









Clockwise from left: Internet Archive founder Brewster Kahle checks connections on his digital library; the Internet Archive headquarters in San Francisco; Kahle examining one of the thousands of volumes shipped to his storage facility in Richmond, California; Kahle inspecting a box of books inside one of his shipping containers.

eep within one of the most dangerous neighborhoods in the San Francisco Bay Area, inside a warehouse complex formerly used to assemble furniture, grows an enormous archive of books. The volumes range from best-selling novels to rare poetry manuscripts. They are not intended to be read—at least not anytime soon. Each day, more booksto date totaling roughly 1.5 million and counting—are scanned, digitized and sealed inside flame-resistant shipping containers. The vast literary archive is

bakery, hookers duck in and out of unmarked buildings. Drug dealers keep watch under lowered baseball caps.

The morning I visit the archive, books arrive from the Boston Public Library. The shipment comes by semi truck—12 pallets' worth, totaling more than 10,000 volumes. No due dates are stamped inside. Like hundreds of cities around the country, Boston has paid to have its library's back holdings brought to Richmond because the books have been guaranteed to be stored safely and securely, under the crows, forever.

The driver pulls up to a loading dock. Situated across the street from a rail

"I'm worried about data being wiped out by the stroke of a pen. If you look at the history of libraries, they're burned. And they're burned by governments."

growing at such a rate that it is on pace to become one of the largest collections in the world.

The archive's location was chosen for its microclimate. In the city of Richmond, ocean winds blast across the bay and converge in a vortex that maintains a nearly constant temperature. The windswept streets could belong to a whirling moonscape or a postapocalyptic wasteland. Crows drop copper bullets on the archive roof and fight viciously over squatting rights to the skylights. Around the corner, past a

yard, the archive stretches across two interconnected warehouses that total more than 45,000 square feet. The driver steps out of the cab, wipes the sweat from his forehead and dodges a forklift that begins to scoop away his pallets of books. In less than an hour the truck is emptied, the driver sent on his way, the books shuttled into the shadows. Inside the warehouse a team of human scribes operates high-resolution scanners under booths of thick black curtains.

This gargantuan time capsule of books fulfills

the dream of one of the world's most determined cultural archivists, Brewster Kahle. An MIT graduate and Silicon Valley entrepreneur, Kahle has spent more than \$3 million out of his nonprofit to buy and operate this facility. He devised the archive as a sort of data backup, apparently, to his internet archive, which preserves web pages (150 billion and counting), concerts (including nearly 10,000 Grateful Dead recordings) and films (more than 500,000 of them)-all of which are available free to the public. You might say Kahle has a weakness for collecting things. You might also worry about ulterior motives. Regardless, his warehouse has quickly become the nation's largest repository of unsold, unwanted, secondhand, duplicate and deaccessioned library books-which suits him just fine. "We'll take everything," he claims. "Our goal is one copy of every book. Every book in every language. Every book in the world."

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Each day brings more grim news for lovers of the printed word. Breakout sensations such as Fifty Shades of Grey occasionally revive the flagging publishing industry, but major publishers, after decades of consolidation, are declaring bankruptcy and shutting down. Brick-and-mortar bookstores are disappearing fast. Of the big booksellers, Amazon—an idea more than a place, a multitiered distribution center, like the internet itself-holds the lion's share of the market. Public libraries, faced with evertightening budgets, have reduced buying, shortened hours and converted their reading rooms into glorified computer terminals. Librarians used to help customers find physical books-now they spend most of their time thinning holdings and helping patrons get online.

If publishers are folding, bookstores closing and libraries decreasing their holdings, what is happening to all the books? Many are being sent to Kahle. After watching Boston's books disappear into his warehouse, I find the operational manager of the archive, Sean Fagan, in his office.

Fagan is a young, stubble-faced former scribe from Kahle's southern California operation. Not surprisingly, his office is full of books. He has built an ottoman out of volumes the archive already has in storage—a 1928 copy of *Don Quixote, The Modern Music Series Primer* and *Practical German Grammar*, to name just a few—glued into a cube, atached to a plywood base and outfitted with wheels. Against the wall of his office, from floor to ceiling, he has almost 400 copies of *The Da Vinci Code*.

"We get a couple of those a month," he says with a sneer. "I'm thinking of making a bench out of them."

