes, "Habits, training, and discipline." After all, "the wise mother strives to start the baby right."

The care of a baby—according to the federal experts—demanded rigid discipline of both parent and child. Never kiss a baby, especially on the mouth. Do you want to spread germs and look immoral? (This part, obviously, straight from the mouth of Luther Holt.) And the government, too, wanted to caution mothers against rocking and playing with their children. "The rule that parents should not play with the baby may seem hard, but it is without doubt a safe one." Play—tickling, tossing, laughing—might make the baby restless and a restless baby is a bad thing. "This is not to say that the baby should be left alone too completely. All babies need 'mothering' and should have plenty of it." According to federal experts, mothering meant holding the baby quietly, in tranquility-inducing positions. The mother should stop immediately if her arms feel tired. The baby is never to inconvenience the adult. An older child—say above six

months—should be taught to sit silently in the crib; otherwise, he might need to be constantly watched and entertained by the mother, a serious waste of time in the opinion of the authors. Babies should be trained from infancy, concludes the pamphlet, so "smile at the good, walk away from the bad—babies don't like being ignored."

Universities also began offering scientific advice to untutored parents. Being research institutions, they tended to reflect John Watson and the zeitgeist of experimental psychology. Reading them today is curiously like reading a pet-training guide—any minute, the mother will be told to issue a "stand-stay" command to her toddler. In the *Child Care and Training* manuals, published by the University of Minnesota's Institute of Child Welfare, the authors advised that the word "training" refers to "conditioned responses." They assured their readers that when a mother smiles at a baby, she is simply issuing a "stimulus." When the baby smiles back, he is not expressing affection. The baby has only been conditioned to "respond" to the smile.

Further, parents should be aware that conditioning is a powerful tool, the Minnesota guidebook warned. For instance, if a child falls down and hurts herself, mothers and fathers should not condition her to whine. They might do that if they routinely pick her up and comfort her. Treat injury lightly and "tumbles will presently bring about the conditioned response of brave and laughing behavior," the guidebook advised. Watson had declared that babies feel only three emotions: fear, rage, and love (or the rudiments of affection), and the Minnesota psychologists agreed. They warned that it is easy to accidentally condition unwanted fears. The researchers cited the common practice of locking children in a dark room to punish them. They recommended against it. This, they said, only conditions the child to fear darkness. A stern word, a swift swat, is so much better. The scientists also suggested that parents try not to worry about their children and their safety so much: Fear conditions fear. "The mother who is truly interested in bringing up children free of fear will try to eliminate fear from her own life." Watson equated baby love with pleasure, brought on by stroking and touch. But he also believed that

too much such affection would soften the moral fiber of the children. So did the Minnesota group. Their manual states that although ignoring and being indifferent to a child *could* cause problems, it was "a less insidious form of trouble than the over-dependence brought about by too great a display of affection."

It was serendipity, it was timing—the ideas fit together like perfectly formed pieces of a puzzle. Medicine reinforced psychology; psychology supported medicine. All of it, the lurking fears of infection, the saving graces of hygiene, the fears of ruining a child by affection, the selling of science, the desire of parents to learn from the experts, all came together to create one of the chilliest possible periods in childrearing. "Conscientious mothers often ask the doctor whether it is proper to fondle the baby," wrote an exasperated pediatrician in the late 1930s. "They have a vague feeling that it is wrong for babies to be mothered, loved, rocked and that it is their forlorn duty to raise their children in splendid isolation, 'untouched by human hands' so to speak and wrapped in cellophane like those boxes of crackers we purchase."

Oh, they were definitely saving children. In 1931, Brenneman reported that his hospital in Chicago was averaging about 30 percent mortality in the children's wards rather than 100 percent. Yet the youngest children, the most fragile, were still dying in the hospitals when they shouldn't. They were coming in to those spotlessly hygienic rooms and inexplicably fading away. At Children's Memorial, babies were dying seven times faster than the older children; they accounted for much of that stubborn 30 percent mortality. Brenneman also noted that babies who did best in the hospital were those who were "the nurses' pets," those who enjoyed a little extra cuddling, despite hospital rules. Sometimes the hospital could turn an illness around, he said, by asking a nurse to "mother" a child, just a little.

