FRANK SINATRA HAS A COLD

BY GAY TALESE MAY 14, 2016

In the winter of 1965, writer Gay Talese arrived in Los Angeles with an assignment from Esquire to profile Frank Sinatra. The legendary singer was approaching fifty, under the weather, out of sorts, and unwilling to be interviewed. So Talese remained in L.A., hoping Sinatra might recover and reconsider, and he began talking to many of the people around Sinatra—his friends, his associates, his family, his countless hangers-on—and observing the man himself wherever he could. The result, "*Frank Sinatra Has a Cold*," ran in April 1966 and became one of the most celebrated magazine stories ever published, a pioneering example of what came to be called New Journalism—a work of rigorously faithful fact enlivened with the kind of vivid storytelling that had previously been reserved for fiction. The piece conjures a deeply rich portrait of one of the era's most guarded figures and tells a larger story about entertainment, celebrity, and America itself.

Frank Sinatra, holding a glass of bourbon in one hand and a cigarette in the other, stood in a dark corner of the bar between two attractive but fading blondes who sat waiting for him to say something. But he said nothing; he had been silent during much of the evening, except now in this private club in Beverly Hills he seemed even more distant, staring out through the smoke and semidarkness into a large room beyond the bar where dozens of young couples sat huddled around small tables or twisted in the center of the floor to the clamorous clang of folk-rock music blaring from the stereo. The two blondes knew, as did Sinatra's four male friends who stood nearby, that it was a bad idea to force conversation upon him when he was in this mood of sullen silence, a mood that had hardly been uncommon during this first week of November, a month before his fiftieth birthday.

Sinatra had been working in a film that he now disliked, could not wait to finish; he was tired of all the publicity attached to his dating the twenty-year-old Mia Farrow, who was not in sight tonight; he was angry that a CBS television documentary of his life, to be shown in two weeks, was reportedly prying into his privacy, even speculating on his possible friendship with Mafia leaders; he was worried about his starring role in an hour-long NBC show entitled Sinatra—*A Man and His Music*, which would require that he sing eighteen songs with a voice that at this particular moment, just a few nights before the taping was to begin, was weak and sore and uncertain. Sinatra was ill. He was the victim of an ailment so common that most people would consider it trivial. But when it gets to Sinatra it can plunge him into a state of anguish, deep depression, panic, even rage. Frank Sinatra had a cold.

Sinatra with a cold is Picasso without paint, Ferrari without fuel—only worse. For the common cold robs Sinatra of that uninsurable jewel, his voice, cutting into the core of his confidence, and it affects not only his own psyche but also seems to cause a kind of psychosomatic nasal drip within dozens of people who work for him, drink with him, love him, depend on him for their own welfare and stability. A Sinatra with a cold can, in a small way, send vibrations through the entertainment industry and beyond as surely as a President of the United States, suddenly sick, can shake the national economy.

For Frank Sinatra was now involved with many things involving many people—his own film company, his record company, his private airline, his missile-parts firm, his real-estate holdings across the nation, his personal staff of seventy-five—which are only a portion of the power he is and has come to represent. He seemed now to be also the embodiment of the fully emancipated male, perhaps the only one in America, the man who can do anything he wants, anything, can do it because he has money, the energy, and no apparent guilt. In an age when the very young seem to be taking over, protesting and picketing and demanding change, Frank Sinatra survives as a national phenomenon, one of the few prewar products to withstand the test of time. He is the champ who made the big comeback, the man who had everything, lost it, then got it back, letting nothing stand in his way, doing what few men can do: he uprooted his life, left his family, broke with everything that was familiar, learning in the process that one way to hold a woman is not to hold her. Now he has the affection of Nancy and Ava and Mia, the fine female produce of three generations, and still has the adoration of his children, the freedom of a bachelor, he does not feel old, he makes old men feel young, makes them think that if Frank Sinatra can do it, it can be done; not that they could do it, but it is still nice for other men to know, at fifty, that it can be done.

But now, standing at this bar in Beverly Hills, Sinatra had a cold, and he continued to drink quietly and he seemed miles away in his private world, not even reacting when suddenly the stereo in the other room switched to a Sinatra song, "In the Wee Small Hours of the Morning."

> **"Sinatra with a cold is Picasso without paint, Ferrari without fuel—only worse."**

It is a lovely ballad that he first recorded ten years ago, and it now inspired many young couples who had been sitting, tired of twisting, to get up and move slowly around the dance floor, holding one another very close. Sinatra's intonation, precisely clipped, yet full and flowing, gave a deeper meaning to the simple lyrics—"In the wee small hours of the morning/ while the whole wide world is fast asleep/you lie awake, and think about the girl..."—it was like so many of his classics, a song that evoked loneliness and sensuality, and when blended with the dim light and the alcohol and nicotine and late-night needs, it became a kind of airy aphrodisiac. Undoubtedly the words from this song, and others like it, had put millions in the mood, it was music to make love by, and doubtless much love had been made by it all over America at night in cars, while the batteries burned down, in cottages by the lake, on beaches during balmy summer evenings, in secluded parks and exclusive penthouses and furnished rooms, in cabin cruisers and cabs and cabanas—in all places where Sinatra's songs could be heard were these words that warmed women, wooed and won them, snipped the final thread of inhibition and gratified the male egos of ungrateful lovers; two generations of men had been the beneficiaries of such ballads, for which they were eternally in his debt, for which they may eternally hate him. Nevertheless here he was, the man himself, in the early hours of the morning in Beverly Hills, out of range.

The two blondes, who seemed to be in their middle thirties, were preened and polished, their matured bodies softly molded within tight dark suits. They sat, legs crossed, perched on the high bar stools. They listened to the music. Then one of them pulled out a Kent and Sinatra quickly placed his gold lighter under it and she held his hand, looked at his fingers: they were nubby and raw, and the pinkies protruded, being so stiff from arthritis that he could barely bend them. He was, as usual, immaculately dressed. He wore an oxford-grey suit with a vest, a suit conservatively cut on the outside but trimmed with flamboyant silk within; his shoes, British, seemed to be shined even on the bottom of the soles. He also wore, as everybody seemed to know, a remarkably convincing black hairpiece, one of sixty that he owns, most of them under the care of an inconspicuous little grey-haired lady who, holding his hair in a tiny satchel, follows him around whenever he performs. She earns $400 a week. The most distinguishing thing about Sinatra's face are his eyes, clear blue and alert, eyes that within seconds can go cold with anger, or glow with affection, or, as now, reflect a vague detachment that keeps his friends silent and distant.

Leo Durocher, one of Sinatra's closest friends, was now shooting pool in the small room behind the bar. Standing near the door was Jim Mahoney, Sinatra's press agent, a somewhat chunky young man with a square jaw and narrow eyes who would resemble a tough Irish plainclothesman if it were not for the expensive continental suits he wears and his exquisite shoes often adorned with polished buckles. Also nearby was a big, broad-shouldered two-hundred-pound actor named Brad Dexter who seemed always to be thrusting out his chest so that his gut would not show.

Brad Dexter has appeared in several films and television shows, displaying fine talent as a character actor, but in Beverly Hills he is equally known for the role he played in Hawaii two years ago when he swam a few hundred yards and risked his life to save Sinatra from drowning in a riptide. Since then Dexter has been one of Sinatra's constant companions and has been made a producer in Sinatra's film company. He occupies a plush office near Sinatra's executive suite. He is endlessly searching for literary properties that might be converted into new starring roles for Sinatra. Whenever he is among strangers with Sinatra he worries because he knows that Sinatra brings out the best and worst in people—some men will become aggressive, some women will become seductive, others will stand around skeptically appraising him, the scene will be somehow intoxicated by his mere presence, and maybe Sinatra himself, if feeling as badly as he was tonight, might become intolerant or tense, and then: headlines. So Brad Dexter tries to anticipate danger and warn Sinatra in advance. He confesses to feeling very protective of Sinatra, admitting in a recent moment of self-revelation: "I'd kill for him."

While this statement may seem outlandishly dramatic, particularly when taken out of context, it nonetheless expresses a fierce fidelity that is quite common within Sinatra's special circle. It is a characteristic that Sinatra, without admission, seems to prefer: All the Way; All or Nothing at All. This is the Sicilian in Sinatra; he permits his friends, if they wish to remain that, none of the easy Anglo-Saxon outs. But if they remain loyal, then there is nothing Sinatra will not do in turn—fabulous gifts, personal kindnesses, encouragement when they're down, adulation when they're up. They are wise to remember, however, one thing. He is Sinatra. The boss. Il Padrone.

I had seen something of this Sicilian side of Sinatra last summer at Jilly's saloon in New York, which was the only other time I'd gotten a close view of him prior to this night in this California club. Jilly's, which is on West Fifty-second Street in Manhattan, is where Sinatra drinks whenever he is in New York, and there is a special chair reserved for him in the back room against the wall that nobody else may use. When he is occupying it, seated behind a long table flanked by his closest New York friends—who include the saloonkeeper, Jilly Rizzo, and Jilly's azure-haired wife, Honey, who is known as the "Blue Jew"—a rather strange ritualistic scene develops. That night dozens of people, some of them casual friends of Sinatra's, some mere acquaintances, some neither, appeared outside of Jilly's saloon. They approached it like a shrine. They had come to pay respect. They were from New York, Brooklyn, Atlantic City, Hoboken. They were old actors, young actors, former prizefighters, tired trumpet players, politicians, a boy with a cane. There was a fat lady who said she remembered Sinatra when he used to throw the Jersey Observer onto her front porch in 1933. There were middle-aged couples who said they had heard Sinatra sing at the Rustic Cabin in 1938 and "We knew then that he really had it!" Or they had heard him when he was with Harry James's band in 1939, or with Tommy Dorsey in 1941 ("Yeah, that's the song, 'I'll Never Smile Again'—he sang it one night in this dump near Newark and we danced..."); or they remembered that time at the Paramount with the swooners, and him with those bow ties, The Voice; and one woman remembered that awful boy she knew then—Alexander Dorogokupetz, an eighteen-year-old heckler who had thrown a tomato at Sinatra and the bobby-soxers in the balcony had tried to flail him to death. Whatever became of Alexander Dorogokupetz? The lady did not know.

And they remembered when Sinatra was a failure and sang trash like "Mairzy Doats," and they remembered his comeback and on this night they were all standing outside Jilly's saloon, dozens of them, but they could not get in. So some of them left. But most of them stayed, hoping that soon they might be able to push or wedge their way into Jilly's between the elbows and backsides of the men drinking three-deep at the bar, and they might be able to peek through and see him sitting back there. This is all they really wanted; they wanted to see him. And for a few moments they gazed in silence through the smoke and they stared. Then they turned, fought their way out of the bar, went home.

Some of Sinatra's close friends, all of whom are known to the men guarding Jilly's door, do manage to get an escort into the back room. But once they are there they, too, must fend for themselves. On the particular evening, Frank Gifford, the former football player, got only seven yards in three tries. Others who had somehow been close enough to shake Sinatra's hand did not shake it; instead they just touched him on the shoulder or sleeve, or they merely stood close enough for him to see them and, after he'd given them a wink of recognition or a wave or a nod or called out their names (he had a fantastic memory for first names), they would then turn and leave. They had checked in. They had paid their respects. And as I watched this ritualistic scene, I got the impression that Frank Sinatra was dwelling simultaneously in two worlds that were not contemporary.

On the one hand he is the swinger—as he is when talking and joking with Sammy Davis, Jr., Richard Conte, Liza Minelli, Bernie Massi, or any of the other show-business people who get to sit at the table; on the other, as when he is nodding or waving to his paisanos who are close to him (Al Silvani, a boxing manager who works with Sinatra's film company; Dominic Di Bona, his wardrobe man; Ed Pucci, a 300-pound former football lineman who is his aide-de-camp), Frank Sinatra is Il Padrone. Or better still, he is what in traditional Sicily have long been called uomini rispettati—men of respect: men who are both majestic and humble, men who are loved by all and are very generous by nature, men whose hands are kissed as they walk from village to village, men who would personally go out of their way to redress a wrong.

Frank Sinatra does things personally. At Christmas time, he will personally pick dozens of presents for his close friends and family, remembering the type of jewelry they like, their favorite colors, the sizes of their shirts and dresses. When a musician friend's house was destroyed and his wife was killed in a Los Angeles mud slide a little more than a year ago, Sinatra personally came to his aid, finding the musician a new home, paying whatever hospital bills were left unpaid by the insurance, then personally supervising the furnishing of the new home down to the replacing of the silverware, the linen, the purchase of new clothing.

"The most distinguishing thing about Sinatra's face are his eyes, clear blue and alert, eyes that within seconds can go cold with anger, or glow with affection, or, as now, reflect a vague detachment that keeps his friends silent and distant."

The same Sinatra who did this can, within the same hour, explode in a towering rage of intolerance should a small thing be incorrectly done for him by one of his paisanos. For example, when one of his men brought him a frankfurter with catsup on it, which Sinatra apparently abhors, he angrily threw the bottle at the man, splattering catsup all over him. Most of the men who work around Sinatra are big. But this never seems to intimidate Sinatra nor curb his impetuous behavior with them when he is mad. They will never take a swing back at him. He is Il Padrone.

At other times, aiming to please, his men will overreact to his desires: when he casually observed that his big orange desert jeep in Palm Springs seemed in need of a new painting, the word was swiftly passed down through the channels, becoming ever more urgent as it went, until finally it was a command that the jeep be painted now, immediately, yesterday. To accomplish this would require the hiring of a special crew of painters to work all night, at overtime rates; which, in turn, meant that the order had to be bucked back up the line for further approval. When it finally got back to Sinatra's desk, he did not know what it was all about; after he had figured it out he confessed, with a tired look on his face, that he did not care when the hell they painted the jeep.

Yet it would have been unwise for anyone to anticipate his reaction, for he is a wholly unpredictable man of many moods and great dimension, a man who responds instantaneously to instinct—suddenly, dramatically, wildly he responds, and nobody can predict what will follow. A young lady named Jane Hoag, a reporter at Life's Los Angeles bureau who had attended the same school as Sinatra's daughter, Nancy, had once been invited to a party at Mrs. Sinatra's California home at which Frank Sinatra, who maintains very cordial relations with his former wife, acted as host. Early in the

party Miss Hoag, while leaning against a table, accidentally with her elbow knocked over one of a pair of alabaster birds to the floor, smashing it to pieces. Suddenly, Miss Hoag recalled, Sinatra's daughter cried, "Oh, that was one of my mother's favorite..."—but before she could complete the sentence, Sinatra glared at her, cutting her off, and while forty other guests in the room all stared in silence, Sinatra walked over, quickly with his finger flicked the other alabaster bird off the table, smashing it to pieces, and then put an arm gently around Jane Hoag and said, in a way that put her completely at ease, "That's okay, kid."

Now Sinatra said a few words to the blondes. Then he turned from the bar and began to walk toward the poolroom. One of Sinatra's other men friends moved in to keep the girls company. Brad Dexter, who had been standing in the corner talking to some other people, now followed Sinatra.

The room cracked with the clack of billiard balls. There were about a dozen spectators in the room, most of them young men who were watching Leo Durocher shoot against two other aspiring hustlers who were not very good. This private drinking club has among its membership many actors, directors, writers, models, nearly all of them a good deal younger than Sinatra or Durocher and much more casual in the way they dress for the evening. Many of the young women, their long hair flowing loosely below their shoulders, wore tight, fanny-fitting Jax pants and very expensive sweaters; and a few of the young men wore blue or green velour shirts with high collars and narrow tight pants, and Italian loafers.

It was obvious from the way Sinatra looked at these people in the poolroom that they were not his style, but he leaned back against a high stool that was against the wall, holding his drink in his right hand, and said nothing, just watched Durocher slam the billiard balls back and forth. The younger men in the room, accustomed to seeing Sinatra at this club, treated him without deference, although they said nothing offensive. They were a cool young group, very California-cool and casual, and one of the coolest seemed to be a little guy, very quick of movement, who had a sharp profile, pale blue eyes, blondish hair, and squared eyeglasses. He wore a pair of brown corduroy slacks, a green shaggy-dog Shetland sweater, a tan suede jacket, and Game Warden boots, for which he had recently paid $60.

Frank Sinatra, leaning against the stool, sniffling a bit from his cold, could not take his eyes off the Game Warden boots. Once, after gazing at them for a few moments, he turned away; but now he was focused on them again. The owner of the boots, who was just standing in them watching the pool game, was named Harlan Ellison, a writer who had just completed work on a screenplay, *The Oscar*.

Finally Sinatra could not contain himself.

> **"I don't want anybody in here without coats and ties."**

"Hey," he yelled in his slightly harsh voice that still had a soft, sharp edge. "Those Italian boots?"

"No," Ellison said.

"Spanish?"

"No."

"Are they English boots?"

"Look, I donno, man," Ellison shot back, frowning at Sinatra, then turning away again.

Now the poolroom was suddenly silent. Leo Durocher who had been poised behind his cue stick and was bent low just froze in that position for a second. Nobody moved. Then Sinatra moved away from the stool and walked with that slow, arrogant swagger of his toward Ellison, the hard tap of Sinatra's shoes the only sound in the room. Then, looking down at Ellison with a slightly raised eyebrow and a tricky little smile, Sinatra asked: "You expecting a storm?"

Harlan Ellison moved a step to the side. "Look, is there any reason why you're talking to me?"

"I don't like the way you're dressed," Sinatra said.

"Hate to shake you up," Ellison said, "but I dress to suit myself."

Now there was some rumbling in the room, and somebody said, "Com'on, Harlan, let's get out of here," and Leo Durocher made his pool shot and said, "Yeah, com'on."

But Ellison stood his ground.

Sinatra said, "What do you do?"

"I'm a plumber," Ellison said.

"No, no, he's not," another young man quickly yelled from across the table. "He wrote *The Oscar*."

"Oh, yeah," Sinatra said, "well I've seen it, and it's a piece of crap."

"That's strange," Ellison said, "because they haven't even released it yet."

"Well, I've seen it," Sinatra repeated, "and it's a piece of crap."

Now Brad Dexter, very anxious, very big opposite the small figure of Ellison, said, "Com'on, kid, I don't want you in this room."

"Hey," Sinatra interrupted Dexter, "can't you see I'm talking to this guy?"

Dexter was confused. Then his whole attitude changed, and his voice went soft and he said to Ellison, almost with a plea, "Why do you persist in tormenting me?"

The whole scene was becoming ridiculous, and it seemed that Sinatra was only half-serious, perhaps just reacting out of sheer boredom or inner despair; at any rate, after a few more exchanges Harlan Ellison left the room. By this time the word had gotten out to those on the dance floor about the Sinatra-Ellison exchange, and somebody went to look for the manager of the club. But somebody else said that the manager had already heard about it—and had quickly gone out the door, hopped in his car and drove home. So the assistant manager went into the poolroom.

"I don't want anybody in here without coats and ties," Sinatra snapped.

The assistant manager nodded, and walked back to his office.

It was the morning after... It was the beginning of another nervous day for Sinatra's press agent, Jim Mahoney. Mahoney had a headache, and he was worried but not over the Sinatra-Ellison incident of the night before. At the time Mahoney had been with his wife at a table in the other room, and possibly he had not even been aware of the little drama. The whole thing had lasted only about three minutes. And three minutes after it was over, Frank Sinatra had probably forgotten about it for the rest of his life—as Ellison will probably remember it for the rest of his life: he had had, as hundreds of others before him, at an unexpected moment between darkness and dawn, a scene with Sinatra.