'Which libraries send you books?"

"Carnegie, Penn State, universities all over the place. We get 10,000 to 15,000 books a week. All the state libraries give us stuff. California just gave us another shipment. Want to see what they sent?"

I follow Fagan down a long dusty corridor, back toward the loading dock. (Normally he gets around the place by

foot scooter.) We keep walking, and every time I turn around I come up against more books. There are books spilling out of cylindrical containers, plastic crates and bankers' boxes, books stacked against water pipes, books jumbled in sorting bins and lying on the cement floor, their pages fluttering in the stable microclimate.

"As you can see, it's kind of an airport hub here," Fagan shouts as we arrive at the main warehouse. "We have the capacity for 3.5 million, but Brewster thinks we're going to need more room. Only four of us are here full-time."

I ask him how he likes his job, but I don't think he hears. He's on his way to the shipment from the State of California. On the way we pass the archive forklift, temporarily at rest, followed by huge columns of shrink-wrapped books destined for "deep storage"—in other words, forever.

Kahle's archive has given libraries the opportunity to cut costs, perhaps at the expense of the reader. Research libraries must accept the "hard reality of off-site storage," Harvard library director Robert Darnton recently wrote. The main branch of the New York Public Library plans to move more than half its holdings-3 million volumes-to a storage facility in order to trim its budget and make room for a circulating library. These books may one day become available online. But does the average patron of a public library own a digital reading device? What will be the quality of their reading experiences? And how can people browse books that aren't physically

Fagan and I arrive at a long row of boxes against the wall. California's books are waiting to be checked against the archive database for duplicates, given a bar code and digitized. I pull out a sample volume bound in cheap plastic. It looks as though it has never been opened: Measurement of Zooplankton Biomass by Carbon Analysis for Application in Sound Scattering Models. Master's Thesis, Naval Postgraduate School, Monterey, California, 1974.

I enjoy a good read, but I don't feel like tucking into this particular item. A few boxes down I notice antiquated largeformat books bound in leather.

"It's too bad the state didn't have room for these," Fagan says, carefully opening one of the volumes. He gestures for me to come nearer. "Look, it's the London Times."

There they are, real newspapers, beautifully bound and tariff-stamped with the names of the reading rooms they were originally meant for. ("Smoking Room" is my favorite.) They date back to 1833. For years these newspapers would have told the readers of California the news from London just as it appeared to the Londoners themselves. The pages are thick and crisp, lovely to behold. They have ads for London-specific businesses. I want to take one of the volumes to a leather chair, pour myself a single malt and browse. The events of March 4, 1833 are chronicled in black ink, still dark and legible, printed in the original Times Roman typeface:

"Charge of Child Murder: Jane, the wife

of Joseph Hague, age 20, indicted for casting her child into a certain privy...."

"Hunting Appointments: His Majesty's staghounds, Monday, at Ascot Heath...."

"A review of the Rossini opera Matilde di Shabran at the King's Theatre: As a production, this opera far outdoes in extravagance and absurdity anything we have seen. Fine music ought not to be bestowed on such subjects; it is unfitting to the living and the dead...."

"I think we're building a special scanner for these books," Fagan says somewhat doubtfully. His name is called over the loudspeaker. "Hang on a sec. Another shipment's just come in."

"More books?"

"More books," he says. He starts off toward the loading dock.

"Why is Brewster doing it?"

Fagan looks at me in surprise. "He wants to create the next Library of Alexandria."

"But this isn't exactly a reading room. Can't he donate these books after scanning them? He wouldn't have to pay for storage."

"You'll have to ask him that yourself," he says and takes off at a sprint. The forklift operator is running too. They look like a couple of excited kids.

I linger at the edge of the book islands that dot the warehouse floor. A metal ladder rises to a storage platform where more books stand on pallets, ready to be turned into time capsules. Literary treasure sits inside those boxes—Shakespeare plays and forgotten classics, official maps and obscure drawings, Bibles and pulp, science and fiction, dog-eared poems and wine-stained prose. "Every word was once a poem," Ralph Waldo Emerson wrote. Maybe this is where all words are destined to retire, the city of Richmond. Whole libraries are being buried like Egyptian mummies.