New York pediatrician Harry Bakwin had come up with a description for small children in hospital wards. He titled his paper on isolation procedures "Loneliness in Infants." French researchers had

begun to suggest that the total "absence of mothering" might be a problem in hospitals. An Austrian psychologist, Katherine Wolf, had proposed that allowing a mother into a hospital ward could improve an infant's survival chances. She insisted that there might be actual risk from "the best equipped and most hygienic institutions, which succeeded in sterilizing the surroundings of the child from germs but which at the same time sterilized the child's psyche." Did this make sense? Absolutely—today. At the time, absolutely not.

Hadn't psychology declared that children didn't need affection and mothering? Why would anyone even consider the notion that hygiene and that wonderfully sterile environment might be dangerous to a child? The idea was just silly; so silly, so ridiculous, so trivial, in fact, that the field of psychology pretty much ignored Wolf, Bakwin, Brenneman, and the whole idea. Years later, British psychiatrist John Bowlby went hunting for studies of the relationship between maternal care and mental health. He could find only five papers from the 1920s in any European or American research journal. He could find only twenty-two from the 1930s. What he found instead were thousands of papers on troubled children—on delinquent children, children born out of wedlock, homeless children, neglected children. Neglect, as it turned out, bred neglect beautifully. As one physician wrote, "The baby who is neglected does in course of time adjust itself to the unfortunate environment. Such babies become good babies and progressively easier to neglect."

In a curious way, it took a war to change things, and a major one at that, the last great global conflict, World War II. Perhaps a minor skirmish would never have shaken psychology's confidence so well. It was an indirect effect of the war that actually started catching researchers' attention. Bomb fallout, the smashing apart of cities across Europe, the night bombings of cities by the Germans, the counterbombings of the Allies, street after street in London blown apart, Dresden fire-bombed into a ruin of ashes: As the fires blazed, as their homes and streets shattered around them, many parents decided to protect their children by sending them away. They hustled

their offspring out of the big-city targets to stay in the homes of friends or relatives or friendly volunteers in the countryside. In England alone, more than 700,000 children were sent away from home, unsure whether they would see their parents again. "History was making a tremendous experiment," wrote J. H. Van Den Berg, of the University of Leiden. It was impossible to deny the emotional effect on these children; they were safe, sheltered, cared for, disciplined—and completely heart-broken.

Austrian psychologist Katherine Wolf listed the symptoms: Children became listless, uninterested in their surroundings. They were even apathetic about hearing news from home. They became bedwetters; they shook in the dark from nightmares and, in the day, they often seemed only half awake. Children wept for their parents and grieved for their missing families. In the night, when the darkness and the nightmares came calling, they didn't want just anyone; they wanted their mothers. Nothing in psychology had predicted this: Wolf was describing affluent, well-cared-for children living in friendly homes. It was startlingly clear that they could be clean and well fed and disease-free—you could invoke all the gods of cleanliness and it didn't matter—the children sickened, plagued by the kind of chronic infections doctors were used to seeing in hospital wards. It seemed that having good clean shelter really didn't always keep you healthy. The refugee children were defining home in a way that had nothing to do with science at all.

Bakwin, by that time, was blistering up the medical journals. He had supplemented the signs at Bellevue that said "Wash Your Hands Twice Before Entering This Ward" with new ones declaiming "Do not enter this nursery without picking up a baby." In a paper published at the height of the war, in 1944, he described hospitalized babies in a way that sounded startlingly like the separated children in England. The medical ward infant was still and quiet; he didn't eat; he didn't gain weight; he didn't smile or coo. Thin, pale, he was indeed the good baby, the easy-to-neglect baby. Even the breathing of these children was whisper-soft, Bakwin wrote, barely a sigh of

sound. Some infants ran fevers that lasted for months. The simmering temperatures didn't respond to drugs or anything the doctors did. And the fevers, mysteriously, vanished when the children went home. A doctor ahead of his time—by a good three decades—Bakwin won support he needed from his superiors at Bellevue to let mothers stay with their children if it was an extended illness. He liked to point out that with the mother around, fatal infections had dropped from 30–35 percent to less than 10 percent in 1938, and this was before the availability of drugs and antibiotics became widespread.