It was just as well that Mahoney had not been in the poolroom; he had enough on his mind today. He was worried about Sinatra's cold and worried about the controversial CBS documentary that, despite Sinatra's protests and withdrawal of permission, would be shown on television in less than two weeks. The newspapers this morning were full of hints that Sinatra might sue the network, and Mahoney's phones were ringing without pause, and now he was plugged into New York talking to the Daily News's Kay Gardella, saying: "... that's right, Kay... they made a gentleman's agreement to not ask certain questions about Frank's private life, and then Cronkite went right ahead: 'Frank, tell me about those associations.' That question, Kay—out! That question should never have been asked..."

As he spoke, Mahoney leaned back in his leather chair, his head shaking slowly. He is a powerfully built man of thirty-seven; he has a round, ruddy face, a heavy jaw, and narrow pale eyes, and he might appear pugnacious if he did not speak with such clear, soft sincerity and if he were not so meticulous about his clothes. His suits and shoes are superbly tailored, which was one of the first things Sinatra noticed about him, and in his spacious office opposite the bar is a red-muff electrical shoe polisher and a pair of brown wooden shoulders on a stand over which Mahoney can drape his jackets. Near the bar is an autographed photograph of President Kennedy and a few pictures of Frank Sinatra, but there are none of Sinatra in any other rooms in Mahoney's public-relations agency; there once was a large photograph of him hanging in the reception room but this apparently bruised the egos of some of Mahoney's other movie-star clients and, since Sinatra never shows up at the agency anyway, the photograph was removed.

Still, Sinatra seems ever present, and if Mahoney did not have legitimate worries about Sinatra, as he did today, he could invent them—and, as worry aids, he surrounds himself with little mementos of moments in the past when he did worry. In his shaving kit there is a two-year-old box of sleeping tablets dispensed by a Reno druggist—the date on the bottle marks the kidnapping of Frank Sinatra, Jr. There is on a table in Mahoney's office a mounted wood reproduction of Frank Sinatra's ransom note written on the aforementioned occasion. One of Mahoney's mannerisms, when he is sitting at his desk worrying, is to tinker with the tiny toy train he keeps in front of him—the train is a souvenir from the Sinatra film, Von Ryan's Express; it is to men who are close to Sinatra what the PT-109 tie clasps are to men who were close to Kennedy—and Mahoney then proceeds to roll the little train back and forth on the six inches of track; back and forth, back and forth, click-clack-click-clack. It is his Queeg-thing.

Now Mahoney quickly put aside the little train. His secretary told him there was a very important call on the line. Mahoney picked it up, and his voice was even softer and more sincere than before. "Yes, Frank," he said. "Right... right... yes, Frank..."

When Mahoney put down the phone, quietly, he announced that Frank Sinatra had left in his private jet to spend the weekend at his home in Palm Springs, which is a sixteen-minute flight from his home in Los Angeles. Mahoney was now worried again. The Lear jet that Sinatra's pilot would be flying was identical, Mahoney said, to the one that had just crashed in another part of California.

On the following Monday, a cloudy and unseasonably cool California day, more than one hundred people gathered inside a white television studio, an enormous room dominated by a white stage, white walls, and with dozens of lights and lamps dangling: it rather resembled a gigantic operating room. In this room, within an hour or so, NBC was scheduled to begin taping a one-hour show that would be televised in color on the night of November 24 and would highlight, as much as it could in the limited time, the twenty-five-year career of Frank Sinatra as a public entertainer. It would not attempt to probe, as the forthcoming CBS Sinatra documentary allegedly would, that area of Sinatra's life that he regards as private. The NBC show would be mainly an hour of Sinatra singing some of the hits that carried him from Hoboken to Hollywood, a show that would be interrupted only now and then by a few film clips and commercials for Budweiser beer. Prior to his cold, Sinatra had been very excited about this show; he saw here an opportunity to appeal not only to those nostalgic, but also to communicate his talent to some rock-and-rollers—in a sense, he was battling The Beatles. The press releases being prepared by Mahoney's agency stressed this, reading: "If you happen to be tired of kid singers wearing mops of hair thick enough to hide a crate of melons... it should be refreshing, to consider the entertainment value of a video special titled *Sinatra—A Man and His Music*..."

But now in this NBC studio in Los Angeles, there was an atmosphere of anticipation and tension because of the uncertainty of the Sinatra voice. The forty-three musicians in Nelson Riddle's orchestra had already arrived and some were up on the white platform warming up. Dwight Hemion, a youthful sandy-haired director who had won praise for his television special on Barbra Streisand, was seated in the glass-enclosed control booth that overlooked the orchestra and stage. The camera crews, technical teams, security guards, Budweiser ad men were also standing between the floor lamps and cameras, waiting, as were a dozen or so ladies who worked as secretaries in other parts of the building but had sneaked away to Eternity. He was hired, finding out later that he was to be Sinatra's double. In Sinatra's latest film, Assault on a Queen, a story in which Sinatra and some fellow conspirators attempt to hijack the Queen Mary, Johnny Delgado doubles for Sinatra in some water scenes; and now, in this NBC studio, his job was to stand under the hot television lights marking Sinatra's spots on the stage for the camera crews.

Five minutes later, the real Frank Sinatra walked in. His face was pale, his blue eyes seemed a bit watery. He had been unable to rid himself of the cold, but he was going to try to sing anyway because the schedule was tight and thousands of dollars were involved at this moment in the assembling of the orchestra and crews and the rental of the studio. But when Sinatra, on his way to his small rehearsal room to warm up his voice, looked into the studio and saw that the stage and orchestra's platform were not close together, as he had specifically requested, his lips tightened and he was obviously very upset. A few moments later, from his rehearsal room, could be heard the pounding of his fist against the top of the piano and the voice of his accompanist, Bill Miller, saying, softly, "Try not to upset yourself, Frank."

Later Jim Mahoney and another man walked in, and there was talk of Dorothy Kilgallen's death in New York earlier that morning. She had been an ardent foe of Sinatra for years, and he became equally uncomplimentary about her in his nightclub act, and now, though she was dead, he did not compromise his feelings. "Dorothy Kilgallen's dead," he repeated, walking out of the room toward the studio. "Well, guess I got to change my whole act."

When he strolled into the studio the musicians all picked up their instruments and stiffened in their seats. Sinatra cleared his throat a few times and then, after rehearsing a few ballads with the orchestra, he sang "Don't Worry About Me" to his satisfaction and, being uncertain of how long his voice could last, suddenly became impatient.

"Why don't we tape this mother?" he called out, looking up toward the glass booth where the director, Dwight Hemion, and his staff were sitting. Their heads seemed to be down, focusing on the control board.

"Why don't we tape this mother?" Sinatra repeated.

The production stage manager, who stands near the camera wearing a headset, repeated Sinatra's words exactly into his line to the control room: "Why don't we tape this mother?"

Hemion did not answer. Possibly his switch was off. It was hard to know because of the obscuring reflections the lights made against the glass booth.

> **"He was singing now, cold or no cold, with power and warmth, he was letting himself go, the public arrogance was gone, the private side was in this song about the girl who, it is said, understands him better than anybody else, and is the only person in front of whom he can be unashamedly himself."**

so they could watch this.

A few minutes before eleven o'clock, word spread quickly through the long corridor into the big studio that Sinatra was spotted walking through the parking lot and was on his way, and was looking fine. There seemed great relief among the group that was gathered; but when the lean, sharply dressed figure of the man got closer, and closer, they saw to their dismay that it was not Frank Sinatra. It was his double. Johnny Delgado.

Delgado walks like Sinatra, has Sinatra's build, and from certain facial angles does resemble Sinatra. But he seems a rather shy individual. Fifteen years ago, early in his acting career, Delgado applied for a role in From Here

"Why don't we put on a coat and tie," said Sinatra, then wearing a high-necked yellow pullover, "and tape this..."

Suddenly Hemion's voice came over the sound amplifier, very calmly: "Okay, Frank, would you mind going back over..."

"Yes, I would mind going back," Sinatra snapped.

The silence from Hemion's end, which lasted a second or two, was then again interrupted by Sinatra saying, "When we stop doing things around here the way we did them in 1950, maybe we..." and Sinatra continued to tear into Hemion, condemning as well the lack of modern techniques in putting such shows together; then, possibly not wanting to use his voice unnecessarily, he stopped. And Dwight Hemion, very patient, so patient and calm that one would assume he had not heard anything that Sinatra had just said, outlined the opening part of the show. And Sinatra a few minutes later was reading his opening remarks, words that would follow "Without a Song," off the large idiot-cards being held near the camera. Then, this done, he prepared to do the same thing on camera.

"Frank Sinatra Show, Act I, Page 10, Take 1," called a man with a clapboard, jumping in front of the camera—clap—then jumping away again.

"Did you ever stop to think," Sinatra began, "what the world would be like without a song?... It would be a pretty dreary place... Gives you something to think about, doesn't it?..."

Sinatra stopped.

"Excuse me," he said, adding, "Boy, I need a drink."

They tried it again.

"Frank Sinatra Show, Act I, Page 10, Take 2," yelled the jumping guy with the clapboard.

"Did you ever stop to think what the world would be like without a song?..." Frank Sinatra read it through this time without stopping. Then he rehearsed a few more songs, once or twice interrupting the orchestra when a certain instrumental sound was not quite what he wanted. It was hard to tell how well his voice was going to hold up, for this was early in the show; up to this point, however, everybody in the room seemed pleased, particularly when he sang an old sentimental favorite written more than twenty years ago by Jimmy Van Heusen and Phil Silvers—"Nancy," inspired by the first of Sinatra's three children when she was just a few years old.

If I don't see her each day
I miss her...
Gee what a thrill
Each time I kiss her...

As Sinatra sang these words, though he has sung them hundreds and hundreds of times in the past, it was suddenly obvious to everybody in the studio that something quite special must be going on inside the man, because something quite special was coming out. He was singing now, cold or no cold, with power and warmth, he was letting himself go, the public arrogance was gone, the private side was in this song about the girl who, it is said, understands him better than anybody else, and is the only person in front of whom he can be unashamedly himself.

Nancy is twenty-five. She lives alone, her marriage to singer Tommy Sands having ended in divorce. Her home is in a Los Angeles suburb and she is now making her third film and is recording for her father's record company. She sees him every day; or, if not, he telephones, no matter if it be from Europe or Asia. When Sinatra's singing first became popular on radio, stimulating the swooners, Nancy would listen at home and cry. When Sinatra's first marriage broke up in 1951 and he left home, Nancy was the only child old enough to remember him as a father. She also saw him with Ava Gardner, Juliet Prowse, Mia Farrow, many others, has gone on double dates with him...

She takes the winter
And makes it summer...
Summer could take
Some lessons from her...

Nancy now also sees him visiting at home with his first wife, the former Nancy Barbato, a plasterer's daughter from Jersey City whom he married in 1939 when he was earning $25 a week singing at the Rustic Cabin near Hoboken.

The first Mrs. Sinatra, a striking woman who has never remarried ("When you've been married to Frank Sinatra..." she once explained to a friend), lives in a magnificent home in Los Angeles with her younger daughter, Tina, who is seventeen. There is no bitterness, only great respect and affection between Sinatra and his first wife, and he has long been welcome in her home and has even been known to wander in at odd hours, stoke the fire, lie on the sofa, and fall asleep. Frank Sinatra can fall asleep anywhere, something he learned when he used to ride bumpy roads with band buses; he also learned at that time, when sitting in a tuxedo, how to pinch the trouser creases in the back and tuck the jacket under and out, and fall asleep perfectly pressed. But he does not ride buses anymore, and his daughter Nancy, who in her younger days felt rejected when he slept on the sofa instead of giving attention to her, later realized that the sofa was one of the few places left in the world where Frank Sinatra could get any privacy, where his famous face would neither be stared at nor cause an abnormal reaction in others. She realized, too, that things normal have always eluded her father: his childhood was one of loneliness and a drive toward attention, and since attaining it he has never again been certain of solitude. Upon looking out the window of a home he once owned in Hasbrouck Heights, New Jersey, he would occasionally see the faces of teen-agers peeking in; and in 1944, after moving to California and buying a home behind a ten-foot fence on Lake Toluca, he discovered that the only way to escape the telephone and other intrusions was to board his paddle boat with a few friends, a card table and a case of beer, and stay afloat all afternoon. But he has tried, insofar as it has been possible, to be like everyone else, Nancy says. He wept on her wedding day, he is very sentimental and sensitive.

What the hell are you doing up there, Dwight?"

Silence from the control booth.

"Got a party or something going on up there, Dwight?"

Sinatra stood on the stage, arms folded, glaring up across the cameras toward Hemion. Sinatra had sung Nancy with probably all he had in his voice on this day. The next few numbers contained raspy notes, and twice his voice completely cracked. But now Hemi-

on was in the control booth out of communication; then he was down in the studio walking over to where Sinatra stood. A few minutes later they both left the studio and were on the way up to the control booth. The tape was replayed for Sinatra. He watched only about five minutes of it before he started to shake his head. Then he said to Hemion: "Forget it, just forget it. You're wasting your time. What you got there," Sinatra said, nodding to the singing image of himself on the television screen, "is a man with a cold." Then he left the control booth, ordering that the whole day's performance be scrubbed and future taping postponed until he had recovered.

Soon the word spread like an emotional epidemic down through Sinatra's staff, then fanned out through Hollywood, then was heard across the nation in Jilly's saloon, and also on the other side of the Hudson River in the homes of Frank Sinatra's parents and his other relatives and friends in New Jersey.

When Frank Sinatra spoke with his father on the telephone and said he was feeling awful, the elder Sinatra reported that he was also feeling awful: that his left arm and fist were so stiff with a circulatory condition he could barely use them, adding that the ailment might be the result of having thrown too many left hooks during his days as a bantamweight almost fifty years ago.

Martin Sinatra, a ruddy and tattooed little blue-eyed Sicilian born in Catania, boxed under the name of "Marty O'Brien." In those days, in those places, with the Irish running the lower reaches of city life, it was not uncommon for Italians to wind up with such names. Most of the Italians and Sicilians who migrated to America just prior to the 1900's were poor and uneducated, were excluded from the building-trades unions dominated by the Irish, and were somewhat intimidated by the Irish police, Irish priests, Irish politicians.

One notable exception was Frank Sinatra's mother, Dolly, a large and very ambitious woman who was brought to this country at two months of age by her mother and father, a lithographer from Genoa. In later years Dolly Sinatra, possessing a round red face and blue eyes, was often mistaken for being Irish, and surprised many at the speed with which she swung her heavy handbag at anyone uttering "Wop."

By playing skillful politics with North Jersey's Democratic machine, Dolly Sinatra was to become, in her heyday, a kind of Catherine de Medici of Hoboken's third ward. She could always be counted upon to deliver six hundred votes at election time from her Italian neighborhood, and this was her base of power. When she told one of the politicians that she wanted her husband to be appointed to the Hoboken Fire Department, and was told, "But, Dolly, we don't have an opening," she snapped, "Make an opening."

They did. Years later she requested that her husband be made a captain, and one day she got a call from one of the political bosses that began, "Dolly, congratulations!"

"For what?"

"Captain Sinatra."

"Oh, you finally made him one—thank you very much."

Then she called the Hoboken Fire Department.

"Let me speak to Captain Sinatra," she said. The fireman called Martin Sinatra to the phone, saying, "Marty, I think your wife has gone nuts." When he got on the line, Dolly greeted him:

"Congratulations, Captain Sinatra!"

Dolly's only child, christened Francis Albert Sinatra, was born and nearly died on December 12, 1915. It was a difficult birth, and during his first moment on earth he received marks he will carry till death—the scars on the left side of his neck being the result of a doctor's clumsy forceps, and Sinatra has chosen not to obscure them with surgery.

After he was six months old, he was reared mainly by his grandmother. His mother had a full-time job as a chocolate dipper with a large firm and was so proficient at it that the firm once offered to send her to the Paris office to train others. While some people in Hoboken remember Frank Sinatra as a lonely child, one who spent many hours on the porch gazing into space, Sinatra was never a slum kid, never in jail, always well-dressed. He had so many pants that some people in Hoboken called him "Slacksey O'Brien."

Dolly Sinatra was not the sort of Italian mother who could be appeased merely by a child's obedience and good appetite. She made many demands on her son, was always very strict. She dreamed of his becoming an aviation engineer. When she discovered Bing Crosby pictures hanging on his bedroom walls one evening, and learned that her son wished to become a singer too, she became infuriated and threw a shoe at him. Later, finding she could not talk him out of it—"he takes after me"—she encouraged his singing.

Many Italo-American boys of his generation were then shooting for the same star—they were strong with song, weak with words, not a big novelist among them: no O'Hara, no Bellow, no Cheever, nor Shaw; yet they could communicate bel canto. This was more in their tradition, no need for a diploma; they could, with a song, someday see their names in lights... Perry Como... Frankie Laine... Tony Bennett... Vic Damone... but none could see it better than Frank Sinatra.

Though he sang through much of the night at the Rustic Cabin, he was up the next day singing without a fee on New York radio to get more attention. Later he got a job singing with Harry James's band, and it was there in August of 1939 that Sinatra had his first recording hit— "All or Nothing at All." He became very fond of Harry James and the men in the band, but when he received an offer from Tommy Dorsey, who in those days had probably the best band in the country, Sinatra took it; the job paid $125 a week, and Dorsey knew how to feature a vocalist. Yet Sinatra was very depressed at leaving James's band, and the final night with them was so memorable that, twenty years later, Sinatra could recall the details to a friend: "... the bus pulled out with the rest of the boys at about half-past midnight. I'd said good-bye to them all, and it was snowing, I remember. There was nobody around and I stood alone with my suitcase in the snow and watched the taillights disappear. Then the tears started and I tried to run after the bus. There was such spirit and enthusiasm in that band, I hated leaving it..."

But he did—as he would leave other warm places, too, in search of something more, never wasting time, trying to do it all in one generation, fighting under his own name, defending underdogs, terrorizing top dogs. He threw a punch at a musician who said something anti-Semitic, espoused the Negro cause two decades before it became fashionable. He also threw a tray of glasses at Buddy Rich when he played the drums too loud.

Sinatra gave away $50,000 worth of gold cigarette lighters before he was thirty, was living an immigrant's wildest dream of America. He arrived suddenly on the scene when DiMaggio was silent, when paisanos were mournful, were quietly defensive about Hitler in their homeland. Sinatra became, in time, a kind of one-man Anti-Defamation League for Italians in America, the sort of organization that would be unlikely for them because, as the theory goes, they rarely agreed on anything, being extreme individualists: fine as soloists, but not so good in a choir; fine as heroes, but not so good in a parade.

When many Italian names were used in describing gangsters on a television show, The Untouchables, Sinatra was loud in his disapproval. Sinatra and many thousands of other Italo-Americans were resentful as well when a small-time hoodlum, Joseph Valachi, was brought by Bobby Kennedy into prominence as a Mafia expert, when indeed, from Valachi's testimony on television, he seemed to know less than most waiters on Mulberry Street. Many Italians in Sinatra's circle also regard Bobby Kennedy as something of an Irish cop, more dignified than those in Dolly's day, but no less intimidating. Together with Peter Lawford, Bobby Kennedy is said to have suddenly gotten "cocky" with Sinatra after John Kennedy's election, forgetting the contribution Sinatra had made in both fundraising and in influencing many anti-Irish Italian votes. Lawford and Bobby Kennedy are both suspected of having influenced the late President's decision to stay as a house guest with Bing Crosby instead of Sinatra, as originally planned, a social setback Sinatra may never forget. Peter Lawford has since been drummed out of Sinatra's "summit" in Las Vegas.