As I wait for Fagan I hear a strange warble, like an Arabic ululation. It's the circular exhaust fans, whirring in odd intervals, creating an otherworldly atonal fugue. I wonder if any crows are up there, dropping bullets. Fagan told he doesn't know why the birds do this or where they find the casings. He told me a scanning engineer became so entranced by the archive that he stayed here day and night, by himself, for months. Along the metal rafters, computerized climate monitors measure my body's impact on the humidity. Suddenly I am uneasy being in the warehouse alone. I worry the forklift operator might take me for a book.

I wander around, looking for Fagan. I walk past an open box of women's shoes. Another box holds rotary telephones. (As people learn about Kahle's penchant for collecting, his repository has become something of a dumping ground for dead people's attics.) The shipping containers tower in the center of the facility—30 of them, with a further 28 on order—certified by the Port of Oakland, primed, painted gray, treated with sealants to protect against everything from fire to dry rot. I notice one has its door open. I cross the loading dock and step inside.

It's cold inside a shipping container. All

sensations—colors, smells, sounds—are collapsed into a dark void. A shipping container feels as though it might preserve something, anything at all, until the end of time. I make out endless rows of cardboard boxes. Near the front is a box overflowing with reel-to-reels. The shipping label reads PENN STATE FILM ARCHIVE. Titles include Across the Silence Barrier and The Year of the Wildebeest.

Someone taps me on the shoulder, and I wheel. It's only Fagan. He looks tired from his journey across the warehouse floor, and as he glances down at the films at our feet, he's still panting. "We're supposed to watch these, one of these days," he says. "Put up a projector. See what it is we've got."

I take a cab over the Bay Bridge. I want to meet Brewster Kahle, the man behind the books. It's a sunny afternoon, and I'm grateful to be moving through open air. As my driver hurtles into San Francisco, down into this glittering city of pioneers and radicals and offbeat billionaires, I think of all those books back in their shipping containers. What in the world is Kahle doing?

Public libraries first appeared in Victorian England. A component of British social policies aimed at "mutual benefit," libraries grew out of the belief that people without education needed the means to learn. For a small fee, circulating libraries lent out music scores, songbooks, folios of caricatures. even instruments. Not everyone thought positively of expanding public literacy. Thomas Goulding's polemical pamphlet "An Essay Against Too Much Reading" argued, "'Tis not drinking and whoring, as your old sots attribute it to, that invigorates the spirits, and causes quick flights; they run to the libraries, which confounds all again." Libraries have always encountered various forms of hostility-mostly due to the tax burden on the public-but for many people they remain places of refuge to sit down, without charge, and read.

It has been reported that Kahle is building his ark to guard against a "digital disaster" like an electromagnetic pulse. A burst of radiation from a solar flare or a nuclear attack has the capacity to burn microchips and circuitry; experts contend data loss can be minimized with countermeasures. Others suggest Kahle is inspired by the Svalbard Global Seed Vault in arctic Norway, which houses the seeds of almost every plant on earth. But the Svalbard vault is designed to avert a global food crisis. Does anyone worry about the scarcity of physical books? Even Pulitzer Prize winner Junot Diaz writes, "Most people don't spend two or three hours thinking or reading. Books seem to be artifacts from a slower time."

My driver tears across the city. He barrels down Geary, runs a red light and narrowly avoids an elderly man coming out of a restaurant. Finally he pulls up outside what looks like a temple—a hulking, chalkwhite edifice with ornate Romanesque columns overlooking the cypress trees of Golden Gate Park.

"Here we be," the cabbie says, push-

ing back his cap. I remain in the backseat, deciphering his words of existential wisdom.

The headquarters of Kahle's Internet Archive occupy a former Christian Science church. In the annex next door, where the reading room used to be, a team of fulltime scribes digitizes cultural ephemera. The day I visit there are 12 scribes, mostly young and surprisingly healthy looking, despite what must be a physically taxing job of scanning book after book, page by page, together with the thousands of films, texts and audio recordings downloaded each day onto Kahle's rapidly growing archive. (Kahle's scribes operate in 21 locations in six countries, at a rate of 1,000 books a day. He even has a team inside the Library of Alexandria in Egypt.)