"The mother, instead of being a hindrance, relieves the nurses of the care of one patient and she often helps out in the care of other babies." But Bakwin and Bellevue were an odd-island-out in the sea of medicine. Standard hospital policy in the 1940s restricted parents to no more than a one-hour-long visit a week, no matter how many months the child had been there. Textbooks on the care of newborns still rang with the voice of Luther Holt and the dread fear of pathogens. Experts continued to recommend only the most essential handling of infants and a policy of excluding visitors. Even in the 1970s, a survey of wards for premature infants found that only 30 percent of hospitals allowed parents even to visit their babies. And less than half of those hospitals would allow a parent to touch her child.

Bakwin argued that babies are emotional creatures, that they need emotional contact the way they need food. Of course, he put it in words becoming to the doctor he was: "It would appear that the physiologic components of the emotional process are essential for the physical well-being of the young infant." But he wasn't afraid to suggest that this could be a bigger problem than just what he saw in hospital wards. Orphanages and asylums also ran on the sterilization principle. And although children might stay days, weeks, occasionally months, in a medical ward, they might stay years in the foundling homes. Bakwin gave a simple example of the problem, centered on what might seem a trivial point: smiling. Somewhere between two

and three months, he pointed out, most babies begin to smile back at their parents. "This is not the case in infants who have spent some time in institutions." They didn't return a smile. He and his nurses, if they had time, could coax a response, but there was nothing spontaneous about it and they often didn't have time. What if the child stayed longer? What would happen to her then? Or him? If people couldn't make you happy as a baby, could they ever?

Another New York physician, William Goldfarb, was also becoming worried about the fate of children in homes. The foundling homes were like a magnified version of a hospital ward; the emphasis was on cleanliness, order, self-control, discipline. Since psychology had declared affection unnecessary—perhaps even detrimental—to healthy child development, no one was wasting much warmth on these children, who were unwanted anyway. In the homes, youngsters were fed, clothed, worked, praised, punished, or ignored, but policy did not direct that they be cuddled or treated with affection. Often homes discouraged children from even making close friendships with each other because such relationships were time-consuming and troublesome. Goldfarb worked with Jewish Family Services, which operated a string of foster homes around the city. The children he treated were like the bomb escapees—apathetic, passive, and, which he found most troubling, they seemed to be extending their isolation zone. The foundlings often appeared incapable of friendship or even of caring about others. "The abnormal impoverishment in human relationships created a vacuum where there should have been the strongest motivation to normal growth," he wrote in 1943. At least children in their own homes—even if they had cruel or hostile parents—had some thread of a relationship that involved emotional interaction. The vacuum, Goldfarb insisted, was the worst thing you could inflict on the child, leaving a small boy or girl alone to rattle about in some empty bottle of a life. The younger they were thus isolated, the worse the effect. "A depriving institutional experience in infancy has an enduring harmful psychological effect on children," he said, and he meant all dimensions.

Two other New York–based researchers, David Levy and Loretta Bender, took up the cause as scientists in that urban community began sharing concerns. Like Bakwin, Loretta Bender worked at Bellevue; she headed the hospital's newly created child psychiatric unit, and many of her clients came from foundling homes. They were "completely confused about human relationships," she wrote; they were often lost in a fantasy world that might have served as a kind of shelter were the fantasies were not so ugly. The children spun their worlds hot with anger, cold with visions of death. If this was evidence of how foundling homes raised the youngsters, they were not producing anything that looked like normality.