"Yes, my son is like me," Dolly Sinatra says, proudly. "You cross him, he never forgets." And while she concedes his power, she quickly points out, "He can't make his mother do anything she doesn't want to do," adding, "Even today, he wears the same brand of underwear I used to buy him."

Today Dolly Sinatra is seventy-one years old, a year or two younger than Martin, and all day long people are knocking on the back door of her large home asking her advice, seeking her influence. When she is not seeing people and not cooking in the kitchen, she is looking after her husband, a silent but stubborn man, and telling him to keep his sore left arm resting on the sponge she has placed on the arm-

> **"He has everything, he cannot sleep, he gives nice gifts, he is not happy, but he would not trade, even for happiness, what he is..."**

rest of a soft chair. "Oh, he went to some terrific fires, this guy did," Dolly said to a visitor, nodding with admiration toward her husband in the chair.

Though Dolly Sinatra has eighty-seven godchildren in Hoboken, and still goes to that city during political campaigns, she now lives with her husband in a beautiful sixteen-room house in Fort Lee, New Jersey. This home was a gift from their son on their fiftieth wedding anniversary three years ago. The home is tastefully furnished and is filled with a remarkable juxtaposition of the pious and the worldly—photographs of Pope John and Ava Gardner, of Pope Paul and Dean Martin; several statues of saints and holy water, a chair autographed by Sammy Davis, Jr. and bottles of bourbon. In Mrs. Sinatra's jewelry box is a magnificent strand of pearls she had just received from Ava Gardner, whom she liked tremendously as a daughter-in-law and still keeps in touch with and talks about; and hung on the wall is a letter addressed to Dolly and Martin: "The sands of time have turned to gold, yet love continues to unfold like the petals of a rose, in God's garden of life... may God love you thru all eternity. I thank Him, I thank you for the being of one. Your loving son, Francis..."

Mrs. Sinatra talks to her son on the telephone about once a week, and recently he suggested that, when visiting Manhattan, she make use of his apartment on East Seventy-second Street on the East River. This is an expensive neighborhood of New York even though there is a small factory on the block, but this latter fact was seized upon by Dolly Sinatra as a means of getting back at her son for some unflattering descriptions of his childhood in Hoboken.

"What—you want me to stay in your apartment, in that dump?" she asked. "You think I'm going to spend the night in that awful neighborhood?"

Frank Sinatra got the point, and said, "Excuse me, Mrs. Fort Lee."

After spending the week in Palm Springs, his cold much better, Frank Sinatra returned to Los Angeles, a lovely city of sun and sex, a Spanish discovery of Mexican misery, a star land of little men and little women sliding in and out of convertibles in tense tight pants.

Sinatra returned in time to see the long-awaited CBS documentary with his family. At about nine PM he drove to the home of his former wife, Nancy, and had dinner with her and their two daughters. Their son, whom they rarely see these days, was out of town.

Frank, Jr., who is twenty-two, was touring with a band and moving cross country toward a New York engagement at Basin Street East with The Pied Pipers, with whom Frank Sinatra sang when he was with Dorsey's band in the 1940's. Today Frank Sinatra, Jr., whom his father says he named after Franklin D. Roosevelt, lives mostly in hotels, dines each evening in his nightclub dressing room, and sings until two AM, accepting graciously, because he has no choice, the inevitable comparisons. His voice is smooth and pleasant, and improving with work, and while he is very respectful of his father, he discusses him with objectivity and in an occasional tone of subdued cockiness.

Concurrent with his father's early fame, Frank, Jr. said, was the creation of a "press-release Sinatra" designed to "set him apart from the common man, separate him from the realities: it was suddenly Sinatra, the electric magnate, Sinatra who is supernormal, not superhuman but supernormal. And here," Frank, Jr. continued, "is the great fallacy, the great bullshit, for Frank Sinatra is normal, is the guy whom you'd meet on a street corner. But this other thing, the supernormal guise, has affected Frank Sinatra as much as anybody who watches one of his television shows, or reads a magazine article about him...

"Frank Sinatra's life in the beginning was so normal," he said, "that nobody would have guessed in 1934 that this little Italian kid with the curly hair would become the giant, the monster, the great living legend... He met my mother one summer on the beach. She was Nancy Barbato, daughter of Mike Barbato, a Jersey City plasterer. And she meets the fireman's son, Frank, one summer day on the beach at Long Branch, New Jersey. Both are Italian, both Roman Catholic, both lower-middle-class summer sweethearts—it is like a million bad movies starring Frankie Avalon.

"They have three children. The first child, Nancy, was the most normal of Frank Sinatra's children. Nancy was a cheerleader, went to summer camp, drove a Chevrolet, had the easiest kind of development centered around the home and family. Next is me. My life with the family is very, very normal up until September of 1958 when, in complete contrast to the rearing of both girls, I am put into a college-preparatory school. I am now away from the inner family circle, and my position within has never been remade to this day... The third child, Tina. And to be dead honest, I really couldn't say what her life is like..."

The CBS show, narrated by Walter Cronkite, began at ten PM. A minute before that, the Sinatra family, having finished dinner, turned their chairs around and faced the camera, united for whatever disaster might follow. Sinatra's men in other parts of town, in other parts of the nation, were doing the same thing. Sinatra's lawyer, Milton A. Rudin, smoking a cigar, was watching with a keen eye, an alert legal mind. Other sets were watched by Brad Dexter, Jim Mahoney, Ed Pucci; Sinatra's makeup man, "Shotgun" Britton; his New York representative, Henri Gine; his haberdasher, Richard Carroll; his insurance broker, John Lillie; his valet, George Jacobs, a handsome Negro who, when entertaining girls in his apartment, plays records by Ray Charles.

And like so much of Hollywood's fear, the apprehension about the CBS show all proved to be without foundation. It was a highly flattering hour that did not deeply probe, as rumors suggested it would, into Sinatra's love life, or the Mafia, or other areas of his private province. While the documentary was not authorized, wrote Jack Gould in the next day's New York Times, "it could have been."

Immediately after the show, the telephones began to ring throughout the Sinatra system conveying words of joy and relief—and from New York came Jilly's telegram: "WE RULE THE WORLD!"

The next day, standing in the corridor of the NBC building where he was about to resume taping his show, Sinatra was discussing the CBS show with several of his friends, and he said, "Oh, it was a gas."

"Yeah, Frank, a helluva show."

"But I think Jack Gould was right in The Times today," Sinatra said. "There should have been more on the man, not so much on the music..."

They nodded, nobody mentioning the past hysteria in the Sinatra world when it seemed CBS was zeroing in on the man; they just nodded and two of them laughed about Sinatra's apparently having gotten the word "bird" on the show—this being a favorite Sinatra word. He often inquires of his cronies, "How's your bird?"; and when he nearly drowned in Ha-

waii, he later explained, “Just got a little water on my bird”; and under a large photograph of him holding a whisky bottle, a photo that hangs in the home of an actor friend named Dick Bakalyan, the inscription reads: “Drink, Dickie! It’s good for your bird.” In the song, “Come Fly with Me,” Sinatra sometimes alters the lyrics—”... just say the words and we’ll take our birds down to Acapulco Bay...”

Ten minutes later Sinatra, following the orchestra, walked into the NBC studio, which did not resemble in the slightest the scene here of eight days ago. On this occasion Sinatra was in fine voice, he cracked jokes between numbers, nothing could upset him. Once, while he was singing “How Can I Ignore the Girl Next Door,” standing on the stage next to a tree, a television camera mounted on a vehicle came rolling in too close and plowed against the tree.

“Kee-rist!” yelled one of the technical assistants.

But Sinatra seemed hardly to notice it.

“We’ve had a slight accident,” he said, calmly. Then he began the song all over from the beginning.

When the show was over, Sinatra watched the rerun on the monitor in the control room. He was very pleased, shaking hands with Dwight Hemion and his assistants. Then the whisky bottles were opened in Sinatra’s dressing room. Pat Lawford was there, and so were Andy Williams and a dozen others. The telegrams and telephone calls continued to be received from all over the country with praise for the CBS show. There was even a call, Mahoney said, from the CBS producer, Don Hewitt, with whom Sinatra had been so angry a few days before. And Sinatra was still angry, feeling that CBS had betrayed him, though the show itself was not objectionable.

“Shall I drop a line to Hewitt?” Mahoney asked.

“Can you send a fist through the mail?” Sinatra asked.

He has everything, he cannot sleep, he gives nice gifts, he is not happy, but he would not trade, even for happiness, what he is...

He is a piece of our past—but only we have aged, he hasn’t... we are dogged by domesticity, he isn’t... we have compunctions, he doesn’t... it is our fault, not his...

He controls the menus of every Italian restaurant in Los Angeles; if you want North Italian cooking, fly to Milan...

Men follow him, imitate him, fight to be near him... there is something of the locker room, the barracks about him... bird... bird...

He believes you must play it big, wide, expansively— the more open you are, the more you take in, your dimensions deepen, you grow, you become more what you are—bigger, richer...

“He is better than anybody else, or at least they think he is, and he has to live up to it.” —Nancy Sinatra, Jr.

“He is calm on the outside—inwardly a million things are happening to him.” —Dick Bakalyan

“He has an insatiable desire to live every moment to its fullest because, I guess, he feels that right around the corner is extinction.” —Brad Dexter

He has everything, he cannot sleep, he gives nice gifts, he is not happy, but he would not trade, even for happiness, what he is...

“All I ever got out of any of my marriages was the two years Artie Shaw financed on an analyst’s couch.” —Ava Gardner

“We weren’t mother and son—we were buddies.” —Dolly Sinatra

“I’m for anything that gets you through the night, be it prayer, tranquilizers or a bottle of Jack Daniel.” —Frank Sinatra

Frank Sinatra was tired of all the talk, the gossip, the theory—tired of reading quotes about himself, of hearing what people were saying about him all over town. It had been a tedious three weeks, he said, and now he just wanted to get away, go to Las Vegas, let off some steam. So he hopped in his jet, soared over the California hills across the Nevada flats, then over miles and miles of desert to The Sands and the Clay-Patterson fight.

On the eve of the fight he stayed up all night and slept through most of the afternoon, though his recorded voice could be heard singing in the lobby of The Sands, in the gambling casino, even in the toilets, being interrupted every few bars however by the paging public address: “... Telephone call for Mr. Ron Fish, Mr. Ron Fish... with a ribbon of gold in her hair... Telephone call for Mr. Herbert Rothstein, Mr. Herbert Rothstein... memories of a time so bright, keep me sleepless through dark endless nights...”

Standing around in the lobby of The Sands and other hotels up and down the strip on this afternoon before the fight were the usual prefight prophets: the gamblers, the old champs, the little cigar butts from Eighth Avenue, the sportswriters who knock the big fights all year but would never miss one, the novelists who seem always to be identifying with one boxer or another, the local prostitutes assisted by some talent in from Los Angeles, and also a young brunette in a wrinkled black cocktail dress who was at the bell captain’s desk crying, “But I want to speak to Mr. Sinatra.”

“He’s not here,” the bell captain said.

“Won’t you put me through to his room?”

“There are no messages going through, Miss,” he said, and then she turned, unsteadily, seeming close to tears, and walked through the lobby into the big noisy casino crowded with men interested only in money.

Shortly before seven PM, Jack Entratter, a big grey-haired man who operates The Sands, walked into the gambling room to tell some men around the blackjack table that Sinatra was getting dressed. He also said that he’d been unable to get front-row seats for everybody, and so some of the men—including Leo Durocher, who had a date, and Joey Bishop, who was accompanied by his wife—would not be able to fit in Frank Sinatra’s row but would have to take seats in the third row. When Entratter walked over to tell this to Joey Bishop, Bishop’s face fell. He did not seem angry; he merely looked at Entratter with an empty silence, seeming somewhat stunned.

“Joey, I’m sorry,” Entratter said when the silence persisted, “but we couldn’t get more than six together in the front row.”

Bishop still said nothing. But when they all appeared at the fight, Joey Bishop was in the front row, his wife in the third.

The fight, called a holy war between Muslims and Christians, was preceded by the introduction of three balding ex-champions, Rocky Marciano, Joe Louis, Sonny Liston—and then there was “The Star-Spangled Banner” sung by another man from out of the past, Eddie Fisher. It had been more than fourteen years ago, but Sinatra could still remember every detail: Eddie Fisher was then the new king of the baritones, with Billy Eckstine and Guy Mitchell right with him, and Sinatra had been long counted out. One day he remembered walking into a broadcasting studio past dozens of Eddie Fisher fans waiting outside the hall, and when they saw Sinatra they began to jeer, “Frankie, Frankie, I’m swooning, I’m swooning.” This was also the time when he was selling only about 30,000 records a year, when he was dreadfully miscast as a funny man on his television show, and when he recorded such disasters as “Mama Will Bark,” with Dagmar.

“I growled and barked on the record,” Sinatra said, still horrified by the thought. “The only good it did me was with the dogs.”

His voice and his artistic judgment were incredibly bad in 1952, but even more responsible for his decline, say his friends, was his pursuit of Ava Gardner. She was the big movie queen then, one of the most beautiful women in the world. Sinatra’s daughter Nancy recalls seeing Ava swimming one day in her father’s pool, then climbing out of the water with that fabulous body, walking slowly to the fire, leaning over it for a few moments, and then it suddenly seemed that her long dark hair was all dry, miraculously and effortlessly back in place.

With most women Sinatra dates, his friends say, he never knows whether they want him for what he can do for them now—or will do for them later. With Ava Gardner, it was different. He could do nothing for her later. She was on top. If Sinatra learned anything from his experience with her, he possibly learned that when a proud man is down a woman cannot help. Particularly a woman on top.

Nevertheless, despite a tired voice, some deep emotion seeped into his singing during this time. One particular song that is well remembered even now is “I’m a Fool to Want You,” and a friend who was in the studio when Sinatra recorded it recalled: “Frank was really worked up that night. He did the song in one take, then turned around and walked out of the studio and that was that...”

Sinatra’s manager at that time, a former song plugger named Hank Sanicola, said, “Ava loved Frank, but not the way he loved her. He needs a great deal of love. He wants it twenty-four hours a day, he must have people around—Frank is that kind of guy.” Ava Gardner, Sanicola said, “was very insecure. She feared she could not really hold a man... twice he went chasing her to Africa, wasting his own career...”

“Ava didn’t want Frank’s men hanging around all the time,” another friend said, “and this got him mad. With Nancy he used to be able to bring the whole band home with him, and Nancy, the good Italian wife, would never complain—she’d just make everybody a plate of spaghetti.”

In 1953, after almost two years of marriage, Sinatra and Ava Gardner were divorced. Sinatra’s mother reportedly arranged a reconciliation, but if Ava was willing, Frank Sinatra was not. He was seen with other women. The balance had shifted. Somewhere during this period Sinatra seemed to change from the kid singer, the boy actor in the sailor suit, to a man. Even before he had won the Oscar in 1953 for his role in From Here to Eternity, some flashes of his old talent were coming through—in his recording of “The Birth of the Blues,” in his Riviera-nightclub appearance that jazz critics enthusiastically praised; and there was also a trend now toward L.P.’s and away from the quick three-minute deal, and Sinatra’s concert style would have capitalized on this with or without an Oscar.

In 1954, totally committed to his talent once more, Frank Sinatra was selected Metronome’s “Singer of the Year,” and later he won the U.P.I. disc-jockey poll, unseating Eddie Fisher—who now, in Las Vegas, having sung “The Star-Spangled Banner,” climbed out of the ring, and the fight began.

Floyd Patterson chased Clay around the ring in the first round, but was unable to reach him, and from then on he was Clay’s toy, the bout ending in a technical knockout in the twelfth round. A half hour later, nearly everybody had forgotten about the fight and was

back at the gambling tables or lining up to buy tickets for the Dean Martin-Sinatra-Bishop nightclub routine on the stage of The Sands. This routine, which includes Sammy Davis, Jr. when he is in town, consists of a few songs and much cutting up, all of it very informal, very special, and rather ethnic—Martin, a drink in hand, asking Bishop: "Did you ever see a Jew jitsu?"; and Bishop, playing a Jewish waiter, warning the two Italians to watch out "because I got my own group—the Matzia."

Then after the last show at The Sands, the Sinatra crowd, which now numbered about twenty—and included Jilly, who had flown in from New York; Jimmy Cannon, Sinatra's favorite sports columnist; Harold Gibbons, a Teamster official expected to take over if Hoffa goes to jail—all got into a line of cars and headed for another club. It was three o'clock. The night was young.

They stopped at The Sahara, taking a long table near the back, and listened to a bald-headed little comedian named Don Rickles, who is probably more caustic than any comic in the country. His humor is so rude, in such bad taste, that it offends no one—it is too offensive to be offensive. Spotting Eddie Fisher among the audience, Rickles proceeded to ridicule him as a lover, saying it was no wonder that he could not handle Elizabeth Taylor; and when two businessmen in the audience acknowledged that they were Egyptian, Rickles cut into them for their country's policy toward Israel; and he strongly suggested that the woman seated at one table with her husband was actually a hooker.

When the Sinatra crowd walked in, Don Rickles could not be more delighted. Pointing to Jilly, Rickles yelled: "How's it feel to be Frank's tractor?... Yeah, Jilly keeps walking in front of Frank clearing the way." Then, nodding to Durocher, Rickles said, "Stand up Leo, show Frank how you slide." Then he focused on Sinatra, not failing to mention Mia Farrow, nor that he was wearing a toupee, nor to say that Sinatra was washed up as a singer, and when Sinatra laughed, everybody laughed, and Rickles pointed toward Bishop: "Joey Bishop keeps checking with Frank to see what's funny."

Then, after Rickles told some Jewish jokes, Dean Martin stood up and yelled, "Hey, you're always talking about the Jews, never about the Italians," and Rickles cut him off with, "What do we need the Italians for—all they do is keep the flies off our fish."

Sinatra laughed, they all laughed, and Rickles went on this way for nearly an hour until Sinatra, standing up, said, "All right, com'on, get this thing over with. I gotta go."

"Shaddup and sit down!" Rickles snapped. "I've had to listen to you sing..."

"Who do you think you're talking to?" Sinatra yelled back.

"Dick Haymes," Rickles replied, and Sinatra laughed again, and then Dean Martin, pouring a bottle of whisky over his head, entirely drenching his tuxedo, pounded the table.

"Who would ever believe that staggering would make a star?" Rickles said, but Martin called out, "Hey, I wanna make a speech."

"Shaddup."

"No, Don, I wanna tell ya," Dean Martin persisted, "that I think you're a great performer."

"Well, thank you, Dean," Rickles said, seeming pleased.

"But don't go by me," Martin said, plopping down into his seat, "I'm drunk."

"I'll buy that," Rickles said.

By four AM Frank Sinatra led the group out of The Sa-hara, some of them carrying their glasses of whisky with them, sipping it along the sidewalk and in the cars; then, returning to The Sands, they walked into the gambling casino. It was still packed with people, the roulette wheels spinning, the crapshooters screaming in the far corner.

Frank Sinatra, holding a shot glass of bourbon in his left hand, walked through the crowd. He, unlike some of his friends, was perfectly pressed, his tuxedo tie precisely pointed, his shoes unsmudged. He never seems to lose his dignity, never lets his guard completely down no matter how much he has drunk, nor how long he has been up. He never sways when he walks, like Dean Martin, nor does he ever dance in the aisles or jump up on tables, like Sammy Davis.