In the reading room a female scribe is digitizing a squeaky film reel of someone's home movie of the Grand Canyon, summer of 1952. On the screen, a family waves at the camera from a picnic table. One man is shirtless. The frames of the film judder across his sunburned chest as he smokes his cigarette. Did this nameless American have any idea, back then, that his family trip to Arizona would one day be placed onto a database for the world to peruse? Her face expressionless, the scribe keeps one hand on her mouse and another on the reel. On the wall above her chair a whiteboard notes equipment issues: "broken lightbulb," "dongle not recognized," "scribe lower pedal malfunction."

I leave the reading room and climb the marble steps to the giant columns of the church. I'm apprehensive—this is the control room of a repository much greater in kind than the Richmond facility, a place whose parameters I can't define, let alone escape.

An attractive female assistant appears in the lobby. She shows me into an open office area where fresh-faced young professionals perch in ergonomic chairs within a white, sun-drenched room. I recline in a leather armchair. A Labrador pads over and falls asleep near my feet.

Soon an excitable man with a smile comes bounding over in blue jeans and a Hawaiian shirt. He sticks out his hand and laughs in a scratchy, high-pitched voice. "How many words they give you?" he asks, raising his bushy eyebrows above his eyeglasses. "What kind of angle you going to take?"

"I'm just trying to figure this place out," I confess.

He sits beside me and pets the dog. "We're building an integration of machines, knowledge and people. It's the opportunity of our generation."

Kahle resembles a singer from a Beach Boys cover band. The 52-year-old silverhaired archivist sprinkles words such as *rad* and *cool* into scientific jargon. His impish eyes often make him look caught, like a boy with his hand in a cookie jar, a boy who tries to convince you the jar is his. Kahle studied under legendary mathematics genius Marvin Minsky, co-founder of the Artificial Intelligence Lab at MIT. (After graduating, Kahle got rich from his inven-

tions. In one transaction alone he made a quarter of a billion dollars selling a search engine to Amazon.) I don't understand his motives. I ask why he dedicates so much time to archiving web pages.

"We want to create a valid historical record," he replies, waving his hands around the church. "We have a special role outside of commerce: preservation and access."

"Preservation of the web? What for?"

"George Orwell said something like 'Don't lose the past as you catapult yourself into the future.' You never know what people might need to look back at. We've already had an effect on transparency. We've changed White House press releases."

The motto of the Internet Archive is not short on ambition: "Universal access to all knowledge." The yearly operating budget of \$10 million comes mainly from libraries and foundations paying to have materials archived. Brewster says his ultimate goal is to build a library of the future. The entity will function as a kind of "world brain" that "removes barriers between humans and intellects." Brewster doesn't think anyone. or any group, should monopolize information or own too much culture. He speaks glowingly of Napster, the music-sharing website credited with changing the industry before it was shut down for copyright violations.

"What about privacy? What if someone doesn't want their website uploaded to your database?"

"If it's in the public domain, we want it. But the world is shifting. In 25 years, it's going to be pretty uncomfortable for people like me. We respect people's requests. We remove things from the archive if people want us to, using robots."

A young man with spiky blond hair comes over and quietly asks Kahle to loan him \$5 for lunch. I recognize him as one of the scribes from the reading room. "This is my son Caslon," Brewster says, taking out his wallet. "We named him after Benjamin Franklin's favorite typeface."

Caslon nods hello. He waits while his dad fishes out a five. Brewster recommends what to order at the Chinese restaurant and tells his son what time he wants him back at work.

"You named your kid after a font?" I ask after Caslon has left.

"I love books."

"Is that why you're storing them? Are you really worried about an electromagnetic pulse?"

"No. Only a little. I'm worried about data being wiped out by the stroke of a pen. If you look at the history of libraries, they're burned. And they're burned by governments."

"But surely people could be reading those books. They were once on shelves in a library, and now they're destined for deep storage."

"Libraries are throwing away books at a high velocity. We need a backup in case someone comes along and says, 'You didn't digitize that page accurately.' We eloan our new books to the blind and the learning disabled. Also, we lend books to the Chinese."

"The Chinese government?"

"Yeah, their department of education pays us for large-scale loans, 100,000 or so at a time. They scan the books into their own digital library and send them back in good condition."

I try to fathom the logic of shipping bound copies of printed paper to China, 6,000 miles away, so that further digital copies can be made of books already scanned onto a public database. (Kahle also has a team of his own scribes in China, scanning their books onto his database. The reciprocal scanning arrangement provides additional revenue.)