Levy's interest began at another end of the spectrum. Starting in the late 1930s, he had decided to study those overprotective mothers so criticized by Watson. He wanted to compare extremes: thoroughly watched-over children versus motherless foundlings. He did find some very unhappy children held tight under domestic wings. Some were desperate for escape, some inhibited into near silence, some arrogant and exhibiting a sense of entitlement. The foundlings he met were often silent or desperate. But they were often unnerving, as well. Many of the orphans had learned starched and polite manners. Too often, Levy couldn't move past that polished amiability. Neither, it appeared, could anyone else. The foundlings, especially long-time ones, were the well-behaved strangers at a party who have perfect manners and complete inner indifference to you. Those upright behaviors did sometimes get them adopted. But they inevitably chilled the affection out of such relationships. One hopeful mother, after a year of trying to coax some warmth out of her adopted child, returned the little boy. She said that she felt that she had been punished enough. "Is it possible that there results a deficiency disease of the emotional life, comparable to a deficiency of vital nutritional elements within the developing organism?" Levy wondered.

Of course, this was a worry mostly still buried in academia, a matter of research journals and scientific debates. The lonely-child syndrome that Bakwin described so eloquently had a name: "hospital-

ism." But what did that mean? Most people had never seen a child suffering from hospitalism, or watched a baby spiral down in his weeks on the ward. Bakwin could write of the despairing sigh of a child's breath. He could draw a heart-wrenching portrait of the way a lonely baby would begin to wither, until he began to look like an old man. And Bakwin did do that, all of that, with determined eloquence. But his words, however frustrated and angry, were still words in a medical journal. They were read and debated by a select few. It seemed that to change the picture, some advocate of the lost child would need to think about a far wider audience.

Scientists like to work within their own community, communicate in their own jargon, publish in their own journals. But to be a crusader, one must sometimes push beyond the academic envelope. John Watson had understood that perfectly—and used it to remarkable effect. Researchers working with orphaned children were reaching that same awareness. They would need the power of public opinion to change the system. They would need to make people *see* the problem, literally. The power of the filmed image suddenly beckoned as a way to break through the refusal to find out what children needed. In particular, a Viennese psychiatrist named René Spitz and a Scottish medical researcher named James Robertson both came to that conclusion. Spitz and Robertson, on different continents and for different reasons, decided that words were never going to win this fight. Each one decided to find a movie camera. Each would attempt to show people exactly what was being done to children.

Spitz was a Vienna-born Jew who fled from Austria to France, and then from France to New York, as Hitler's armies spread across Europe. He had worked with Katharine Wolf in Austria on the issue of sterile children's wards. In New York, he settled down with a passion to join forces with the likes of Harry Bakwin and William Goldfarb. In 1945, he was the author of yet another research paper, "Hospitalism: An Inquiry Into the Genesis of Psychiatric Conditions in Early Childhood." If one reads beyond the scientific terminology, his paper tells the compelling story of four months that Spitz spent comparing

two sets of children. None of the children was blessed in his circumstances. One group consisted of infants and toddlers left by their parents at a foundling home. The others attended a nursery school attached to a prison for women.

Spitz's description of the foundling home would have a familiar feel to anyone following Bakwin's work. The place was gloriously clean. Each child was kept in a crib walled off with hung sheets—or what Spitz tended to call "solitary confinement." The home observed the common practice of "don't touch" the child. Masked and gloved attendants bustled around, arranging meals and delivering medicine. Still, the only object the children saw for any length of time was the ceiling. In spite of "impeccable" guards against infection, the children constantly tumbled into illness. The home housed eighty-eight children, all less than three years old, when Spitz arrived. By the time he left, twenty-three were dead, killed by relentless infections.