"When Sinatra sits to dine, his trusted friends are close; and no matter where he is, no matter how elegant the place may be, there is something of the neighborhood showing because Sinatra, no matter how far he has come, is still something of the boy from the neighborhood—only now he can take his neighborhood with him."

A part of Sinatra, no matter where he is, is never there. There is always a part of him, though sometimes a small part, that remains Il Padrone. Even now, resting his shot glass on the blackjack table, facing the dealer, Sinatra stood a bit back from the table, not leaning against it. He reached under his tuxedo jacket into his trouser pocket and came up with a thick but clean wad of bills. Gently he peeled off a one-hundred-dollar bill and placed it on the green-felt table. The dealer dealt him two cards. Sinatra called for a third card, overbid, lost the hundred.

Without a change of expression, Sinatra put down a second hundred-dollar bill. He lost that. Then he put down a third, and lost that. Then he placed two one-hundred-dollar bills on the table and lost those. Finally, putting his sixth hundred-dollar bill on the table, and losing it, Sinatra moved away from the table, nodding to the man, and announcing, "Good dealer."

The crowd that had gathered around him now opened up to let him through. But a woman stepped in front of him, handing him a piece of paper to autograph. He signed it and then he said, "Thank you."

In the rear of The Sands' large dining room was a long table reserved for Sinatra. The dining room was fairly empty at this hour, with perhaps two dozen other people in the room, including a table of four unescorted young ladies sitting near Sinatra. On the other side of the room, at another long table, sat seven men shoulder-to-shoulder against the wall, two of them wearing dark glasses, all of them eating quietly, speaking hardly a word, just sitting and eating and missing nothing.

The Sinatra party, after getting settled and having a few more drinks, ordered something to eat. The table was about the same size as the one reserved for Sinatra whenever he is at Jilly's in New York; and the people seated around this table in Las Vegas were many of the same people who are often seen with Sinatra at Jilly's or at a restaurant in California, or in Italy, or in New Jersey, or wherever Sinatra happens to be. When Sinatra sits to dine, his trusted friends are close; and no matter where he is, no matter how elegant the place may be, there is something of the neighborhood showing because Sinatra, no matter how far he has come, is still something of the boy from the neighborhood—only now he can take his neighborhood with him.

In some ways, this quasi-family affair at a reserved table in a public place is the closest thing Sinatra now has to home life. Perhaps, having had a home and left it, this approximation is as close as he cares to come; although this does not seem precisely so because he speaks with such warmth about his family, keeps in close touch with his first wife, and insists that she make no decision without first consulting him. He is always eager to place his furniture or other mementos of himself in her home or his daughter Nancy's, and he also is on amiable terms with Ava Gardner. When he was in Italy making Von Ryan's Express, they spent some time together, being pursued wherever they went by the paparazzi. It was reported then that the paparazzi had made Sinatra a collective offer of $16,000 if he would pose with Ava Gardner; Sinatra was said to have made a counter offer of $32,000 if he could break one paparazzi arm and leg.

When Sinatra sits to dine, his trusted friends are close; and no matter where he is, no matter how elegant the place may be, there is something of the neighborhood showing because Sinatra, no matter how far he has come, is still something of the boy from the neighborhood— only now he can take his neighborhood with him.

While Sinatra is often delighted that he can be in his home completely without people, enabling him to read and think without interruption, there are occasions when he finds himself alone at night, and not by choice. He may have dialed a half-dozen women, and for one reason or another they are all unavailable. So he will call his valet, George Jacobs.

"I'll be coming home for dinner tonight, George."

"How many will there be?"

"Just myself," Sinatra will say. "I want something light, I'm not very hungry."

George Jacobs is a twice-divorced man of thirty-six who resembles Billy Eckstine. He has traveled all over the world with Sinatra and is devoted to him. Jacobs lives in a comfortable bachelor's apartment off Sunset Boulevard around the corner from Whiskey à Go Go, and he is known around town for the assortment of frisky California girls he has as friends—a few of whom, he concedes, were possibly drawn to him initially because of his closeness to Frank Sinatra.

When Sinatra arrives, Jacobs will serve him dinner in the dining room. Then Sinatra will tell Jacobs that he is free to go home. If Sinatra, on such evenings, should ask Jacobs to stay longer, or to play a few hands of poker, he would be happy to do so. But Sinatra never does.

This was his second night in Las Vegas, and Frank Sinatra sat with friends in The Sands' dining room until nearly eight AM He slept through much of the day, then flew back to Los Angeles, and on the following morning he was driving his little golf cart through the Paramount Pictures movie lot. He was scheduled to complete two final scenes with the sultry blonde actress, Virna Lisi, in the film Assault on a Queen. As he maneuvered the little vehicle up the road between the big studio buildings, he spotted Steve Rossi who, with his comedy partner Marty Allen, was making a film in an adjoining studio with Nancy Sinatra.

"Hey, Dag," he yelled to Rossi, "stop kissing Nancy."

"It's part of the film, Frank," Rossi said, turning as he walked.

"In the garage?"

"It's my Dago blood, Frank."

"Well, cool it," Sinatra said, winking, then cutting his golf cart around a corner and parking it outside a big drab building within which the scenes for Assault would be filmed.

"Where's the fat director?" Sinatra called out, striding into the studio that was crowded with dozens of technical assistants and actors all gathered around cameras. The director, Jack Donohue, a large man who has worked with Sinatra through twenty-two years on one production or other, has had headaches with this film. The script had been chopped, the actors seemed restless, and Sinatra had become bored. But now there were only two scenes

left—a short one to be filmed in the pool, and a longer and passionate one featuring Sinatra and Virna Lisi to be shot on a simulated beach.

The pool scene, which dramatizes a situation where Sinatra and his hijackers fail in their attempt to sack the Queen Mary, went quickly and well. After Sinatra had been kept in the water shoulder-high for a few minutes, he said, "Let's move it, fellows—it's cold in this water, and I've just gotten over one cold."

So the camera crews moved in closer, Virna Lisi splashed next to Sinatra in the water, and Jack Donohue yelled to his assistants operating the fans, "Get the waves going," and another man gave the command, "Agitate!" and Sinatra broke out in song. "Agitate in rhythm,"

then quieted down just before the cameras started to roll.

Frank Sinatra was on the beach in the next situation, supposedly gazing up at the stars, and Virna Lisi was to approach him, toss one of her shoes near him to announce her presence, then sit near him and prepare for a passionate session. Just before beginning, Miss Lisi made a practice toss of her shoe toward the prone figure of Sinatra sprawled on the beach. As she tossed her shoe, Sinatra called out, "Hit me in my bird and I'm going home."

Virna Lisi, who understands little English and certainly none of Sinatra's special vocabulary, looked confused, but everybody behind the camera laughed. She threw the shoe toward him. It twirled in the air, landed on his stomach.

"Well, that's about three inches too high," he announced. She again was puzzled by the laughter behind the camera.

Then Jack Donohue had them rehearse their lines, and Sinatra, still very charged from the Las Vegas trip, and anxious to get the cameras rolling, said, "Let's try one." Donohue, not certain that Sinatra and Lisi knew their lines well enough, nevertheless said okay, and an assistant with a clapboard called, "419, Take 1," and Virna Lisi approached with the shoe, tossed it at Frank lying on the beach. It fell short of his thigh, and Sinatra's right eye raised almost imperceptibly, but the crew got the message, smiled.

"What do the stars tell you tonight?" Miss Lisi said, delivering her first line, and sitting next to Sinatra on the beach.

"The stars tell me tonight I'm an idiot," Sinatra said, "a gold-plated idiot to get mixed up in this thing..."

"Cut," Donohue said. There were some microphone shadows on the sand, and Virna Lisi was not sitting in the proper place near Sinatra.

"419, Take 2," the clapboard man called.

Miss Lisi again approached, threw the shoe at him, this time falling short—Sinatra exhaling only slightly—and she said, "What do the stars tell you tonight?"

"The stars tell me I'm an idiot, a gold-plated idiot to get mixed up in this thing..." Then, according to the script, Sinatra was to continue, "... do you know what we're getting into? The minute we step on the deck of the Queen Mary, we've just tattooed ourselves," but Sinatra, who often improvises on lines, recited them: "... do you know what we're getting into? The minute we step on the deck of that mother's-ass ship..."

"No, no," Donohue interrupted, shaking his head, "I don't think that's right."

The cameras stopped, some people laughed, and Sinatra looked up from his position in the sand as if he had been unfairly interrupted.

"I don't see why that can't work..." he began, but Richard Conte, standing behind the camera, yelled, "It won't play in London."

Donohue pushed his hand through his thinning grey hair and said, but not really in anger, "You know, that scene was pretty good until somebody blew the line..."

"Yeah," agreed the cameraman, Billy Daniels, his head popping out from around the camera, "it was a pretty good piece..."

"Watch your language," Sinatra cut in. Then Sinatra, who has a genius for figuring out ways of not reshooting scenes, suggested a way in which the film could be used and the "mother" line could be recorded later. This met with approval. Then the cameras were rolling again,

Virna Lisi was leaning toward Sinatra in the sand, and then he pulled her down close to him. The camera now moved in for a close-up of their faces, ticking away for a few long seconds, but Sinatra and Lisi did not stop kissing, they just lay together in the sand wrapped in one another's arms, and then Virna Lisi's left leg just slightly began to rise a bit, and everybody in the studio now watched in silence, not saying anything until Donohue finally called out:

"If you ever get through, let me know. I'm running out of film."

Then Miss Lisi got up, straightened out her white dress, brushed back her blonde hair and touched her lipstick, which was smeared. Sinatra got up, a little smile on his lips, and headed for his dressing room.

Passing an older man who stood near a camera, Sinatra asked, "How's your Bell & Howell?"

The older man smiled.

"It's fine, Frank."

"Good."

In his dressing room Sinatra was met by an automobile designer who had the plans for Sinatra's new custom-built model to replace the $25,000 Ghia he has been driving for the last few years. He also was awaited by his secretary, Tom Conroy, who had a bag full of fan mail, including a letter from New York's Mayor John Lindsay; and by Bill Miller, Sinatra's pianist, who would rehearse some of the songs that would be recorded later in the evening for Sinatra's newest album, Moonlight Sinatra.

While Sinatra does not mind hamming it up a bit on a movie set, he is extremely serious about his recording sessions; as he explained to a British writer, Robin Douglas-Home: "Once you're on that record singing, it's you and you alone. If it's bad and gets you criticized, it's you who's to blame—no one else. If it's good, it's also you. With a film it's never like that; there are producers and scriptwriters, and hundreds of men in offices and the thing is taken right out of your hands. With a record, you're it..."

But now the days are short
I'm in the autumn of the year
And now I think of my life
As vintage wine
From fine old kegs...

It no longer matters what song he is singing, or who wrote the words—they are all his words, his sentiments, they are chapters from the lyrical novel of his life.

Life is a beautiful thing
As long as I hold the string...

When Frank Sinatra drives to the studio, he seems to dance out of the car across the sidewalk into the front door; then, snapping his fingers, he is standing in front of the orchestra in an intimate, airtight room, and soon he is dominating every man, every instrument, every sound wave. Some of the musicians have accompanied him for twenty-five years, have gotten old hearing him sing "You Make Me Feel So Young."

When his voice is on, as it was tonight, Sinatra is in ecstasy, the room becomes electric, there is an excitement that spreads through the orchestra and is felt in the control booth where a dozen men, Sinatra's friends, wave at him from behind the glass. One of the men is the Dodgers' pitcher, Don Drysdale ("Hey, Big D," Sinatra calls out, "hey, baby!"); another is the professional golfer Bo Wininger; there are also numbers of pretty women standing in the booth behind the engineers, women who smile at Sinatra and softly move their bodies to the mellow mood of his music:

Will this be moon love
Nothing but moon love
Will you be gone when the dawn
Comes stealing through...

It no longer matters what song he is singing, or who wrote the words— they are all his words, his sentiments, they are chapters from the lyrical novel of his life.

After he is finished, the record is played back on tape, and Nancy Sinatra, who has just walked in, joins her father near the front of the orchestra to hear the playback. They listen silently, all eyes on them, the king, the princess; and when the music ends there is applause from the control booth, Nancy smiles, and her father snaps his fingers and says, kicking a foot, "Ooba-deeba-boobe-do!"

Then Sinatra calls to one of his men. "Hey, Sarge, think I can have a half-a-cup of coffee?"

Sarge Weiss, who had been listening to the music, slowly gets up.

"Didn't mean to wake ya, Sarge," Sinatra says, smiling.

Then Weiss brings the coffee, and Sinatra looks at it, smells it, then announces, "I thought he'd be nice to me, but it's really coffee..."

There are more smiles, and then the orchestra prepares for the next number. And one hour later, it is over.

The musicians put their instruments into their cases, grab their coats, and begin to file out, saying good-night to Sinatra. He knows them all by name, knows much about them personally, from their bachelor days, through their divorces, through their ups and downs, as they know him. When a French-horn player, a short Italian named Vincent DeRosa, who has played with Sinatra since The Lucky Strike "Hit Parade" days on radio, strolled by, Sinatra reached out to hold him for a second.

"Vicenzo," Sinatra said, "how's your little girl?"

"She's fine, Frank."

"Oh, she's not a little girl anymore," Sinatra corrected himself, "she's a big girl now."

"Yes, she goes to college now. U.S.C."

"That's great."

"She's also got a little talent, I think, Frank, as a singer."

Sinatra was silent for a moment, then said,

"Yes, but it's very good for her to get her education first, Vicenzo."

Vincent DeRosa nodded.

"Yes, Frank," he said, and then he said, "Well, good-night, Frank."

"Good-night, Vicenzo."

After the musicians had all gone, Sinatra left the recording room and joined his friends in the corridor. He was going to go out and do some drinking with Drysdale, Wininger, and a few other friends, but first he walked to the other end of the corridor to say good-night to Nancy, who was getting her coat and was planning to drive home in her own car.

After Sinatra had kissed her on the cheek, he hurried to join his friends at the door. But

before Nancy could leave the studio, one of Sinatra's men, Al Silvani, a former prizefight manager, joined her.

"Are you ready to leave yet, Nancy?"

"Oh, thanks, Al," she said, "but I'll be all right."

"Pope's orders," Silvani said, holding his hands up, palms out.

Only after Nancy had pointed to two of her friends who would escort her home, and only after Silvani recognized them as friends, would he leave.

The rest of the month was bright and balmy. The re-cord session had gone magnificently, the film was finished, the television shows were out of the way, and now Sinatra was in his Ghia driving out to his office to begin coordinating his latest projects. He had an engagement at The Sands, a new spy film called The Naked Runner to be shot in England, and a couple more albums to do in the immediate months ahead. And within a week he would be fifty years old...

Life is a beautiful thing
As long as I hold the string
I'd be a silly so-and-so
If I should ever let go...

Frank Sinatra stopped his car. The light was red. Pedestrians passed quickly across his windshield but, as usual, one did not. It was a girl in her twenties. She remained at the curb staring at him. Through the corner of his left eye he could see her, and he knew, because it happens almost every day, that she was thinking, It looks like him, but is it?

Just before the light turned green, Sinatra turned toward her, looked directly into her eyes waiting for the reaction he knew would come. It came and he smiled. She smiled and he was gone.

"It no longer matters what song he is singing, or who wrote the words—they are all his words, his sentiments, they are chapters from the lyrical novel of his life."

ALL QUEENS MUST DIE

ON SANTA CRUZ ISLAND, THEY KILLED THE COWS, SHEEP, AND BEES. NOW IT'S TIME TO FINISH THE JOB

BY RYAN BRADLEY PHOTOGRAPHY BY JOHN FRANCIS PETERS

The cows were the first to go because cows are big, and killing them was easy. The ranchers on Santa Cruz Island had been killing cattle for more than a century already. Rounded up, marched onto ships and motored 20 miles across the Pacific to mainland California, the cows were slaughtered, just like they'd been slaughtered for a hundred years, or longer even. By the early 1980s, the cows were gone. So were nearly all the ranchers.

The sheep were trickier. There were a lot more of them, something like 40,000, grazing over 96 square miles of mountainous island covered in dense chaparral, little oak woodlands, deep canyons, towering cliffs, and some of the largest sea caves in the world. A great landscape to hide in. The Nature Conservancy—which owns about three-quarters of the island—set about eradicating the sheep in 1981. By 1989, the Conservancy had killed at least 37,000 of them, but some sheep survived on Santa Cruz into the '90s.

By 1997, the island began to open up, as part of the five-island Channel Islands National Park. The sheep carcasses dotting the landscape were not so great for public relations, and photos of wounded sheep and orphaned lambs made it into the papers and nightly news. The National Park Service paid to have the remaining sheep quickly rounded up and shipped across the channel.

The program to remove the bees was far more tactically rigorous: for five years, beginning in 1988, scientists carefully mapped all the colonies, killing off the easy ones. In 1994, they introduced a parasitic mite to take care of the rest. By 2002, only one colony was left, on top of a grade named Matzana. Within seven months, that was gone, too.

The pigs were the trickiest. Or trickiest yet. They'd been on the island since the mid-19th century, brought over by the first ranchers, and had long gone feral. The Parks Service and Conservancy closed off most of the island to the public beginning in 2005, called in teams of New Zealand snipers and helicopter pilots and, within a year, had killed 5,000 of them. Over the next few months, some of the remaining pigs were captured and radio collared. Pigs are social, and extremely smart. The snipers tracked the collared, so-called Judas pigs back to their kind and, only if and when they could destroy a group all at once, opened fire. Any pig left alive, even wounded, would become all the more skittish and difficult to find. It would teach others to fear helicopters overhead.

Some of the last remaining island pigs had changed their habits entirely. One Judas seemed to have turned amphibian. When a helicopter team flew by the patch of coastline where the radio collar told them it should be, they found a cave high up on a cliff. A harnessed sniper descended into the cave and, when the pig charged out of the dankness, he put it down. Santa Cruz Island was declared pig-free by 2007. In 2012, it was declared turkey-free, too. The Nature Conservancy was tantalizingly close to its goal—to restore Santa Cruz Island to something approximating its prehistoric, virgin state.

There was but one invasive animal remaining, the toughest and hardiest creature of them all. For years, no one had figured out how to kill it. For half a century, no one even knew it was there. But it was, in the millions. And now the conservationists turned to face their most tenacious foe: the Argentine ant.

Imagine an ant: long delicate legs; a slim, dark, red-dish-brown body; and antennae segmented 12 times. Its crawl or march or whatever you want to call it is distinctive—more of a scurry. And it isn't alone. It's surrounded by its sisters, a line of ants in front and behind, ready to swarm or attack or raid. They are relentless, these ants, which is why when you picture an ant—the type you go to war with every summer, summer after summer, in your kitchen and bathroom and backyard—the ant you are picturing is almost certainly Linepithema humile, the Argentine ant.

The Argentine ant is one of the most successful invasive creatures on Earth. Their colonies appear on every continent but Antarctica, and many, many islands in between. They are so pervasive that the first of their species collected, named, and properly identified weren't even in their native Paraná River drainage, which stretches across northern Argentina, Uruguay, Paraguay, and southern Brazil. No, the first Argentine ants were identified on Madeira, an island located a few hundred miles off the coast of Morocco, in the mid-19th century. Within a decade or two, they were spotted in Portugal, then Spain, Southern France, Italy, and the port of New Orleans.