"Come on," Kahle says, rising from his chair, "I'll show you the Great Room."

He hurries through the lobby, throws open a set of double doors and guides me into an enormous auditorium with a domed ceiling and stained-glass windows. Wooden pews stretch from the altar to the back wall.

"Look," he says, grinning. He points to two rectangular black boxes standing upright in the corner, flashing with blue lights. "That's two and a half petabytes right there—the primary copy of the archive."

"What are the blue lights?"

"Each time someone uploads or downloads something. We average 2 million a day."

I try to picture what 2 million "visitors" to this place, none of whom leave their physical homes, look like. Down near the altar are people, or what I think are people, sitting in the pews. I want to get away for a moment, to escape Kahle's manic enthusiasm for his peta boxes and collect my thoughts. I wander down the aisle, only to discover the people in the pews aren't moving. They sit rigidly, their faces turned toward the altar, mouths frozen into oddly painted smiles.

Kahle is right behind me. "What do you think of my statues? Aren't they rad?"

I look closer at their faces. I recognize Sean from the Richmond warehouse—his stubbly face, his childlike eyes.

Kahle throws his head back in a laugh. "You work for me three years, you get a statue of yourself. Check it out—they're made of terra-cotta, just like the Chinese soldiers in Xi'an."

I had officially entered Kahle's virtual world. I must have looked a little pale. He places his hand on my shoulder and says it's time we had lunch. He reassures me that we'll have real food from a real restaurant and that it will taste better than I can imagine.

Maybe Brewster Kahle is just concerned about our cultural heritage. He distrusts the behemoth of the book-scanning world, Google Books. (As of March 2012, Google had scanned more than 20 million books with the cooperation of the world's most prestigious libraries, including Harvard's Widener Library. Many remain skeptical about Google's data mining, its supposed adherence to privacy and copyright laws, and what it intends to do with our electron-

ic reading trails.)

"They're locking up the public domain," Kahle tells me. "All the early press was that this would be open to all, but it's obviously not the case. We don't want central points of control—we want to scan every book beautifully and make them available to everyone."

I e-mail Danny Hillis, an inventor of the parallel supercomputer, to ask what he thinks of Brewster's archiving. He claims Kahle is a "rare visionary" whose collections have "created a priceless human resource that would otherwise have been lost to history." Kahle came up with the concept of the Rosetta Disk, a stainless-steel sphere encrypted with 1,500 language exemplars embedded in nanoscale. Many of the world's languages are dying without a trace, so Kahle wants to bury the disk "somewhere in the desert" with a target reader of someone alive 3,000 to 5,000 years from now.

Even if Kahle's motives are selfless, why is he keeping all the books he scans? Is there any basis to his concerns about government book burning? I need advice. I fly to Los Angeles to meet a radical librarian.

I'll call my friend Tony. He's a highly paid information specialist for one of the biggest law firms in the city. He can find information on almost anyone, anywhere. (Recently a junior partner in the firm awarded Tony a \$25,000 bonus for uncovering little-known facts about the layout of a certain celebrity's mansion to fight a lawsuit. The junior partner won the case.)

Tony is an information revolutionary, medical marijuana aficionado and occasional associate of the hacker group Anonymous. He wants us to meet in his tiny one-bedroom apartment between the movie studios of Culver City and the east side of Venice. The neighborhood gives him a perfect place to smoke, hack and read.

"The preservation of books is a realistic pursuit," Tony tells me. He gestures for me to come inside, and he locks the door. "It has to be done, the physical part. Good librarians are obsessed with preservation. Believe me, it's both madness and logical."

I've brought him a gift of Russian vodka. I pour out a couple of ice-filled tumblers. I join him on the sofa and watch him load high-grade medical into one of his 14 designer bongs—an "unbreakable" tempered-glass number, specially made in Germany, to fit the exact contours of his palm.

"But why is he storing all these books himself?" I ask. "Why not just let the Library of Congress do it?"

"You think the guy's being paranoid?" Tony leans over and laughs in my face, bathing me in the remnants of his weed. "You need to read up, fool. Read the history of libraries and book burning."

He scribbles down the books I need to check out. I look across the carpet. Beside the TV stands an extensive collection of video games, most of them violent. On top of the game cartridges sits his stoned cat, staring at me with glassy eyes.