The nursery, by contrast, was a chaotic, noisy play place, a big room scattered with toys. Children constantly tumbled over each other. The prison nursery allowed mothers to stay and play with their children. Perhaps because it was such a break from cell life, the mothers did as much as possible. Or perhaps they just wanted to be in a place where they found plenty of hugging and comfort. None of the children there died during Spitz's study. That didn't mean that you could blame all the deaths on loneliness. But, Spitz insisted, it should be considered as a legitimate peril, a recognized threat to health.

The "foundling home does not give the child a mother, or even a substitute mother," Spitz wrote. There was one staff attendant for every eight children, or what he called "only an eighth of a nurse." The problem with solitary confinement, he argued, is not that it's boring or static or lacks opportunities for cognitive stimulation, although all of that is true, and none of that is good. The more serious problem for the children was that there was no one to love them. Or like them. Or just smile and give them a careless hug. And it was this, Spitz said—isolation from human touch and affection—that was destroying the children's ability to fight infection. At the center of Spitz's argu-

ment is a simple statement: For a child, love is necessary for survival. His first choice to provide that was the mother. He wouldn't turn away others, though—an affectionate caretaker, a person actually interested in the child, someone more than one-eighth of a nurse. Any and all of those people were, he thought, a medical necessity: "We believe they [the children] suffer because their perceptual world is emptied of human partners," he said flatly. What is life without a partner? Can there be a home without someone who welcomes you there?

Spitz found that his paper received, well, mild interest, moderate attention. It added to the ongoing argument—the one that was going nowhere.

Spitz prepared to fight harder. He had filmed the children as they came into the foundling home and had allowed the camera to continue observing as the weeks passed. Simmering with his own outrage, Spitz turned his grainy little black-and-white film into a 1947 psychology classic, a cheap little silent movie, its title cards crammed with furiously compassionate words. He called the film simply, *Grief: A Peril in Infancy.* It starts with a fat baby named Jane, giggling at the experimenter, beaming at the people around her, reaching to be held. A week later, Jane sits in her crib, peering constantly around, searching for her mother. She is unsmiling and, when Spitz picks her up, she breaks into uncontrollable sobs; her eyes are pools of tears. There's the next little girl, "unusually precocious" says the title card, seven months old, happily stroking Spitz's face, shaking hands with him. A few weeks later, she's pale, unsmiling, dark circles curve under her eyes. She won't look up at Spitz now. He gently raises her from the crib. And then she clings to him so desperately that he has to pry her off when he leaves. She's still sobbing when the camera turns to another baby, lying flat, staring into the air, pressing a fist against his face; and another, curled up, trembling, gnawing on her fingers. The title card this time is short and indeed to the heart of the problem: "The cure: Give Mother Back to Baby."

Spitz took his film from medical society meeting to medical society meeting in New York. In his eloquent book on the importance of

early relationships, *Becoming Attached,* psychologist Robert Karen writes that one prominent analyst marched up to Spitz with tears in his eyes, saying, "How could you do this to us?" The film did indeed cause the debate over mother-child relationships to steam. Could Spitz be right? Could some fifty years of psychiatry be so wrong? Even eight years after *Grief* was produced, the quarrel still simmered. Critics shredded the film all over again as emotionally overwrought and nonscientific. Even in the late 1960s, researchers were arguing over whether he was right. But it was almost impossible, as Spitz had known, to argue those weeping children away.

Another film was circulating by this time, James Robertson's documentary of children in medical care. It was a cheap little film, too. Robertson estimated that it cost $80 to produce. His was a different story from Spitz's—and the same. Robertson wanted to tackle children in hospital wards and what it cost them to feel abandoned by their parents. This was still, of course, during the time of brief weekly visits. He called his film *A Two-Year-Old Goes to the Hospital.*

For a child at that time, hospitalization was, essentially, isolation from home and family and friends and everything that might have given a sick child security and support. Robertson's film followed a poised little toddler named Laura. He said once that she was so naturally composed that he worried that her very temperament would render his case meaningless. And Laura did indeed go easily into her hospital bed. But by the next week, she was begging her parents to take her home; and the next, pleading with them to stay; and by the next, hardly responding to them at all, just her lips trembling as they left her behind. At the end of the film, she was like a frozen child, silent and unresponsive. Months later, Laura, back home and secure again, saw Robertson's film, turned to her mother, and said angrily, "Why did you leave me like that?"