Trade globalized, and the Argentine ants colonized. They reached the Canary Islands and Azores by ship, and most of the southeastern United States and California by rail, likely carried in the dirt of potted plants. By 1902, Argentines were in Belfast, eking out the colder months in the warm walls of human homes. They can live pretty much anywhere, so long as there are humans and our climate-controlled structures. They have been found in greenhouses and inside zoos throughout the Midwest and into Canada. Southern California and the Mediterranean feel like home, though colonies have been found in apartments as far north as Sandnes, Norway.

They wreak special havoc on islands, because most island ecosystems haven't seen anything like them before. Hawaii had no native ants at all until trade and Europeans brought them. Argentines landed in the middle of the 20th century and ran rampant on Oahu and Maui. They've become the most dominant ant on Bermuda, too, pushing out a species of carpenter ant and so decimating the indigenous Bermuda ant that it was long thought extinct until, in 2002, an intern at the Bermuda Aquarium Museum and Zoo found a colony hiding inside an exhibit.

Part of the Argentine ant's success comes from its particularly relentless aggression. The Paraná River drainage is one of the more ant-choked regions in the world, and Argentines evolved to be the elbows out, bare-knuckle brawlers of the insect kingdom. Overseas, colonies spread freely through territories filled with weaker, ill-prepared ants, or no ants at all, and the Argentines rarely encounter a foe that can match them, save for other colonies of Argentines (or fire ants, another Paraná invasive). But another aspect of the species success overseas is its uniquely extended and frighteningly vast version of sisterhood: the supercolony.

A colony of ants is a very large family of females. The genetic bond between certain colonies of Argentine ants is particularly strong. It's so strong that a worker from one colony can be plucked up and deposited into another, hundreds of miles away, and she will act as if she's right at home, surrounded by family, which, in a way, she is. Throughout California, from San Diego to San Francisco, the Argentine ants form one enormous sisterhood, or colony, or supercolony. The California supercolony is known in scientific literature as "the large supercolony." But recent studies suggest that it is even larger than it was long assumed to be. The lineage of the California colony is the same as colonies along the northern Mediterranean coastline and southern Japan. The large supercolony, it turns out, is a global superpower. Decades ago, it made landfall on Santa Cruz Island.

> "The snipers tracked the collared, so-called Judas pigs back to their kind"

Christina Boser arrived on Santa Cruz fresh off her ecology dissertation and ready to help breed the island's foxes, which had been on the brink of extinction. Instead, she got handed the list of invasive species to remove. The

Argentine ants were all that remained animal-wise, though there were still plenty of invasive plants. “I’m an animal person,” Boser told me. “So I got ants.”

That was seven years ago. She’s spent most of that time learning the ants’ ways and how to effectively poison them without harming other, noninvasive critters. The Nature Conservancy’s island eradication programs have always focused on benefiting an ecosystem as a whole, but it is particularly concerned with invasives that tip the ecological balance in such a way that it threatens native wildlife with outright extinction.

Island eradications are always high-stakes, high-wire endeavors—you get, more or less, one big shot at taking out a whole species. Then you wait, sometimes years, to see if the invader has truly been eliminated or has, instead, come back. The coming back from the dead is called the Lazarus effect. Often all it takes is one pregnant female or a breeding pair to undo years of planning and millions of spent dollars. In the ants’ case, one stalwart queen stowed away underground could undo everything Boser had been plotting.

Boser, extremely practical and one of those humans for whom the normal rules regarding reserves of energy and focus seem not to apply, had met an equally relentless foe. How do you eradicate tens of millions, if not billions, of tiny insects that live under several dozen square miles of extremely rugged terrain? Killing each ant would be an impossible task. But kill the queen and you initiate a colony collapse, for the queen is the only source of new ants. Only, Argentine ant colonies often boast several queens, so even the ant’s central weakness required a comprehensive plan of attack: Boser needed to poison all the queens at once. If she did that, Santa Cruz would be one step closer to perfection.

“You’re looking at this landscape, you’re looking at millions of ants around one oak tree, and you’re thinking—how do you affect them all?” Boser said to me. “How do you get an ant to do what I want them to do?”

She had Argentines in her backyard, of course, so she began her initial research and development there. Most poisoning systems acted too fast, killing ants either upon contact or soon after. Boser finally hit upon little gel beads, the kind used by florists in watery bouquets. Biodegradable, they soaked up the sugar water cut with poison, and kept their shape long enough, allowing the ants time to swarm and haul them homeward, back to the queens.

Best of all, the sugar water bait balls took advantage of two quirks of the Argentine ants’ behavior. All ants live in a chemical world governed by pheromones. Argentines, in particular, are excellent at recruiting—telling other workers, via chemical scent, that there’s a valuable food source here, and getting many of their nest mates to follow. Those nest mates then lay more pheromones, and soon enough a swarm forms, be it around a dead cockroach, potato chip, or poisoned gel ball. The ants, craving carbohydrates, would swarm all over the poison. Particularly this time of year.

Summer in California is Argentine ant season. It’s when they’re most on the march, hunting for food, invading kitchens and bathrooms. The ants are out of sync with the native flora and fauna of their adopted homes in coastal California, where nearly everything native has bloomed and died by July, if not earlier. The hills are dusty brown and gray and ready to burn. Most native ants, and many native insects, lie low or go dormant during the dog days. The Argentines, however, are roaming, hungry, and vulnerable.

Boser moved her research from her backyard to a hillside near an old orchard on the island, not far from where the ants first made landfall sometime in the late 1950s or early 1960s. The ants had probably been carried to Santa Cruz by a Navy vessel hauling construction material, and soon colonized the wash and dry creek bed leading down to the small harbor. Decades passed, and the ants slowly worked their way up the wash, up into the orchard, then onto the hill beyond. But it wasn’t until 1996 when a biologist working in the old orchard reached up to a branch and came back down with Argentines scuttling all over his hand. “Oh shoot,” he thought, “these aren’t supposed to be here.” He added them to the list which, years later, was handed to Boser.

After years of plotting and planning, Boser hoped to strike the indomitable ants a killing blow. Maybe. She wasn’t going to promise anything. “Ecology is really, really messy,” she said. Then she invited me out to the island to see the mess.

Off the starboard bow on the twin-hulled double-decker ferry that shuttles back and forth from Ventura to Santa Cruz Island, a pod of common dolphins worked a school of fish, and children leaning over the railing screamed, delighted. An old ranch hand was telling me how he missed bow hunting the sheep; it had been good business, leading hunting parties. He’d worked on Santa Cruz for 45 years, but now that all the game was gone he mostly fixed the old rusted army trucks used by the scientists to bounce around from one study site to another. The old hand leaned back, tipped his cap down over his eyes, and dozed off for the rest of the three hour trip.

> “The large supercolony, it turns out, is a global superpower.”

Up ahead, through the marine haze, the outline of the island emerged. Its easternmost edge flattened out to a broad anchorage where the school kids and practically everyone else onboard would be let off. This was the National Park side of the island. Another five miles or so west along the coast we came to another anchorage, which led to a rocky, rough beach filled with sea detritus, and an even rougher wash leading into the island’s interior. At this landing, visitors need an escort, or a special permit, and are required to carefully wipe their shoes and check for stowaway species. This was The Nature Conservancy portion of the island.

Boser drove us up the wash toward the center of the island where we met David Holway, an ecologist from the University of California, San Diego, who specialized in ants—Argentines in particular. He was out in the field, searching for native ants in the shade of an old oak tree, and as he walked up to greet us he was distracted by a line of ants in the road. He squatted down and motioned us over. “These are harvester ants,” he said. “Extremely rare.” The ants crossed the road, carrying bits of grass into their nest. “That’s why they’re called harvesters,” Holway said. “They’re bringing plant material back, dispersing seeds. They’re incredibly important to these ecosystems.”

There are 32 ant species on Santa Cruz, Holway said, though none were completely unique to the island. It’s likely that several species ended up on the island after being blown across about 20 miles across the channel in the fall, when the Santa Ana winds blast offshore from California’s inland deserts, down the mountains, and out to sea. Many of the species on Santa Cruz were like these harvesters—nearly gone from mainland California, pushed out by Argentines, but still fairly common here. In a sense, the place had become a kind of ark for threatened native ants.

We followed Holway to an island scrub oak: a shrunken-down, twisted-up variety unique to the Channel Islands. Another of the island’s endemics, a blue jay called the island scrub jay, featured short, stubby wings and was bad at flying. It made its home in these oaks, too. Holway beat at the dense, low-lying branches of the scrub with a special net, called a beating net, perfect for dislodging insects from the canopy. Bits of oak fell into the net, then a jumping spider, and then an ant. “Ah. Yes. *Camponotus maritimus*, a carpenter ant endemic to California. They’re gorgeous,” Holway said. It was a fine-looking ant, I said. Probably the finest ant I’d ever seen. “Notice the two tones on the body,” Holway said. “And the nice legs.” “They’ve got great legs,” Boser said. I nodded.

Hours later, back at the old ranch where the Nature Conservancy ran its operations, a helicopter pilot and Boser went over the plan of attack for the gel pellet dispersal tomorrow morning. The system Boser has devised required two fork lifts, huge tubes filled with the gel pellets, a large metal chute, and the copter for dispersal. It was a complicated system, but it was the least complicated of the different systems Boser had devised. Plus, it hinged primarily on gravity to get the pellets from the chute into the bucket and gravity, Boser said, was more reliable than any machine.

The next morning, on our way over to the landing strip and staging ground, we passed through huge strands of dried-up fennel, covering whole hillsides, and a grove of eucalyptus—both stubborn invaders like the Argentine ants. The fennel had spread considerably after the sheep were dispatched. They’d kept the plant in check. We passed by old pens where the island foxes had been bred when they were on the brink of extinction—an event caused by a complicated cocktail of invaders: golden eagles had been drawn to the island by piglets, which were easy prey, and welcomed as a check on the pig population. But then observers realized that the eagles were feasting on the native foxes too, and it was nearly too late to save them. In the endlessly intricate dance of keeping ecosystems balanced, the enemy of an enemy can turn friend then foe overnight.

Approaching the old airfield, on the branch of a dying, dried-up oak, a prideful scrub jay hopped and flapped as if in hopes of scaring us off. Nearby, I began to see the mess of ecology and conservation in action. The first tub of beads had been poured into the chute, but was leaking out of a small gap at the chute's end. Boser and a few others were staring up as a sticky mess of sugary beads fell into their faces. "Maybe some rubber, to jam up in there?" Boser said. The graduate students, in army surplus pilot jumpsuits, began shoveling the fallen beads, breaking the sugar water into a slurry and sending little droplets splattering. A ranch manager hopped down from his forklift and made quick work of an old hose, cutting bits of it to close in around the gap.

With the gear patched, the helicopter pilot lifted off, tightly turning around and hovering with the bucket just under the chute, kicking up small bits of sugar water slurry before flying off down the coast, a few ridges over. As he made his first line, the tiny poison pellets shot out from the bucket, catching the sunlight and shimmering, diamond-like. By his fifth run, the patch had failed, and the gel bead slurry trickled out again.

Boser sighed and walked back up toward the pellet tubs, near the small citrus grove where the ants were first discovered. The ants were still there, of course. For years she'd been tromping across these steep hills, dense with sage and mustard, running from wasps, looking for ant colonies, calculating the probability of their persistence even after mass aerial poisoning. If they fixed the chute, if the coverage was good, and if they did this again every month for another four months, for two full summers, she'd calculated that they had a very good chance of killing off the ants, close to 99.9 percent. Not perfect, but close enough.

The evening before the ant eradication began, I hiked up one side of the small valley where the old ranch spread, climbing one of the two mountain ranges that make up Santa Cruz Island. I walked up toward the north side, dark red with volcanic rock like burnt sienna. The south side, farther from the mainland, was green-gray sedimentary and ancient—it had been the ocean floor millions of years ago. I went through the valley slowly at first, watching the island foxes as they came out into the fallow fields to hunt. Then faster, passing up through a tiny pine forest, hearing mourning doves coo loudly at one another among the strange bonsai tangle of the scrub oaks. Up through a hillside swept with blooming buckwheat, all dusty yellows and pinks, blurred along the ridge with the hazy evening sky. It became very silent, then the dry brush rustled, and an island fox trotted out and stared at me for a spell, sniffing the evening air before losing interest and trotting back into the chaparral. I peered down at the far side of the valley to a small dirt airfield and beyond, to the old port where the ants had first arrived, and where the war on the ants was about to begin.

I thought then of what the Conservancy was saving. Like most species that end up native to an island, the Santa Cruz Island foxes had become, in their way, unique. It isn't quite its own species—it could, for example, mate with other island foxes on the other Channel Islands, and create viable offspring. But still, on each of the Channel Islands the foxes were undergoing the long, slow process of speciation. Foxes on Santa Cruz, which is farther north and chillier than most of the islands, have thicker coats in richer colors. Their personalities are different, too, more curious and docile. Given enough time, the Santa Cruz Island fox could in all likelihood shift from subspecies to full-blown species.

But the uncomfortable truth is that the foxes—so ingrained in the idea of the native ecology here—were almost certainly brought to the island by humans too. Like the Argentine ants, they came by boat. Unlike the ants, it wasn't the military, the boat wasn't motorized, and it was a long time ago. A Native American tribe, the Chumash, likely brought them over on long, canoe-like ships called tomols that they used to cross the channel for nearly 10,000 years. They brought dogs, too. The dogs they used for hunting, but the foxes, it seems, were kept around because they were cute and companionable—more cat than dog-like. When Boser told me this, I asked her why foxes were considered native but the Argentine ants were not. Was the distinction of native vs. invasive simply one of time? "Where do you draw the line?" I asked her. "Do you go back 100 years? Two hundred?"

"No, no," she said. "Naming dates gets you in a lot of trouble, drawing firm lines like that." The best she could do, both as an employee of The Nature Conservancy and an ecologist, was to value biodiversity above all, right up there with the overall health of the ecosystem. The Argentines presented a threat not simply to several ant species, but other types of flora and fauna as well—the flowers that needed their seeds moved by the harvester ants; the bees that were harassed off of flowers run over by Argentines; or the health of the soil, even.

> "It was a fine-looking ant, I said. Probably the finest ant I'd ever seen."

Holway had told me that the Argentine ants were poor soil excavators, preferring to raid other ant colonies and move in rather than dig out their own nests. Soil turnover is important, he emphasized, as it aerates the earth, benefiting not just the plants around it but also species living in the soil. The Argentines seemed uninterested in digging, and the soil and plants were worse off for it.

It reminded me of a line from Wendell Berry's essay "Conservation and Local Economy": "If we speak of a *healthy* community, we cannot be speaking of a community that is merely human. We are talking about a neighborhood of humans in a place, plus the place itself: its soil, its water, its air, and all the families and tribes of nonhuman creatures that belong to it." It made me think of dominating, invasive species as bad neighbors, and the ranchers who had brought along the pigs and cows and sheep as bad neighbors, too. Had the Chumash been good neighbors? And what about the humans on the island today? And the Argentine ants? Though they weren't immediately threatening a species with extinction, they did pose a threat to the balance of the place.

Still, the eradication effort seemed extreme, like a grand experiment in whole system ecology. By trying to turn the island back into what it once was, undoing the human hand with more human hands, where were we going? Aggressive warmongers, successfully spread

out across the continents, forming global superpowers... it seemed to me we shared more in common with the Argentine ants than was comfortable to admit, and that in doing battle against the ants we'd come close to the crux of conservation and our ideas of what is natural and of what nature should be.

"The thing is, everything about island eradications is already pretty extreme: the amount of planning, the cost, the fact that it's typically a last resort," Brad Keitt, the director of conservation at Island Conservation, told me. Island Conservation is a nonprofit that does nothing but prevent extinctions on islands by removing invasive species. Islands, Keitt said, represent less than 5 percent of the Earth's land mass, but account for 15 percent of its biodiversity. About 40 percent of all species currently threatened with extinction are on islands, and two-thirds of those threats are from invasive species brought by humans. It was, Keitt said, not just a question of good stewardship but our moral imperative to do everything in our power to stop these extinctions and protect biodiversity. "Eradications are simply the most cost-effective approach," he said.

At one point, while we waited for the dispersal chute to be fixed, I called The Nature Conservancy's restoration efforts "museum-like" and Boser pushed back. "That's completely wrong," she said. "It's living, it's changing, it's a whole system, not anything like a museum or a zoo. We still have so much to learn from it." She brought up a recent finding among the island's scrub jays: groups of birds on the same island had developed different-sized beaks. Some of the jays preferred the pines, and their beaks were longer and pointier, while others who lived and foraged in the scrub oak had developed more blunt-edged beaks. That birds on the same island living within several yards of one another could begin to develop such different traits flew right in the face of Darwin's finches, and the whole concept of how species became species due to geographical separation. This wasn't geographical separation. This was habitual separation. Similar changes might be happening with the ants, or the bees, or any number of other species on Santa Cruz, but we'd never know if we allowed invasives like the Argentine ants to take over and dwindle their populations.

Boser told me that eradication efforts happening on the far northwest side of Santa Cruz island—the side few visitors get to see—had brought about the most remarkable change of all: cleared of invasives, the island's native flora and fauna had returned beyond anyone's expectations. She'd show me what she meant before I caught a ferry back to the mainland. She'd arranged a helicopter ride, to show me the part of the island that had been returned to a near-prehistoric, perfect state.

On my last day on the island, we climbed into the helicopter and took off from a fallow field in the island's central valley, and swept up the sea cave-pocked coast toward the most rugged swaths. The landscape was almost entirely vertical, cliffs and canyons leading to rocky coastline. There were no Argentine ants here, no Eucalyptus trees or fennel, no Judas pigs or cattle. I was seeing the island as it would have been 300 years ago, perhaps. Except, of course, there were people here back then, so this was something different, older, more primordial. We flew over a small beach filled with sea lions, and down near a dark canyon, dense with ferns. We flew up a sea cliff and saw an eagle's nest in the distance. A bald eagle soared off from it, the bird's white head gleaming against the dark sea. It was a stunning sight, and surprising.

The bald eagles had been killed off sometime in the late 1950s or early 1960s, first by hunters, then by DDT. Now they'd been brought back from beyond the grave. From 2002 to 2006, 61 eagles were released until, at last, a pair produced a chick. The island has eight nesting pairs, untouched since 2009. It cost about $200,000 a year for years to secure their future on Santa Cruz Island, releasing bird after bird until they gained a foothold. It was a hard battle to undo past misdeeds. But the bald eagles were good neighbors. Marine hunters, they didn't seem to go after the island foxes, and kept the golden eagles at bay. And they were thriving, which shouldn't have come as a surprise. After all, they were natives to the land once before.

BLACK-HOLE COMPUTING

MIGHT NATURE'S BOTTOMLESS PITS ACTUALLY BE ULTRA-EFFICIENT QUANTUM COMPUTERS? THAT COULD EXPLAIN WHY DATA NEVER DIES.

BY SABINE HOSSENFELDER

Sabine Hossenfelder isa research fellowat the-Frankfurt Institute for Advanced Studies,with a specialinterestin the phenomenology of quantum gravity. Her writing hasappeared inForbes,Scientific American, andNew Scientist, among others.

After you die, your body's atoms will disperse and find new venues, making their way into oceans, trees and other bodies. But according to the laws of quantum mechanics, all of the information about your body's build and function will prevail. The relations between the atoms, the uncountable particulars that made you you, will remain forever preserved, albeit in unrecognisably scrambled form—lost in practice, but immortal in principle.