"There's this data bank in Arizona," Tony says, "and another one in Nevada. I used to use them all the time for work, and now they've gone dark. It's the government shutting them down, intercepting emails, phone calls, shutting down websites. People need to guard against this shit. If Kahle is collecting millions of books, he has his reasons."

I leave Tony's and take a drive. It's just before sunset, and before the night comes I want to visit my favorite reading room in the Pasadena Public Library, where I can browse in peace under the soft green lamplight. When I get off the freeway and hit what's left of the orange trees, the humid-

ity slowly climbs.

Maybe it's the vodka and maybe it's the weed. Maybe the terra-cotta statues have frightened me into submission. I start to think Kahle could be a good guy. Recently he traveled to Bali to present to the islanders, free of charge, a digital record of their entire written culture—a record that until now had been moldering on the backs of palm fronds. The number of hours required for that kind of curatorial work must have been staggering.

The Pasadena Public Library reading room is wood-paneled and furnished with leather armchairs. On the shelves you can find printed newspapers from around the world. There is a satisfying crinkle of paper pages, slowly being turned. I find the books Tony recommends and bring them to an empty chair.

It turns out Kahle is right. Here in my favorite reading room I am on dangerous ground. The history of libraries is also the history of libraries being burned. Kahle doesn't want to protect our books from a natural disaster—he wants to protect them from ourselves.

The city of Alexandria in Egypt, home of the papyrus industry, was the hub of the Mediterranean book trade for more than 500 years. Ancient sources claim that Aristotle's private library furnished the seed collection from which the legendary library grew. It's said that more than 700,000 scrolls were kept in one building alone. Then in 641 A.D. Caliph Omar allegedly instructed his generals, "If what is written...agrees with the Book of God, the scrolls are not required; if it disagrees, they are not desired. Destroy them therefore. Omar's men packed up the holdings and carried them to the city's hot baths, where the ancient civilization's books fueled the furnaces for six months.

The Library of Alexandria's fate is not unique. Emperor Shi Huangdi, after connecting the stone fortifications that make up the Great Wall of China, decided to destroy all written texts that dated before his dynasty. Chroniclers say he ordered the largest book burning in history. Before the invention of paper, books in ancient China were composed of handwritten characters on strips of bamboo, sewn together with silk thread like Venetian blinds. The emperor burned them all, then rounded up more than 460 "masters"—scholars, physicians, writers—and buried them alive. (Shi Huangdi died returning from a campaign against peasant uprisings; the terra-cotta warriors buried in modern-day Xi'an supposedly guard his remains.)

The Spanish conquerors of Mexico, as they introduced the Bible, destroyed all the painted Nahuatl books they could findinvaluable codices that included the only written information on the very people they wished to assimilate. The Aztecs were probably not surprised by this tactic. Their ruler Itzcóatl ordered the book burning of the peoples he conquered, the nomadic tribes of Mexica. Even the book-collecting Romans, worried about Druidic prophecies, burned thousands of Druid texts. Their burning didn't help them avoid their own biblioclasms: Cicero's fabled Palatine Library, copied and maintained by educated Greek slaves, mysteriously burned to ashes, as did the Octavian Library built by the Emperor Augustus. The Library of Congress was burned by the British during the War of 1812. (It burned again on Christmas Eve 1851, destroying nearly two thirds of its collection.) More recently, the Nazis bombed and burned libraries (such as Louvain), as did the Taliban (in Kabul), and-regardless of the official explanation-U.S. forces incinerated dozens of copies of the Koran. State-funded libraries such as Pasadena's are under constant threat. As Harvard scholar Matthew Battles writes, "Much of what comes down to us from antiquity...was held in small private libraries tucked away in obscure backwaters in the ancient world, where it was more likely to escape the notice of zealots as well as princes.' Brewster Kahle may be right to hedge

Brewster Kahle may be right to hedge our bets. With his odd obsession for time capsules, he may be the only sane pack rat with the resources necessary to safeguard the written word. Tomorrow's invaders will probably ignore his warehouse in Richmond as they go about burning our cultural treasures—and if the Library of Congress falls under the torch, Kahle's shipping containers, sealed in their windswept wasteland, may just survive.