Robertson showed his film to an audience of three hundred medical workers in England. The initial reaction was concentrated fury. The hospital staffers felt personally attacked. Many demanded that the film be banned. "I was immediately assailed for lack of integrity,"

Robertson recalled. "I had produced an untrue record. I had slandered the professions." In 1953, Robertson became a World Health Organization consultant and brought his film to the United States for a six-week tour. Here, again, he ran into a solid wall of defensiveness, as if the ghosts of John Watson and Luther Holt were rising up in revolt. Robertson was assured that the problems he had documented were British ones: "American children were less cosseted and better able to withstand separations." And his simple solution—let parents stay with their children—was rejected as wrong-headed.

Robertson, though, had an unusual ally who liked the film and the message behind it. Edward John Mostyn Bowlby, born in 1907, was the son of a baronet. His father had been surgeon to the royal family. The son had been raised in time-honored upper-class style—a nanny until he was eight and then off to boarding school. It hadn't been a happy experience. John Bowlby later told his wife that he wouldn't send a dog to boarding school. Bowlby's father had wanted his son to follow him as a physician. He obediently entered medical school at Cambridge, but finally rebelled against doing as he was bid. Bowlby dropped out of the university and spent two years working in schools for troubled children. That time, and the almost heroic struggles of children seeking some kind of balance, decided Bowlby on a career in psychiatry. In 1929, he entered medical school at University College Hospital to train as an analyst. In time, he would indeed become a smart and thoughtful psychoanalyst. He figures in this story, though, because he would also become more—a brilliant theoretician, a world-class crusader.

Psychoanalysis belonged to one man at the time, and that was Sigmund Freud. When Bowlby began training as a psychiatrist, Freud was seventy-three years old, living in an affluent section of Vienna. Within the next decade, the Nazis would confiscate Freud's home, his money, his publishing house, and his library, and kill all his sisters in the gas chambers. He, his wife, and his children escaped to England in 1938, but Freud never recovered. He died of cancer within a year of arrival on safe soil. Yet even in the last ragged years of his life,

Freud cast a long and powerful shadow. He still does, of course, more than sixty years after his death. In Bowlby's time, it was a living shadow, as if some smoky image of Freud were still standing by, frowning at one's mistakes and one's doubts about his theories. His daughter, Anna Freud, helped keep his influence alive. She became one of the dominant psychoanalysts in post–World War II Britain. But Freud's ideas stood on their own power. They were potent enough, provocative enough to continue challenging the field indefinitely. The years since Freud died have stayed full of his ideas—of the subconscious mind, of sexual repression, of the power of a fantasy life. The smoky figure has faded, but not away, ever, entirely.

The aspect of Freud's theories that Bowlby found so difficult had to do with reality. Freud had declared that the unconscious in the adult is "in large measure made up of the child slumbering within, the child who dreams and fantasizes of a better life, so intensely that sometimes the adult cannot distinguish the two." And neither, Freud suggests, could the child. In other words, a child might be most heavily affected by his fantasy life and not by real events. This would mean that what a parent might do to a child was not nearly as important as the child's internal perceptions and desires and fantasies about that parent. A mother's touch might be meant as affection, for instance, but be turned into sexual dreaming by the child. If a child reported sexual abuse, then, it might only be the manifestation of desire. Perhaps the memory of a seduction was actually the memory of a wish. A sexual dream woven out of equal parts imagination and longing. Young children, Freud said, have a potent erotic drive that causes them to *want sex* with their opposite-sex parents. Reality doesn't have to enter into it at all.