There is only one apparent exception to this reassuring concept: according to our current physical understanding, information cannot survive an encounter with a black hole. Forty years ago, Stephen Hawking demonstrated that black holes destroy information for good. Whatever falls into a black hole disappears from the rest of the Universe. It eventually reemerges in a wind of particles—'Hawking radiation'—that leaks away from the event horizon, the black hole's outer physical boundary. In this way, black holes slowly evaporate, but the process erases all knowledge about the black hole's formation. The radiation merely carries data for the total mass, charge and angular momentum of the matter that collapsed; every other detail about anything that fell into the black hole is irretrievably lost.

Hawking's discovery of black-hole evaporation has presented theoretical physicists with a huge conundrum: general relativity says that black holes must destroy information; quantum mechanics says it cannot happen because information must live on eternally. Both general relativity and quantum mechanics are extremely well-tested theories, and yet they refuse to combine. The clash reveals something much more fundamental than a seemingly exotic quirk about black holes: the information paradox makes it aptly clear that physicists still do not understand the fundamental laws of nature.

But Gia Dvali, professor of physics at the Ludwig-Maximilians University of Munich, believes he's found the solution. 'Black holes are quantum computers,' he says. 'We have an explicit information-processing sequence.' If he is correct, the paradox is no more, and information truly is immortal. Even more startling, perhaps, is that his concept has practical implications. In the future, we might be able to tap black-hole physics to construct quantum computers of our own.

The main reason why recovering information from black holes seems impossible is that they are almost featureless spheroids with essentially no physical attributes on their horizons; they have 'no hair', as the late US physicist John Wheeler put it. You cannot store information in something that has no features that could be used to encode it, the standard argument goes. And therein lies the error, Dvali says: 'All these no-hair theorems are wrong.' He and his collaborators argue that gravitons—the so-far undiscovered quanta that carry gravity and make up space-time—stretch throughout the black hole and give rise to 'quantum hair' which allows storing as well as releasing information.

The new research builds on a counter-intuitive feature of quantum theory: quantum effects are not necessarily microscopically small. True, those effects are fragile, and are destroyed quickly in warm and busy environments, such as those typically found on Earth. This is why we don't normally witness them. This is also the main challenge in building quantum computers, which process information using the quantum states of particles instead of the on-off logic of traditional transistors. But in a cold and isolated place, quantum behaviour can persist over large distances—large enough to span the tens to billions of kilometres of a black-hole horizon.

You don't even need to go to outer space to witness long-range quantum effects. The enormous distances and masses necessary to create black-hole quantum hair might be far beyond our experimental capabilities, but by cooling atoms down to less than one ten-thousandth of a Kelvin (that is, one ten-thousandth of a degree above absolute zero), researchers have condensed up to a billion atoms, spread out over several millimetres, into a single quantum state. That's huge for collective quantum behaviour.

Such an atomic collective—known as a Bose-Einstein condensate, named after the Indian physicist Satyendra Bose and Albert Einstein—is currently one of the most promising tools for creating a workable quantum computer. Quantum effects within a Bose-Einstein condensate, like the ability to be in two places at the same time, can stretch through the whole condensate, giving rise to many interlocked states. Enormous information-processing power could become available if researchers succeed in stabilising the condensate and controlling these states. And, not coincidentally, Bose-Einstein condensates might also solve the decades-old puzzle of black-hole information loss.

Hawking's information puzzle would find a natural solution, Dvali notes, if black holes consist of gravitons that have undergone Bose-Einstein condensation—puddles of condensed gravity, in essence. The idea might sound crazy, but for Dvali it's a perfectly reasonable conclusion, drawn from what physicists have learned about black-hole information in the years since Hawking first posed his riddle. Theorists know how to calculate how much information the black hole must be able to store: the amount is quantified in the black hole's entropy and proportional to the horizon surface area. They have also found that black holes can redistribute or 'scramble' information very quickly. And finally, they know the pace at which information must escape from the black hole in order to avoid conflicts with quantum mechanics.

Starting in 2012, Dvali explored these various attributes and discovered, to his surprise, that certain types of Bose-Einstein condensates share their essential properties with black holes. To act like a black hole, the condensate must linger at a transition point—its

> **“Hawking's information puzzle would find a natural solution if black holes are, in essence, puddles of condensed gravity”**

so-called quantum critical point—where extended fluctuations span through the fluid just before the quantum behaviour collapses. Such a quantum-critical condensate, Dvali calculated, has the same entropy, scrambling capacity and release time as a black hole: it has just the right quantum hair. 'Somebody can say this is a coincidence, but I consider it extremely strong evidence—mathematical evidence that is—that black holes genuinely are Bose-Einstein condensates,' he says.

Linking black holes with a form of matter that can be created in the lab means that some aspects of Dvali's idea can be explored experimentally. Immanuel Bloch, professor of physics at the Max-Planck-Institute in Munich, has first-hand experience with Bose-Einstein condensates. He condenses atoms in 'crystals of light'—optical lattices created by intersecting multiple laser beams—and then takes snapshots of the condensate using a technique called fluorescence imaging. The resulting pictures beautifully reveal the atoms' correlated quantum behaviour.

Bloch finds Dvali's idea, which originated in a field entirely different from his, intriguing. 'I am pretty excited about Gia's proposal. I think that's something really new,' Bloch says. 'People have seen collapse dynamics with interacting condensates, but nobody has so far investigated the quantum critical point and what happens there.

'In the BEC [Bose-Einstein condensate] you have macroscopic quantum waves, and this means in the quantum numbers you have a lot of fluctuations. This is why the BEC normally looks like a Swiss cheese,' he continues. But by applying a magnetic field, Bloch can change the strength by which the atoms interact, thereby coaxing them into an orderly lattice. 'Now you make the atoms strongly interacting, then you go to the [very orderly] "Mott state". This is a great state for quantum computing because you have this regular array. And you can address the atoms with lasers and rotate them around and change the spin [to encode and process information].'

> **"Dvali's idea is competing with a lot of other stuff out on the market. I have more skepticism than faith"**

According to Dvali, black-hole physics reveals a better way to store information in a Bose-Einstein condensate by using different quantum states. Black holes are the simplest, most compact, most efficient information storage devices that physicists know of. Using the black holes' coding protocol therefore should be the best possible method to store information in condensate-based quantum computers.

Creating a black-hole-mimic condensate in the lab seems doable to Bloch: '[In a black hole,] the interaction strength adjusts itself. We can simulate something like that by tuning the interaction strength to where the condensate is just about to collapse. The fluctuations become bigger and bigger and bigger as you get closer to the quantum critical point. And that could simulate such a system. One could study all the quantum fluctuations and non-equilibrium situations—all that is now possible by observing these condensates *in situ*, with high spatial resolution.'

Just because realising Dvali's idea is possible does not necessarily mean it is practical, however. 'It's competing with a lot of other stuff out on the market. Right now, I have more skepticism than faith,' Bloch says. He also points out that efficient information storage is nice, but for quantum computers 'information capacity is presently not the problem'. The biggest challenge he sees is finding a way to individually manipulate the quantum states that Dvali has identified—data processing, rather than data storage. There are other practical hurdles as well. 'There are so many things we don't know, like noise, is it resistant to noise? We don't know,' Bloch notes. 'For me, the much more interesting aspect is the connection to gravitational physics.' And here the implications go well beyond information storage.

Dvali's is not the only recent research suggesting a connection between gravity and condensed-matter physics, a trend that has opened whole new realms to experimental investigation. In the tradition of Einstein, physicists generally think of curved space-time as the arena for matter and its interactions. But now several independent lines of research suggest that space-time might not be as insubstantial as we thought. Gravity, it seems, can emerge from non-gravitational physics.

In the past decades, numerous links between gravity and certain types of fluids have demonstrated that systems with collective quantum behaviour can mimic curved space-time, giving rise to much the same equations as one obtains in Einstein's theory of general relativity. There is not yet any approach from which general relativity can be derived in full generality by positing that space-time is a condensate. For now, nobody knows whether it is possible at all. Still, the newfound relations allow physicists to study those gravitational systems that can be mimicked with atomic condensates.

Simulating gravity with condensates allows physicists to explore regions—such as black-hole horizons—that are not otherwise accessible to experiment. And so, although Hawking radiation has never been observed in real black holes, its analogue has been measured for black holes simulated through Bose-Einstein condensates. Of course, these condensates are not really black holes—they trap sound waves, not light—but they obey some of the same mathematical laws. The condensates do thus, in a sense, perform otherwise complicated, even intractable, physics calculations.

'We like to speak of "quantum simulations" and try to use these systems to look for interesting phenomena that are hard to calculate on classical computers,' says Bloch. 'We are also trying to use this kind of system to test other systems like the black holes, or we looked at the [analogue of the] Higgs particle in two dimensions.' In a 2012 *Nature* paper, Bloch and his collaborators reported that their quantum simulation revealed that Higgs-like particles can also exist in two dimensions. The same technique could in principle be used to study Bose-Einstein condensates behaving like black holes.

But using black-hole physics to develop new protocols for quantum computers is one thing. Finding out whether astrophysical black holes really are condensates of gravitons is another thing entirely. 'I am not interested in the idea if one can't test it,' says Stefan Hofmann, a theoretical cosmologist and colleague of Dvali's in Munich.

Hofmann therefore has dedicated significant time to exploring the observational consequences of the idea that black holes are graviton condensates. 'The black hole [no hair] theorems are, sorry, crap,' he agrees with Dvali. Hofmann thinks that the quantum hair nearby the black-hole horizon would subtly alter the predictions of general relativity (especially the emission of gravitational waves during formation or collision of black holes), in ways that should be detectable. 'The dream would be a binary [black hole] merger,' Hofmann said in a 2015 seminar. His dream has just become true: the LIGO collaboration recently announced the first measurement of gravitational waves emitted from a merging pair of black holes.

Hofmann and his collaborators have yet to make quantitative predictions, but due to the macroscopic quantum effects, Dvali's proposed solution to the information-loss problem might soon become experimentally testable. However, the idea that black holes are quantum-critical condensates of gravitons, truly equivalent to a Bose-Einstein condensate, leaves many questions open. To begin with, Dvali's calculations cannot explain what actually happens to matter falling into a black hole. And Hofmann admits that it isn't clear how the object is a 'black hole' in the conventional sense, since it can no longer be described within the familiar framework of general relativity.

Carlo Rovelli from the University of Marseille thinks that, even in incomplete form, Davli's idea of black holes as condensates might be scientifically useful. 'They are using a brutal approximation which might fail to capture aspects, but it might work to some extent, especially in the long wavelength regime. For the low-frequency quantum fluctuations of [space-time] it may not be absurd,' Rovelli says. He cautions, however, that the condensate model 'cannot be a complete description of what happens in the black hole'.

What is clear, though, is that this research has revealed a previously unrecognised, and quite fruitful, relation. 'We have a very interesting bridge between quantum information and black-hole physics that was not discussed before,' Dvali says. If he is right, the implications are conceptually staggering. Information really does live on eternally. In that sense, we are all immortal. And the supermassive black hole at the centre of our galaxy? It's actually a cosmic quantum computer.

THE BICYCLE PROBLEM THAT NEARLY BROKE MATHEMATICS

BY BRENDAN BORRELL JULY 28, 2016

Jim Papadopoulos has spent a lifetime pondering the maths of bikes in motion. Now his work has found fresh momentum.

Seven bikes lean against the wall of Jim Papadopoulos's basement in Boston, Massachusetts. Their paint is scratched, their tyres flat. The handmade frame that he got as a wedding present is coated in fine dust. "I got rid of most of my research bikes when I moved," he says. The bicycles that he kept are those that mean something to him. "These are the ones I rode."

Papadopoulos, who is 62, has spent much of his life fascinated by bikes, often to the exclusion of everything else. He competed in amateur races while a teenager and at university, but his obsession ran deeper. He could never ride a bike without pondering the mathematical mysteries that it contained. Chief among them: What unseen forces allow a rider to balance while pedalling? Why must one initially steer right in order to lean and turn left? And how does a bike stabilize itself when propelled without a rider?

He studied these questions intensely as a young engineer at Cornell University in Ithaca, New York. But he failed to publish most of his ideas—and eventually drifted out of academia. By the late 1990s, he was working for a company that makes the machines that manufacture toilet paper. "In the end, if no one ever finds your work, then it was pointless," he says.

But then someone did find his work. In 2003, his old friend and collaborator from Cornell, engineer Andy Ruina, called him up. A scientist from the Netherlands, Arend Schwab, had come to his lab to resurrect the team's research on bicycle stability.

"Jim, you need to be a part of this," Ruina told him.

Two wheels good

Together, the researchers went on to crack a century-old debate about what allows a bicycle without a rider to balance itself, publishing in *Proceedings of the Royal Society and Science*. They have sought to inject a new level of science into the US$50-billion global cycling industry, one that has relied more on intuition and experience than on hard mathematics. Their findings could spur some much needed innovation—perhaps helping designers to create a new generation of pedal and electric bikes that are more stable and safer to ride. Insights from bicycles also have the potential to transfer to other fields, such as prosthetics and robotics.

"Everybody knows how to ride a bike, but nobody knows how we ride bikes," says Mont Hubbard, an engineer who studies sports mechanics at the University of California, Davis. "The study of bicycles is interesting from a purely intellectual point of view, but it also has practical implications because of their ability to get people around."

For a mechanician—that fusty breed of engineer whose subject is defined by Newton's three laws of motion—the conundrums of the bicycle hold a special allure. "We are all stuck in the nineteenth century, when there wasn't such a difference between math and physics and engineering," says Ruina. Bicycles, he says, are "a math problem that happens to relate to something you can see".

The first patents for the velocipede, a two-wheeled precursor to the bike, date to 1818. Bikes evolved by trial and error, and by the early twentieth century they looked much as they do today. But very few people had thought about how—and why—they work. William Rankine, a Scottish engineer who had analysed the steam engine, was the first to remark, in 1869, on the phenomenon of 'countersteering', whereby the rider can steer to the left only by first briefly torquing the handlebars to the right, allowing the bike to fall into a leftward lean.

The link between leaning and steering gives rise to the bicycle's most curious feature: the way that it can balance while coasting on its own. Give a riderless bike a shove and it may wend and wobble, but it will usually recover its forward trajectory. In 1899, English mathematician Francis Whipple derived one of the earliest and most enduring mathematical models of a bicycle, which could be used to explore this self-stability. Whipple modelled the bicycle as four rigid objects—two wheels, a frame with the rider and the front fork with handlebars—all connected by two axles and a hinge that are acted upon by gravity.

Plugging the measurements of a particular bicycle into the model revealed its path during motion, like a frame-by-frame animation. An engineer could then use a technique called eigenvalue analysis to investigate the stability of the bicycle as one might do with an aeroplane design. In 1910, relying on such an analysis, the mathematicians Felix Klein and Fritz Noether along with the theoretical physicist Arnold Sommerfeld focused on the contribution of the gyroscopic effect—the tendency of a spinning wheel to resist tilting. Push a bicycle over to the left and the rapidly spinning front wheel will turn left, potentially keeping the bicycle upright.

In April 1970, chemist and popular-science writer David Jones demolished this theory in an article for Physics Today in which he described riding a series of theoretically unrideable bikes. One bike that Jones built had a counter-rotating wheel on its front end that would effectively cancel out the gyroscopic effect. But he had little problem riding it hands-free.

This discovery sent him hunting for another force that could be at play. He compared a bike's front wheel to the casters on a shopping trolley, which turn to follow the direction of motion. A bicycle's front wheel can act as a caster because the point at which the wheel contacts the ground typically sits anywhere from 5 centimetres to 10 centimetres behind the steering axis (see 'What keeps a riderless bike upright?'). This distance is known as the trail. Jones discovered that a bike with too much trail was so stable that it was awkward to ride, whereas one with negative trail was a death trap and would send you tumbling the moment you released the handlebars.

When a bicycle starts to topple, he concluded, the caster effect steers the front end back under the falling weight, keeping the bicycle upright. To Jones, the caster trail was the sole explanation for a bike's self-stability. In his memoir, published 40 years later, he counted the observation as one of his great accomplishments. "I am now hailed as the father of modern bicycle theory," he declared.

Gearing up

That article would make an impression on Jim Papadopoulos, then a teenager in Corvallis, Oregon, with a gift for numbers and a home life in tatters. In 1967, his father Michael, an applied mathematician from England, started a job at Oregon State University. But Michael Papadopoulos was denied tenure after protesting against the Vietnam War, setting off a decade-long legal battle with the university that left him out of a job and the family scouring rubbish bins for scraps. Jim's mother killed herself in the early 1970s. "Just as I was opening my eyes to the world and deciding who I was," Papadopoulos says, "my family was falling apart.

> **"Everybody knows how to ride a bike, but nobody knows how we ride bikes"**

He found solace in bikes. He pedalled his Peugeot AO8 around town and grew his hair to his shoulders. He stopped going to classes, and his grades took a tumble. At 17, he dropped out of school and left home. But before he abandoned his studies, a teacher gave him the Jones article.

Papadopoulos found it captivating but confusing. "I've got to learn this stuff," he thought. He spent the summer bumming around Berkeley, California, reading George Arfken's text-

book Mathematical Methods for Physicists in his spare time. Then, he worked at a plywood mill in Eugene, Oregon, earning enough money to buy the legendary Schwinn Paramount that he raced every weekend. In 1973, he worked for the frame builder Harry Quinn in Liverpool, UK, but he was terrible at it and Quinn asked him to leave.

Papadopoulos returned to Oregon in 1975, spent a year at the state university and then started undergraduate studies in mechanical engineering at the Massachusetts Institute of Technology (MIT) in Cambridge. He did well. Oil company Exxon later supported him as he studied for a PhD in fracture mechanics. Papadopoulos's adviser, Michael Cleary, was optimistic about his prospects as an academic. "I think Jim will become a university professor—and we certainly hope it's going to be here at MIT," he told a writer from Exxon's in-house magazine.

> "Once you have a robot bicycle, you can do a lot of crazy experiments"

Papadopoulos had other ideas. He had been studying Whipple's model and Jones's article, and one summer, an internship took him to the US Geological Survey in Menlo Park, California, where he met Andy Ruina.

The two became fast friends. When Ruina got a job at Cornell, he hired Papadopoulos as a postdoc. "We talked about bikes all the time, but I didn't realize he wanted to make a serious thing about it," Ruina says.

Papadopoulos convinced Ruina that bicycle companies—like oil companies—might be interested in supporting academic research. So he started fund-raising, reaching out to bike makers. For $5,000, they could be benefactors of the Cornell Bicycle Research Project, an ambitious effort that would investigate everything from the strength of wheels to brake failure in the rain.

Papadopoulos's first goal was to finally understand what makes one bicycle more stable than another. He sat in his office and scrutinized 30 published attempts at writing the equations of motion for a bicycle. He was appalled by the "bad science", he says. The equations were the first step towards connecting the geometry of a bicycle frame with how it handled, but each new model made little or no reference to earlier work, many were riddled with errors and they were difficult to compare. He needed to start from scratch.

After a year of work, he had what he believed to be the definitive set of equations in hand. Now it was time for them to talk back to him. "I was sitting for hours at a time, staring at the equations and trying to figure out what they implied," he says.

He first rewrote the bicycle equations in terms of the caster trail, the crucial variable that Jones had championed. He expected to find that if the trail was negative, the bicycle would be unstable, but his calculations suggested otherwise. In a report that he prepared at the time, he sketched a bizarre bicycle with a weight jutting out in front of the handlebars. "A sufficiently forward [centre of mass] can compensate for a slightly negative trail," he wrote. No single variable, it seemed, could account for self-stability.

This discovery meant that there was no simple rule-of-thumb that could guarantee that a bike is easy to ride. Trail could be useful. Gyroscopic effects could be useful. Centre of mass could be useful. For Papadopoulos, this was revelatory. The earliest frame builders had simply stumbled on a design that felt OK, and had been riding around in circles in that nook of the bicycle universe. There were untested geometries out there that could transform bike design.

The crash

After two years, Ruina could no longer support Papadopoulos. Apart from the bike manufacturer Murray, the only industry donations the two ever got were from Dahon and Moulton, makers of small-wheeled bicycles—perhaps because the bikes' unconventional designs could make them tricky to ride. Ruina joked that he should change the name to the "Folding Bicycle Research Project". It was gallows humour.

And although Papadopoulos was making progress in the mathematics of bikes, he only published one paper related to the topic as a first author. "I find much more joy discovering the new and working out the details and, of course, it's boring to write it up," he says. Without money or publications, his time in bicycle research wound down. In 1989, he put his bikes into a moving van and drove west to Illinois, where his then-wife had a job. He endured a succession of teaching and industry jobs that he hated. In his spare time, he founded and moderated the Hardcore Bicycle Science e-mail list for bicycle-science nerds and helped to build a car that fitted into a few suitcases for the reality television show Junkyard Wars.

In 2001, David Wilson, an MIT engineer and inventor of one of the first modern recumbent bicycles, invited Papadopoulos to co-author the third edition of the book Bicycling Science. Papadopoulos was overwhelmed by monetary debts and responsibilities. He failed to send Wilson the first chapter, and then stopped responding to e-mails altogether. Wilson felt betrayed. "He is a rather brilliant guy," Wilson says, but "he always had problems finishing anything". Papadopoulos says that he did complete the work, but that it took two years longer than it should have, partly because of a stressful divorce.

Back to the bike

At Cornell, Ruina moved on. He applied the team's insights about bicycles to a new arena: robots. If bicycles could demonstrate such elegant stability without a control system, he reasoned, it might be possible to design a stripped-down walking machine that achieves the same thing. In 1998, he worked with Martijn Wisse, a graduate student of Schwab's at the Delft University of Technology in the Netherlands, to build a bipedal machine that could walk down a slight incline with no motor at all, storing energy in its swinging arms. Adding a few electronic motors generated an energy-efficient robot that could walk on level ground.

In 2002, Schwab decided to spend his sabbatical with Ruina, and they started discussing the old bicycle work. It was then that Ruina called Papadopoulos and paid for him to visit. "That was the first time I met the genius," says Schwab.

With more bicycles on the road than ever before, Schwab found it inconceivable that no one had published the correct set of bike equations, or applied it to bicycle design challenges. Within a year, he and Jaap Meijaard, an engineer now at the University of Twente in the Netherlands, independently derived their own equations and found complete concordance with Papadopoulos's. They presented the definitive bicycle equations at an engineering conference in South Korea, and the four collaborators published them jointly.

The challenge now was to prove that it was more than just a mathematical finding. Schwab and a student spent a year building a self-stable bike with a very small negative trail. Looking like the offspring of a razor scooter and a see-saw, it had a weight angled out in front of the front wheel and a counter-turning wheel to cancel out gyroscopic effects. In a video of it coasting, you can see it lean and veer to the right, but then recover on its own. The experiment proved that Papadopoulos had been right about the complex interplay of factors that make a bicycle stable or unstable.

Yet, after waiting for three decades for his discoveries to reach a wider audience, Papadopoulos can't help but feel deflated. "It did not change everything in the way that we imagined," he says. This year's bike frames look much like last year's. "Everyone is still in the box," he says. Nevertheless, other researchers have since been pulled into the group's orbit, creating enough momentum to launch a Bicycle and Motorcycle Dynamics conference in 2010. It gathers together tinkerers from all over the world, some of whom have also built weird experimental bicycles to test design principles.

One of the organizers of this year's conference, engineer Jason Moore of the University of California, Davis, has sought to probe the link between a bicycle frame's geometry and an objective measure of handling—its ease of control. The work was inspired by extensive military research on aircraft pilots. Moore created a model of human control by performing various manoeuvres on bikes kitted out with sensors to monitor his steering, lean and speed. To force himself to balance and ride using steering movements alone (rather than shifting his weight), he had to don a rigid upper-body harness that bound him to the bike. The research confirmed the long-standing assumption that more stable bikes handle better, and potentially gives frame builders a tool to optimize their designs.

It also introduced a puzzle: the steering torque required was two or three times that predicted by the Whipple bicycle model. This might have been caused by friction and flexing of the tyres, which are not part of the model, but no one is certain. For further tests, Moore and his colleagues have built a robotic bike that can balance itself. "Once you have a robot bicycle, you can do a lot of crazy experiments without having to put a human in danger," he says. (One of his earlier handling experiments had him regaining his balance after a sideways blow from a wooden stick.) Unlike many other riderless-bike robots, it does not use internal gyroscopes to stay upright, but depends on steering alone. Moore has shipped it to Schwab for further study.

Today, Schwab has the kind of laboratory that Papadopoulos always dreamed of, and Papadopoulos is grateful to be able to collaborate. "It's the most beautiful thing you can imagine," he says. Schwab's other projects include a 'steer by wire' bike, which allows him to separate steering movements from balancing ones, and a 'steer assist' bicycle, which stabilizes itself at slow speeds. He has also identified a rear-steered recumbent bike that shows self-stability, in part owing to an enlarged front wheel that boosts gyroscopic effects. The chief advantage of a rear-steered recumbent is that it would have a shorter chain than standard recumbents, which should lead to better energy transfer. "People have tried to build them before, but they were unrideable," Schwab says.

Papadopoulos, who now has a teaching position at Northeastern University in Boston, is trying to get comfortable with academia once again. He's establishing collaborations, and testing out long-dormant ideas about why some bicycles wobble at high speed. He believes he can eliminate speed wobble with a damper to soak up vibrations in the seat post. With his new colleagues and students, he is branching out into other types of question, not all them bike-related.

Down in his basement, Papadopoulos opens the drawer of a tan filing cabinet and starts flipping through crinkled manila folders marked with labels such as 'tire pressure', 'biomechanics' and 'Cornell'. He pulls out a textbook. "Exercise physiology? I never really got into that one," he says, tossing it aside. In the back of the drawer, he finds a thick folder of bicycle research ideas, marked 'Unfinished'.

Papadopoulos thinks for a second and then offers a correction: "Mostly unfinished."

UNEARTHING THE SECRETS OF NEW YORK'S MASS GRAVES

BY NINA BERNSTEIN MAY 15, 2016

Over a million people are buried in the city's pot-ter's field on Hart Island. A New York Times investigation uncovers some of their stories and the failings of the system that put them there.

Twice a week or so, loaded with bodies boxed in pine, a New York City morgue truck passes through a tall chain-link gate and onto a ferry that has no paying passengers. Its destination is Hart Island, an uninhabited strip of land off the coast of the Bronx in Long Island Sound, where overgrown 19th-century ruins give way to mass graves gouged out by bulldozers and the only pallbearers are jail inmates paid 50 cents an hour.

There, divergent life stories come to the same anonymous end.

No tombstones name the dead in the 101-acre potter's field that holds Leola Dickerson, who worked as one family's housekeeper for 50 years, beloved by three generations for her fried chicken and her kindness. She buried her husband as he had wished, in a family plot back in Alabama. But when she died at 88 in a New York hospital in 2008, she was the ward of a court-appointed guardian who let her house go into foreclosure and her body go unclaimed at the morgue.

By law, her corpse became city property, to be made available as a cadaver for dissection or embalming practice if a medical school or mortuary class wanted it. Then, like more than a million men, women and children since 1869, she was consigned to a trench on Hart Island.

Several dozen trenches back lies Zarramen Gooden, only 17 when the handlebars of his old bike broke and he hit his throat, severing an artery. He had been popping wheelies near the city homeless shelter in the Bronx where he and four younger siblings lived with their heroin-addicted mother. With no funeral help from child protection authorities, his older sister scraped together $8 to buy the used suit he wore at his wake. But the funeral home swiftly sent him back to the morgue when she could not pay the $6,000 burial fee.

For Milton Weinstein, a married father with a fear of dying alone, there was no burial at all for two years after his death at 67. A typographer in his day, he had worked in advertising for Sears, Roebuck & Company. But he lost his career to technology and his vision to diabetes; his wife's mental problems drove their children away. Though she was at his side when he died in a Bronx nursing home, she had no say over what happened to his remains—and no idea that his body would be used as a cadaver in a medical school and then shoveled into a mass grave on Hart Island.

New York is unique among American cities in the way it disposes of the dead it considers unclaimed: interment on a lonely island, off-limits to the public, by a crew of inmates. Buried by the score in wide, deep pits, the Hart Island dead seem to vanish—and so does any explanation for how they came to be there.

To reclaim their stories from erasure is to confront the unnoticed heartbreak inherent in a great metropolis, in the striving and missed chances of so many lives gone by. Bad childhoods, bad choices or just bad luck—the chronic calamities of the human condition figure in many of these narratives. Here are the harshest consequences of mental illness, addiction or families scattered or distracted by their own misfortunes.

But if Hart Island hides individual tragedies, it also obscures systemic failings, ones that stack the odds against people too poor, too old or too isolated to defend themselves. In the face of an end-of-life industry that can drain the resources of the most prudent, these people are especially vulnerable.

Indeed, this graveyard of last resort hides wrongdoing by some of the very individuals and institutions charged with protecting New Yorkers, including court-appointed guardians and nursing homes. And at a time when many still fear a potter's field as the ultimate indignity, the secrecy that shrouds Hart Island's dead also veils the city's haphazard treatment of their remains.

These cases are among hundreds unearthed through an investigation by The New York Times that draws on a database of people buried on the island since 1980. The records make it possible for the first time to trace the lives of the dead, revealing the many paths that led New Yorkers to a common grave.

Matched with other public records, including guardianship proceedings, court dockets and hundreds of pages of unclaimed cadaver records obtained from the city's Office of Chief Medical Examiner under the state's Freedom of Information Law, the database becomes a road map to unlocking Hart Island's secrets.

Some secrets defy every expectation. Ruth Proskauer Smith, 102, died in her multimillion-dollar apartment in the Dakota building in Manhattan in 2010 after a life celebrated in a Times obituary and by her children, grandchildren and great-grandchildren. She now lies with 144 strangers in Trench 359.

"My God, she ended up there?" Gael Arnold exclaimed, shocked to learn that her mother had been buried on Hart Island in 2013, three years after her death and the donation of her body to science. Her children had assumed that the New York University School of Medicine would cremate her remains and dispose of the ashes, not send her corpse to the city morgue to be ferried to a pit.

Some secrets still resist unraveling. Timothy Daniels, 17, is buried in Trench 209. He died in 1990 in an upstate homeless shelter run by the city for men over 35, a place no juvenile was supposed to be. Yet there is no trace of any official inquiry into how he died there.

The common expectation today is that families will be on the front line of burial arrangements. But as many cases show, families can be lost or outlived, left in the dark or hobbled by the same economic and social forces that drove their kin toward Hart Island.

Under a New York State law rooted in the 1850s and last amended in 2007, next of kin can have as little as 48 hours after a death to claim a body for burial, or 24 hours after notification, "if the deceased person is known to have a relative whose place of residence is known or can be ascertained after reasonable and diligent inquiry."

At that point, a body is legally available for use as a cadaver and for burial in a potter's

"New York is unique among American cities in the way it disposes of the dead"

field. Medical schools have the right of first refusal; the bodies they reject are passed to mortuary classes for embalmment training, which is required for a funeral director's license.

Views differ over whether the role of cadavers in teaching doctors, or even undertakers, should outweigh any concerns about consent, religious prohibitions or disparate treatment of the poor. Even some anatomists now argue that the government's power to appropriate the bodies of the marginalized should be unacceptable today. But most people are simply unaware of the practice.

With the rise of private body donations, most medical schools no longer claim corpses from the city morgue. Still, the city has offered at least 4,000 bodies to medical or mortuary programs in the past decade; among these, more than 1,877 were selected for use before a belated Hart Island burial, records show. The city temporarily halted the flow of cadavers in 2014 after the medical examiner's office was caught in a series of blunders, including bodies lost or mixed up. But the practice resumed last spring when a mortuary school sued.

The city declines to identify the cadavers, invoking a privacy exception to public records laws. Citing security, the city's Correction Department also repeatedly rebuffed The Times's requests to witness Hart Island burials firsthand. Finally, in March, The Times used a drone to fly around the island's shoreline and record burials on video.

For a decade, a small band of activists, led by a visual artist, Melinda Hunt, sought access to the island's handwritten burial ledgers. More than a year ago, Ms. Hunt turned hardwon facts and old images into a website for the nonprofit organization she founded, the Hart Island Project, and shared the underlying data with The Times.

The recovered stories reveal the powerful reach of the past. And they show that in a time of passionate debate over inequality, racism and economic exploitation, the potter's field dead speak to us still.

Strangers With Common Fate

The term "potter's field" is biblical, referring to a clay-heavy piece of land near Jerusalem bought with the 30 pieces of silver returned by a remorseful Judas to the chief priests. Worthless for farming, the land would be used to bury strangers. The "strangers" in New York City after the Civil War were poor immigrants, African-Americans and casualties of the teeming, crime-infested slums.

The city bought Hart Island in 1868. It had been the site of a prison for Confederate soldiers, and for more than a century, the dead shared the island with living inmates of one kind or another, people who were likely to end up in its mass graves themselves.

The island is now haunted by the crumbling remnants of defunct institutions, among them a lunatic asylum, a tuberculosis hospital and

a boys' reformatory. In the bulldozed barrens between these ruins, inmates outfitted, chain-gang-style, in red stripes and Day-Glo orange caps stack the dead three deep.

Throughout human history, archaeologists say, the treatment of dead bodies has been a key indicator of status differences in a society; the "unworthy" poor become the unworthy dead. As a burial place, unmarked ground shared with many strangers is at the bottom of the hierarchy. But Hart Island's dead were also always vulnerable to another fate.

New York was among many states that had added dissection to death sentences for murder, arson and even burglary by the early 19th century, when it was otherwise illegal. But the demand for cadavers in medical education had outstripped the legal supply of executed felons, and an illicit market in corpses mushroomed.

Its history is grim. Southern slave owners "donated" or sold bodies of dead slaves to medical schools; in the North, competing schools imported black bodies from the South in whiskey barrels. Potter's fields, almshouse cemeteries and African-American burial grounds were routinely ransacked as medical professors paid for corpses, no questions asked. Other bodies were diverted from morgues and the charity wards of urban hospitals.

Society largely turned a blind eye as long as the body snatchers took the black, the poor or the powerless, historians point out. But when even the bodies of "respectable" whites were not safe, outrage erupted. There were riots against medical schools in Philadelphia, New Haven and New York, where in 1788 a hospital was sacked and Columbia College medical students were nearly lynched. Furor peaked nationwide in an 1879 scandal, when the naked, stolen body of a United States congressman was discovered in an Ohio anatomy lab.

Lawmakers in many states concluded that the only way to protect the respectable was to give medical schools more of what they were already taking illegally: the bodies of the disenfranchised. One of the first such laws was New York State's, passed in 1854 despite vehement opposition from representatives of New York City's immigrant poor. Over the next 50 years, many states followed suit, some passing laws requiring officials at every almshouse, prison, hospital and public institution to provide corpses to medical schools if the bodies would otherwise be buried at public expense.

Those are the roots of New York's present statute. Today, the rise of cremation and body donation has altered funeral practices for many, but in poor communities—not least among a generation of African-Americans who migrated north from the Jim Crow South—a pauper's grave and the specter of dismemberment never lost their horror as a final humiliation.

> **“New York was among many states that had added dissection to death sentences for murder, arson and even burglary”**

An opt-out provision in the law would seem to exempt the bodies of people who indicate that they do not want to be dissected or embalmed. But few are aware of it, and it may be unenforceable. Certainly it was unknown in the 1990s in the single-room occupancy hotel where an African-American woman named Gwendolyn Burke, blind and halt after a lifetime of menial work, had no way to avoid the potter's field.

Sure enough, when she died at 89, Ms. Burke went to Hart Island. But first, the Albert Einstein College of Medicine claimed her as a cadaver and used her body for dissection for 13 months before she was interred in 2000.

"She didn't deserve that," said David Minton, the city social worker assigned to Ms. Burke's hotel in Harlem, who learned of her body's use 16 years too late to object.

High Cost of Dying Alone

When Leola Dickerson fell to the floor of her house in Pleasantville, N.J., in February 2006, no one was there to notice. Her dog, Champ, waited in vain to be let in. Her upstairs tenant came and went by an outside staircase. Days passed before a mail carrier found her, barely conscious, and called 911.

Her husband, one of 10 siblings, had wanted to retire to live with relatives in rural Alabama, before he died. But Ms. Dickerson, born near Tuskegee in 1919, refused to go back. "I'm out of the South," she would say. "We're set in our ways, and God has blessed us."

Family photographs covered her parlor walls: the children who had called her Grandma on visits from the South after she married their grandfather, Mango, in the 1960s; Mango's nephew Joseph Dixon, the boy she had raised as her son; the grandsons of her deceased employers, Milton and Helen Katz, who had always treated her like kin. Black and white and tan, the faces overlapped inside old picture frames.

But at 86, Ms. Dickerson's sole blood relative was her younger brother in New York, Johnny Maddox. After an ambulance took her to a hospital in New Jersey, he arranged to move her to a nursing home in Queens. The nursing home, saying she had dementia, petitioned the Queens County Court to appoint a guardian to manage her affairs and assets, including her house, valued at $88,200, and her monthly Social Security check of $783.

So began Leola Dickerson's two-year journey to Hart Island.

In Pensacola, Fla., her dead husband's granddaughter, Constance Dickerson Williams, knew something was wrong. She kept trying to call Grandma Leola, but no one answered. Finally she wrote, but there was no response.

In New York, everyone agreed that Ms. Dickerson needed a guardian, and the court appointed one from a list of lawyers.

On paper, Ms. Dickerson was now covered. By law, the guardian was to "exercise the utmost care and diligence when acting on behalf of the incapacitated person" and show "trust, loyalty and fidelity." His powers and duties included creating "an irrevocable burial trust fund," notifying relatives in the event of death and paying reasonable funeral expenses out of remaining assets.

But guardians are paid out of those same assets, and a house on the outskirts of Atlantic City did not promise much. Moreover, the nursing home's lawyers were already claiming thousands of dollars in legal fees for bringing the guardianship petition in the first place.

A year went by as two appointed lawyers in succession declined to serve as her guardian. A third accepted but failed even to file the paperwork required to act on Ms. Dickerson's behalf. After an appeal by Dr. Michael Katz, a physician and the elder son of Ms. Dickerson's employers, the court appointed a fourth lawyer in October 2007. But by year's end he had not submitted the necessary documents, either.

The need to safeguard or sell Ms. Dickerson's house was urgent, Dr. Katz knew. He had rescued her from predatory lenders, covered $45,000 in needed repairs with a family loan and helped her collect rent from her tenant. Now, dying of a heart condition, Dr. Katz saw the empty house falling prey to squatters and scavengers.



"Leola Dickerson has been part of our family for 50 years," he had written in a eulogy for his mother in 2000, when she died of Alzheimer's disease at 86, tended by Ms. Dickerson, then 80. "Her years of devotion and caring for our parents will always be appreciated and never forgotten."

Dr. Katz, 69, died on Jan. 18, 2008, and was buried three days later. Ms. Dickerson died at a Queens hospital on Jan. 22. Her body would wait in the morgue for three months and 21 days.