Freud didn't say that early connections were meaningless. Shortly before his death, he wrote that the tie with the mother was "unique, without parallel, laid down unalterably for a whole lifetime" as the prototype for all other relationships. On the other hand, he still said, that unparalleled relationship didn't have to be entirely *real.* The child might be influenced by his perceptions of something his

mother had done, or his dreams of her, or even those lingering erotic fantasies. Spitz could argue that baby needed mother; Goldfarb could argue that children must learn affection when young; Bakwin might insist that babies are emotional creatures. But if doctors were looking for professional support in keeping mother and child physically together, they were not yet going to find it in the community of Freudian psychoanalysis. Anna Freud once explained it like this: "We do not deal with happenings in the real world but with their repercussions in the mind."

So when John Bowlby trained in psychiatry, he was startled to find that "it was regarded as almost outside the proper interest of an analyst to give systematic attention to a person's real experiences." It didn't take Bowlby long to realize that he couldn't work that way. His time with the maladjusted school children had convinced him of the power of real life. He knew that how parents treated children—if they had parents—mattered intensely. In 1948, working for the World Health Organization, Bowlby took his stand, beginning with a report titled *Maternal Care and Mental Health.* In it, he gathered together his allies. The report rings with the work of Bakwin, Goldfarb, Spitz, Bender, and other observations, including Bowlby's own.

Scientists who knew Bowlby remember him as almost a stereotype of the British gentleman, sometimes arrogant, dry in humor and tone, unsentimental, outwardly cool. But in the WHO report, he is passionate. Anger hums in the pages like electricity through a wire: "The mothering of a child is not something which can be arranged by roster; it is a live human relationship which alters the characters of both partners. The provision of a proper diet calls for more than calories and vitamins; we need to enjoy our food if it is to do us good. In the same way, the provision of mothering cannot be considered in terms of hours per day but only in terms of the enjoyment of each other's company which mother and child obtain."

Another concept, beloved by the Freudians, was that the baby's first relationship was not with the mother as a whole, but with her breast. Infants, so the thinking went, lacked the mental capacity to

form a relationship with a whole person, or even to keep the concept of a person. When Freud wrote of mother love, he also explained that the breast that feeds is an infant's first erotic object, and that "love has its origin in attachment to the satisfied need for nourishment." Bowlby had studied under another dedicated Freudian psychoanalyst, Melanie Klein, who agreed that the most important "being" in an infant's life was the breast. The mammary relationship, so to speak, would define the child's connection to its mother. This was Freud's "oral stage" of development, the mixing of nourishment with a faint tinge of erotica. After World War II, when she had worked with displaced children, Anna Freud was more willing to discuss the notion that a child might love a mother. But she didn't believe that bond began in affection: "He forms an attachment to food—milk—and developing further from this point, to the person who feeds him and the love of the food becomes the basis of love for the mother."

This dovetailed beautifully with psychology's faith in the conditioned response—the baby is hungry, his hunger drive is satisfied, he becomes conditioned to associate his mother with food. Mother and breast are equal; good mother means good feeding. It was another perfect meeting of the minds in defining human behavior. There was Freud and his followers and their faith in fantasy and food. There was the conviction of mainstream psychology that affectionate mothering was irrelevant and that children could and should be trained. There was the medical profession's reluctance to believe that health and emotions were in any way connected. "It's hard to believe now," says psychologist Bill Mason of the University of California-Davis, now an expert in social relations, "but when I first started working in Harry Harlow's lab, the prevailing view in psychology was that a baby's relationship to the mother was based entirely on being fed by her."

By the late 1950s, despite the films and arguments and reports, the baby and the mother remained loveless in psychology. John Bowlby was running out of patience. He published another paper, or

you could say another salvo, titled "The Nature of Child's Tie to His Mother" that was flatly grounded in the everyday reality of touch and affection. It was also his first attempt at putting forth his own theory of mother-child relationships, today known far and wide as attachment theory. And what attachment theory essentially says is that being loved matters—and, more than that, it matters who loves us and whom we love in return. It's not just a matter of the warm body holding the bottle; it's not object love at all; we love specific people and we need them to love us back. And in the case of the child's tie to the mother, it matters that the mother loves that baby and that the baby knows it. When you are a very small child, love needs to be as tangible as warm arms around you and as audible as the lull of a gentle voice at night.