For a long time already, her adoptive son, Joseph Dixon, had been trying to find her. "She was a good mother," he would say later. "Everybody loved her."

Their relationship had suffered after he left the Army and struggled with drugs. Nevertheless, he visited her in the hospital in 2006 after learning of her fall. When he returned the next morning, she was gone and the hospital would not tell him where. They kept insisting, "She doesn't have any kids."

There had never been a formal adoption. But inside the locked Pleasantville house lay his high school diploma and his formal Army portrait. Outside towered the tree he had planted in fourth grade. He tried to find out who controlled the property, to no avail. One day the garage door was open, and the blue Thunderbird that Ms. Dickerson called her "baby" was gone. He figured then that she had passed.

Notice of her death went to her baby brother, Mr. Maddox, a diabetic undergoing a double amputation. "He was in bad shape when she passed," the brother's widow, Bernice, recalled. "He was in no position."

Notice also went to the guardian and to the Queens County public administrator's office, which calculated that she had only $342.24 left. It would go toward a $7,771.18 claim by the nursing home's lawyers, or to offset $124,258.85 paid to the home by Medicaid.

That year the city referred 80 unclaimed Queens bodies to medical schools. Whether Ms. Dickerson was among them is not a matter of public record, but her burial site is: Trench 331, with 162 other bodies.

Even as her grave sank under bulldozers digging new trenches for the unclaimed, the unpaid tax liens on her house were being bought at auction, repackaged and resold for profit by various hedge funds.

By then the house was a boarded-up ruin where drug deals went down. When a stepgrandson, Thackus Dickerson, finally arrived, trying to find out what had happened to Grandma Leola, sheriff's deputies showed up to demand his ID.

Yet the guardian and the nursing home's lawyers were still battling for the last of her Social Security in 2012, four years after her death, the guardian claiming $23,793.69 in legal fees. He lost. The judge granted him just $1,576, and it became another uncollectable lien against a house in foreclosure that he never went to see.

The guardian, Jay Stuart Dankberg, 70, is a large man who wears big gold rings and meets visitors in a shabby Manhattan office crammed with overflowing cartons. He readily remembered the Dickerson case as a financial disappointment, but said he was hearing of his ward's Hart Island burial for the first time.

"It shocks me," Mr. Dankberg said. "I certainly should be paid, and certainly she shouldn't be buried in potter's field."

Where did he think she would be buried?

"I hadn't given it any thought," he replied.

Indifference and Betrayals

New York's guardianship statute was considered a model when it was passed in 1993. It did not work out that way. Government and news media investigations have repeatedly found the system swollen with well-connected lawyers siphoning fees from wards' assets, and choked by paperwork requirements that fail to uncover even flagrant theft.

Past exposés have followed the money, not the human remains of wards with little left to steal. Guardianship data is spotty and often hard to obtain.

But here they are: guardianship files that bear the same names as people sent to Hart Island. Dozens of files can be identified and pulled one by one from courthouse storage.

Few of these wards were wealthy. But neither were they destitute—at least not until they entered the vortex of end-of-life care. In some cases of neglectful guardians, even the last safety net—a burial fund, a private plot, a will—proved no protection.

"That's one of the most horrible, predatory things I've ever heard," Felice Wechsler, a senior lawyer with the state's Mental Hygiene Legal Service and a veteran of guardianship proceedings, said when informed that records showed that many people with guardians ended up on Hart Island.

Constance Mirabelli, a widowed bookkeeper with a jolly laugh and a love of riding city buses, had a rent-controlled apartment in the West Village and a burial plot in a Catholic cemetery before she was placed under a guardianship in 1999 at her landlord's initiative.

"I'm not dilapidated yet," Ms. Mirabelli told the psychiatrist sent by the city after her landlord complained that she was incontinent and sometimes let the bathtub overflow. "I can still kick pretty good."

Four years, two guardians and two nursing homes later, Ms. Mirabelli died at 91. And despite her plot at St. John Cemetery in Queens, despite a $2,000 burial fund culled from her modest pension and preserved by court order, Ms. Mirabelli was among the last of 137 bodies to be lowered into Trench 307 in February 2004.

The guardian responsible for her at the time, Jo Ann Douglas, was a lawyer known for lucrative appointments as a law guardian for children in celebrity divorces. In her final accounting, she wrote that she had arranged "appropriate transport and burial for Ms. Mirabelli"—not specifying that she meant a city morgue truck and a pauper's grave. Questioned 10 years later, Ms. Douglas found nothing in her old notes to explain her decision. "Do you know if she can be moved to St. John's?" she asked in an email, seeking a way to undo the past.

Again and again, bulging guardianship files show that the consequences of bad luck and bureaucratic indifference fall with disproportionate cruelty on people who lack the buffer of money. Few are more vulnerable than immigrants to this proudly international city.

Ciro Ferrer, of Cuba, lies in Trench 357, where four dozen of 150 bodies have Hispanic names amid an Ellis Island grab bag. For 25 years, working in a food market in Elmhurst, Queens, Mr. Ferrer supported his wife and three children in Havana. But after the authorities found him disheveled and malnourished, wandering the streets near the Elmhurst apartment where he lived alone, he was initially described in records as 70, single and childless.

He told a court-appointed evaluator about his Cuban family after receiving a dementia diagnosis in 2007 and being placed at New Surfside Nursing Home in Far Rockaway, Queens. His guardianship file includes the Havana address and phone number of his wife, Regla, and even a 2008 report by his guardian citing a plan to buy him a phone card to call family "outside the country."

But that never happened. The guardian, Nicholas S. Ratush, who collected $400 every month as a fee from Mr. Ferrer's $669 Social Security check and paid the nursing home the rest, now says that he was unaware of any relatives and so could not notify any when Mr. Ferrer died on Oct. 29, 2012.

In Havana, Mr. Ferrer's daughter, Ilda, 53, learned of her father's death three years later from The Times. He was still alive, eight years ago, when her mother received a letter from the court evaluator saying that Mr. Ferrer was unable to care for himself, but her efforts to reply by phone and email went unanswered. Mr. Ferrer's wife died soon afterward, and the children tried in vain to reach their father through the Red Cross and the United States government.

"We could do nothing," his daughter said, "but let him die alone."

Wishes and Plans Ignored

To leave your kin to the potter's field has long been considered shameful. But Julie Bolcer, a spokeswoman for the city's Office of Chief Medical Examiner, said many people chose not to claim relatives lying in the



morgue. The office does not track the numbers, she said, or ask the reasons.

For the big sister of Zarramen Gooden, 17, buried on Hart Island in 1999, the reason still sears: "Did we want him in potter's field? Hell no! We didn't have the money. I felt so bad knowing that my brother's body was just taken and dumped."

Zarramen was the family clown, the lovable prankster who had known a better life. His father was a good provider, an Army veteran working two jobs as a janitor in Brooklyn, in a hospital and in a bank. But he died when the boy was 7, and the family ended up on welfare and in the drug-ravaged homeless-shelter system. Their mother, Rita Nelson, became addicted to heroin. After Zarramen's freak bicycle accident, he bled to death on the way to the hospital.

When their mother died in 2014, the children came up with $7,000 for her burial in Calverton National Cemetery on Long Island, beside her husband. Only then did they learn that the burial plot had room for one more. Zarramen?

"They told us it was too late," said the older sister, Malondya LaTorre.

In another trench, from another realm in life, lies Doris McCrea, a widow who retired as the head of records retention for Continental Grain, one of the world's largest privately held corporations. She outlived her family but had made careful provision to be laid to rest with her husband in a cemetery in Turners Falls, Mass. When she died at 100 on July 10, 2012, she had a generous prepaid burial plan and more than $5,400 in her personal account at the nursing home where she had lived for 15 years. Yet three days later, the city issued a permit to put her in the potter's field. Within four months, she was in a trench with 148 others.

"That's criminal," said Audrey Ponzio, a friend and former colleague from Continental Grain, when she learned where Ms. McCrea had ended up.

As in many cases, Ms. McCrea's personal information had been lost or ignored in the shuffle near the end of her long life, when she was sent from nursing home to hospital, from hospital to hospice. "What happened to this patient is very unfortunate," said Dr. Jonathan Mawere, the administrator of the nursing home, Queens Boulevard Extended Care Facility, who was prompted by an inquiry from The Times to find and try to reactivate her burial plan, three years late.

Unclaimed graves, unspent burial funds and uncollected life insurance abound in this fragmented system, critics say. Even concerned survivors with money to pay for burial themselves are no guarantee against Hart Island.

Take Emmett Pantin, 57, placed on a ventilator in 2008 after a severe stroke. For five years, he was repeatedly reported to have only one living relative, an older brother on active military duty "somewhere in Iraq." No one asked the Army to track down this brother, Master Sgt. Gerard Pantin, even when the younger brother died at 62 in July 2013 and was sent to Hart Island, his name misspelled Patin.

In fact, the brothers were two of nine siblings in a family from Trinidad. Relatives there and in the United States had been trying to find Emmett Pantin for nearly a year when they learned from a website that he had died. Immobile, voiceless, suffering bedsores and depression, he had been transferred through at least four medical institutions under the supervision of a court-appointed guardian in his last year of life, records show.

"Before he died, they kept telling us they couldn't find him," Sergeant Pantin said when reached in Florida, where he had retired from the Army at 69 in 2015, after deployments in Iraq and Afghanistan. "Up to now we didn't know where the body was. I told them: 'This is America. If somebody went to the hospital and went to a nursing home, how can they not know where he is?'"

> **“Rivals for the bodies periodically clash over access to the city's supply, and even over individual corpses”**

The Cadaver Market

The unclaimed dead wait in cold storage, shelved on racks in city morgues. In theory, all who are destined for that last ferry ride are first subject to selection as educational cadavers under the authority of the chief medical examiner.

In practice, of those buried on Hart Island, only a portion—roughly 300 to 600 out of some 1,500 annually—were ever officially offered as anatomical specimens on the weekly or biweekly lists discreetly circulated by the medical examiner's office, citing name, age, race, sex, place and date of death. Fewer still were chosen.

"A lot of cherry picking," said Jason Chiaramonte, a licensed funeral director who for many years handled the acquisition of so-called city bodies for Albert Einstein College of Medicine in the Bronx. "It's like, 'Hey, Jason, we have 10 people here; we're going to bury them at potter's field next week. If you want to take a look, see if you can use some.'"

"Technically, they're city property," Mr. Chiaramonte added, "and technically, they're only loaning them to us."

Ms. Bolcer, the spokeswoman for the medical examiner's office, said the city had stepped up efforts to identify relatives through the Internet and commercial databases. "We are enormously conservative about which bodies get offered to schools under the current law that requires us to make unclaimed bodies available," she said.

The street homeless and other casualties of rough living are generally not wanted by medical schools. Old age, however, is no obstacle. And each borough's morgue has had its own way of parceling out the cadavers, despite recurrent scandals over corruption and lawsuits over body mix-ups.

Rivals for the bodies periodically clash over access to the city's supply, and even over individual corpses. Medical schools have chafed at one-day body loans made to the American Academy McAllister Institute of Funeral Service, which these days signs out corpses at the Queens morgue, drives them to embalming classes in Midtown Manhattan and returns them after mortuary students have practiced incisions, drainage and chemical infusion—a process that leaves the cadavers unfit for medical schools' purposes.

Record-keeping of such loans is sloppy; documents show some bodies signed out and never signed back in. And for decades, McAllister, along with the mortuary science department at Nassau Community College, had even more casual access to the dead, conducting classes in the city morgue at Bellevue Hospital Center in Manhattan until Hurricane Sandy flooded the premises in 2012.

Religious charities that handle burials have fruitlessly sought access to the names of people lying unclaimed.

"We can't get the morgue lists," complained Amy Koplow, executive director of the Hebrew Free Burial Association, which is dedicated to providing a traditional private interment to any Jew who cannot afford one. "We can't march into Einstein and say: 'Hold that scalpel! That person's Jewish; they belong to us."

So it was that Milton Weinstein, 67, a Brooklyn-born Reform Jew, became one of three bodies from nursing homes that Mr. Chiaramonte borrowed from the Bronx morgue on April 28, 2009, for Einstein's use. In a log book at the morgue, Mr. Chiaramonte filled out and signed a funeral director's receipt for each. He loaded the bodies on stretchers and trucked them away. It would be at least two years before they were buried.

There are no rules on how long such corpses can be used. The medical examiner's office redacted all cadavers' names from the records it gave The Times under the Freedom of Information Law. But hundreds could be identified anyway, through comparisons of dates and places of death. Many were separately confirmed by people with access to unredacted records. Some cadavers were traced to past lives and lost relatives.

"My God—where was his body for 24 months?" Michael Wynston, Mr. Weinstein's estranged son, asked when he learned that his father had been buried on Hart Island on April 20, 2011, two years after his death at Bay Park Center for Nursing and Rehabilitation in the Bronx.

With bitterness and self-reproach, Mr. Wynston sketched the broken arc of his father's life. Widowed in 1970s Brooklyn with a 7-year-old son and a 3-year-old adopted daughter, Mr. Weinstein remarried and clung to his second wife, Lynda, then a hospital nurse with a son of her own. Even when her descent into mental illness and abusiveness destroyed the blended family, Mr. Wynston said, his father rejected his suggestion of divorce, saying, "I'd rather have this than nothing."

His daughter ran away. His stepson fled the turmoil to live with his own father. Eventually Michael, who last saw his father in 2002, changed his surname to Wynston, partly, he said, "so my father and stepmother wouldn't find me."

To the stepson, Barry Gainsburg, now a lawyer in Florida, Mr. Weinstein's fate was part of a larger economic unraveling. "The bottom line is, his industry was taken out by the computer age," he said, referring to Mr. Weinstein's career as a typographer. "He was a good guy; he just got crushed by society."

A diabetic, Mr. Weinstein lost his last job, driving for a car service, because of dimming sight. Destitute and ailing, he and his wife entered the nursing home together. When he died there in 2009, they had been residents for at least three years. But the nursing home, which did not respond to repeated inquiries about the case, sent his body to the morgue as unclaimed, and transferred his widow, over her objections, from the Bronx to a nursing home in Brooklyn.

"It's like the nursing home just collects their Medicaid checks, and when they're done, they just throw them in a heap outside," Mr. Wynston said.

Eventually, after Ms. Weinstein had been shuffled through a series of nursing homes, a Brooklyn hospital contacted her son: She was

undergoing surgery for lung cancer. The stepbrothers learned only then of Milton's death. Nobody could tell them where he was buried. Now they realize why: He was still being used as a cadaver.

"It's the guilt and regret that I live with," Mr. Wynston said. "I essentially abandoned him."

The Ferry Ride Out

In Greek mythology, the ghosts of the unburied dead visit the living, demanding proper burial. In New York City's lexicon, Hart Island counts as decent burial—at least for those who can afford no other. But the longing to bring one's own dead home runs deep.

Sometimes the island's ledgers show a disinterment date. Here are the favored few, exhumed by number from the trench grid, collected by a funeral home and ferried back for a different ending.

Among these cases are two stories as redemptive as any faith could pray for, stories that illuminate what others have lost in the darkness that surrounds Hart Island.

Monica Murray, the oldest in a large Irish Catholic family, had married at 20. She was a good, protective mother to her two daughters, Maureen and Linda. But in 1986, when they were 22 and 17, she abruptly emptied the family bank account and vanished.

"When your mom walks out on you and takes all the money and doesn't leave a note, there's a lot of hurt and anger," Maureen Eastman, the older daughter, recalled.

Their mother briefly surfaced in St. Lucia, living with an abusive man and asking for money. Their father, who had filed a missing person's report, secured a quick divorce. Bitterness drove a wedge between the daughters and their maternal relatives. Except for a sighting at a Long Island halfway house in 1988, they heard nothing more of their mother for 25 years—years when they hated her.

In June 2013, their father got a call that changed everything. Ms. Murray was dead. She had died back in January, and she was buried on Hart Island.

"There's no words to describe how sad and overwhelmed we were to find out that's where she ended up," Ms. Eastman said. "We could barely sleep knowing that she was there."

More revelations followed. Their mother had spent a decade in Creedmoor, a psychiatric institution in Queens, before being transferred in 1998 to New Surfside Nursing Home. No visitors; alert but increasingly racked by seizures; ultimately unable to speak.

On Facebook, Ms. Eastman, living in Arizona, contacted New York relatives she had not spoken to for decades. Her mother's brother, a retired firefighter, was adamant: They would bring Ms. Murray back, to Grandma and Grandpa's plot in St. Charles/Resurrection Cemeteries in Farmingdale on Long Island.

As cousins gathered, Ms. Murray's daughters learned for the first time that Huntington's disease ran in the family. Those who inherit the incurable brain disorder become progressively unable to walk, talk, think or swallow. Symptoms typically start in the 30s or 40s, often with impulsive, manic behavior—like taking the money and running.

When she died, Ms. Murray had $6,887 left in her personal account at New Surfside. But she was buried as an indigent because the nursing home, which had collected $1.1. million from Medicaid for her care over the last decade of her life, failed to turn over her remaining funds promptly. (The home declined to comment.)

In an eerie coda, when money surfaced, the Queens County public administrator offered a funeral home $4,295 to disinter and transfer her body to a cut-rate New Jersey graveyard without markers. But when the undertakers checked Hart Island, she was not there. She had already been lifted from the pit, into the bosom of her family.

Her headstone reads: "Loving Mother, Daughter, Sister and Aunt."

"You feel grief," Ms. Eastman said. "But you feel: 'You know what? I'm allowed to love you again, Mom.'"

That same year, it took a whole community to reclaim another Hart Island exile, a woman who died alone at 53 in her brownstone apartment in Manhattan.

In her late 30s, Sheryl Hurst had been drawn to Congregation Rodeph Sholom, an Upper West Side synagogue, and she sang in its choir for years before formally converting to Judaism. With free-flowing hair and a mysterious facial deformity, she was a familiar presence, but no one knew her story.

Neither of her parents was Jewish. She was born three years after her mother, Terry Saunders, sang in the 1956 Hollywood version of "The King and I" as the head wife, Lady Thiang. Ms. Hurst's younger father, James Hurst, played cowboys in television westerns. Her parents broke up when she was about 4. As a teenager, she tried to kill herself, fell unconscious on a bathroom heater and badly burned her face.

"A funny thing happened to me on the way to becoming Jewish," she wrote when she completed an adult bat mitzvah class in 2007. "I, an atheist, developed a strong belief and deep love for God."

She had always lived with her mother and was devastated by her death in 2011. But in June 2012, she was looking forward to chanting at a special service, and when she did not show up, the synagogue kept trying to reach her. Finally, the cantor posted a note at Ms. Hurst's building on West 76th Street in Manhattan, appealing for information.

Word came back: Ms. Hurst had died in May—the synagogue members had just missed her at the morgue. She was lost to Hart Island.

"Everybody was just distraught," said Sally Kaplan, vice president of the congregation. "Somehow we had to bring Sheryl home."

They enlisted Plaza Jewish Community Chapel, a rare nonprofit funeral home, to try to retrieve Ms. Hurst for burial in the synagogue's cemetery. The process took nine months and was not easy. Among many requirements was written permission from Ms. Hurst's long-estranged father in California.

At first, he said he had not had a relationship with his daughter. But when they explained what they were doing, he wept, saying, "God bless you all."

Now her headstone bears not only her birth name but the Hebrew name she chose, Eliana, "because it means, 'God answered me,'" and an inscription by the community that refused to leave her in the dark: "Forever in Our Hearts."