Yes, Bowlby said, sure, food's important. But we don't build our relationships based on food. We don't love a person merely because she comes in carrying a bottle of milk or formula. We don't seek her out, clinging to her, sob when she leaves, just because she can feed us. That's lower in the hierarchy of needs—in the terminology of psychology—a secondary drive. Love is primary; attachment is primary. In Bowlby's view, a whole and healthy baby will want his parent nearby and will work for it—"many of the infant's and young child's instinctual responses are to ensure proximity to the adult." Babies aren't stupid; they know who will watch over them best. In attachment theory, a plethora of the infant's behaviors target mom or dad: sucking, clinging, following, crying, and smiling—perhaps cooing and babbling as well—are all part of the instinctive way a child tries to bind his parent tight.

There's a Darwinian side to this, Bowlby said, because a nearby parent undoubtedly increases the survival chances of the offspring. Without these behaviors, if parents lost interest, "the child would die, especially the child that was born on the primitive savannas where people first evolved." And, yes, obviously, food is necessary to survival, but it's a byproduct of the relationship. A baby knows that if the mother is there, she will provide food. Equally important,

Bowlby said, if the mother isn't there, not only is there no food but no protection against predators, and cold, and all the dangers of the night. So you might logically expect that we would evolve to be afraid and even despairing if our parents suddenly disappear. If you see a baby who appears to be suffering in his loneliness, Bowlby said, then you are seeing reality.

Push a child away, abandon it, and you do not see a well-disciplined miniature adult. You see the sobbing child in Spitz's film; James Robertson's Laura, clinging to her parents' hands; Bakwin's grave and shrunken babies in their screened-off beds. Bowlby's studies showed that, as children grew older, became toddlers, this need didn't lessen at all. The older children were just more aware. They knew their mothers better. They grieved when their mothers left them. They mourned a loss. They wanted their mothers back. In Bowlby's theory, this was a natural childhood reaction, like fear of the dark, of loud noises, strange people, and shadowy forests. If a baby's call wasn't answered, the child was left to fend for herself, make her own defenses. This could be part of what Goldfarb saw in the emotionally cold children from orphanages. Their emotional distance might be self-protective, Bowlby agreed, because it buffered away grief and loss. But it could also be destructive because "it sealed off the personality not only from despair but from love and other emotions."

Bowlby's ideas angered almost everyone he knew. Anna Freud dismissed him outright. She sincerely doubted that infants had enough "ego development" to grieve. Klein accepted that an infant might look sad, go through a "depressive" stage; but that wasn't missing a mother, she said, that was normal development. All Bowlby was seeing, she insisted, was reaction to sexual tensions, probably just baby castration fears and rage against dominating parents. The British Psychoanalytic Society was so hostile to attachment theory and its author that Bowlby stopped going to the meetings. "Unread, uncited, and unseen, he became the non-person of psychoanalysis," wrote Karen.

For the moment, all that compassionate momentum on behalf of children seemed to have stalled. It was beginning to look like a noble but lost cause. Perhaps that's exactly what attracted Harry Harlow to the research. That's not to say that the call was immediate. When Harry graduated from Stanford, John Watson still ruled, and there was no one around to take young Professor Harlow particularly seriously. Stanford hadn't; and, as it turned out, when he arrived in Wisconsin, his new university didn't, either. To hoist a banner in the name of love, Harry Harlow was going to need more than a name change. He would have to persuade other psychologists to listen to him. He would have to prove that his opinions mattered. He would pursue those goals in the least predictable ways: conduct experiments at a zoo, hand-build a laboratory, become obsessed with the intelligence of monkeys, and become convinced that he could, and should, quarrel with his own profession. You could call it an unusual route to the advocacy of love and affection. But there was never anything conventional about Harry Harlow.