

by RICHARD CONNIFF

When the Music in Our Parlors Brought Death to Darkest Africa

A FEW YEARS AGO, I bought an old ship captain's house in a handsome, if somewhat rundown, community on the Connecticut River. At one end of my street stood an abandoned 19th Century factory. At the other end, near my house, was a river landing. I knew very little about either, except that I liked to watch the river landing from the window next to my writing table. Then one day, in a store or the library, I saw an old photograph of a horse-drawn cart on a familiar-looking street carrying "32 tusks of ivory worth \$9,000."

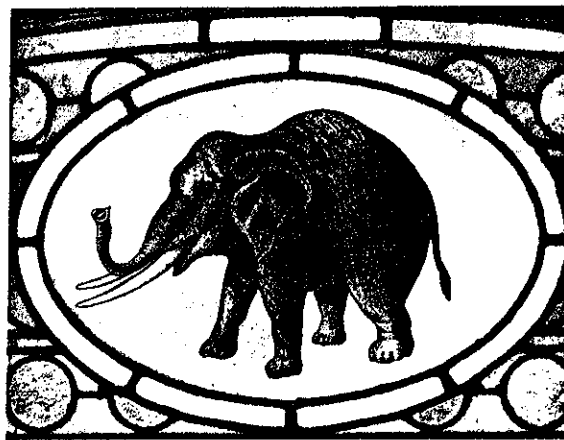
I soon learned that the factory down the street had manufactured piano keys and that the river landing had been a major unloading point for ivory shipped from Zanzibar via Salem, Massachusetts, in the early years and New York later on. As recently as the 1930s, wagonloads of whole elephant tusks had been trundled past my house to the factory, which was owned by Pratt, Read & Co. This factory and a competing factory in the next town over (a place called Ivoryton) had been the major U.S. consumers of ivory and among the leading con-

sumers in the world. For a time they had so dominated the ivory trade that their business determined not just demand in Zanzibar, the major trading center, but even the price paid for tusks in the East African bush, where the elephants were being killed. They were major buyers

during the period of wholesale slaughtering of Africa's elephants, from about 1860 to 1930. According to various estimates, 25,000 to 100,000 animals died each year then, the vast majority of them to supply the raw material for the piano keys that brightened every Victorian parlor.

I began to see vestiges of the business here and there around town: an old bleaching shed for ivory now rotting in a side yard not far away, a sleigh stored in a garage

which once carried tusks from river landing to factory through the winter snow. I became acquainted with a daughter of one of the old ivory traders, and one day she brought down a carved chest full of business correspondence and a scattering of Zanzibar cloves, still redolent after seventy-five years. I began to make serious inquiries into the ivory trade.



IN 1798, in a village just up from the mouth of the Connecticut River, a clockmaker named Phineas Pratt invented a saw for cutting elephants' teeth. It was an unlikely spot to set up in the ivory trade. Elephants did not wander the heavily wooded north shore of Long Island Sound, and mastodons had disappeared from the area 10,000 years before, leaving little trace. Elephant herds were abundant then in Africa, of course, but shifting sandbars made the Connecticut River ill suited to heavy shipping or to direct transatlantic trade.

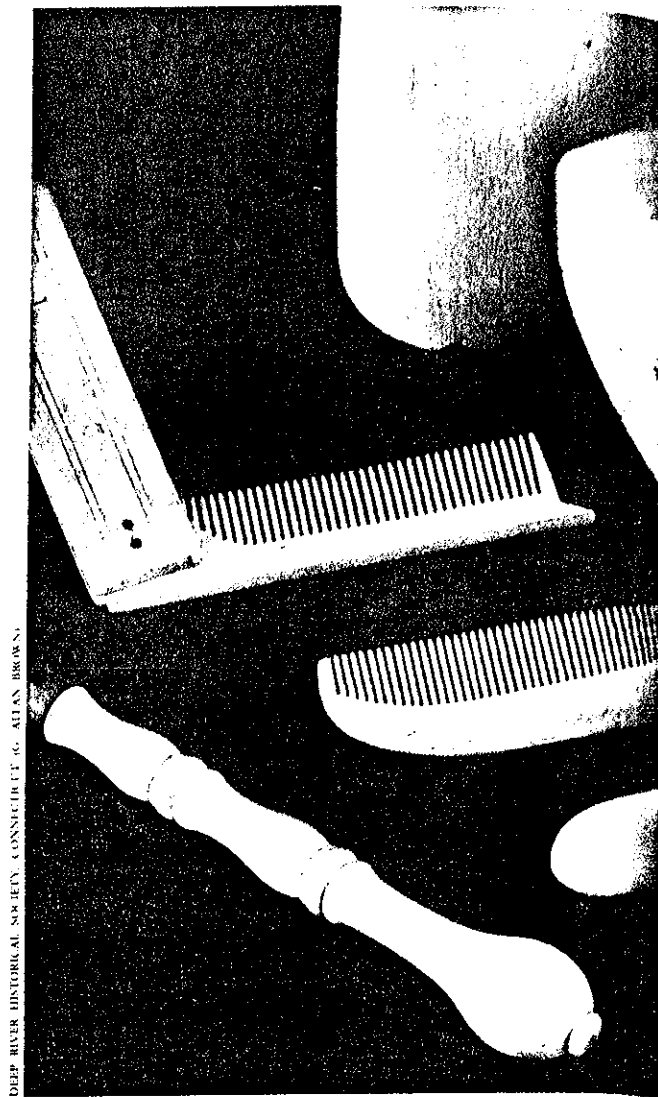
Nevertheless, tusks were at hand. Andrew Lord, a neighbor of Pratt's in the Potapaug quarter of the Saybrook Colony, had a reliable enough supply, as early as 1789, to set up in business sawing ivory combs by hand. Abel Pratt, son of Phineas, soon was also turning out ivory combs at a rate of 250 a day. Phineas Pratt's invention, a circular saw driven by hand at first, then by wind, and finally by water, mechanized this tedious work, enabling American craftsmen to compete with older and more experienced British combmakers. Along the banks of the Connecticut River, it soon produced a small flock of ivory-cutting shops. In time two neighboring villages, the present-day Ivoryton and Deep River, would build up around the business Pratt's saw had started. A retired trader would later write that the children of the two communities "have for generations been born to the touch of ivory and have cut their teeth on ivory rings."

In the factories, men and women who probably could not have distinguished an African elephant from an Asian elephant would nonetheless learn to tell Congo ivory from Sudanese, Mozambique, Senegalese, or Abyssinian ivory, Egyptian soft from Egyptian hard, Zanzibar prime from Zanzibar cutch. ("The last lot of Ambriz is very coarse," Pratt, Read & Co. advised its supplier in 1894, as the business was approaching its peak. "Our ivory cutters call it Niger rather than Ambriz.") They also came to know the exact uses for which each was best suited, and the least wasteful technique for "junking" tusks into blocks, and for sawing and shaping the blocks into all their possible products.

They made combs, of course, and cutlery handles. They also learned to cut ivory into page markers, letter openers, erasable reminder sheets, business cards, domino pieces, fold-out toothpicks, cuff links, collar buttons, nit combs (small and fine-toothed for picking lice and their eggs out of the hair), "Congress folders" for creasing paper, and spatula-like "flour triers" used in checking flour for worms. Scraps were sold, or burned to make ivory black, which copper-plate printers used in their ink. Ivory dust was locally prized as fertilizer.

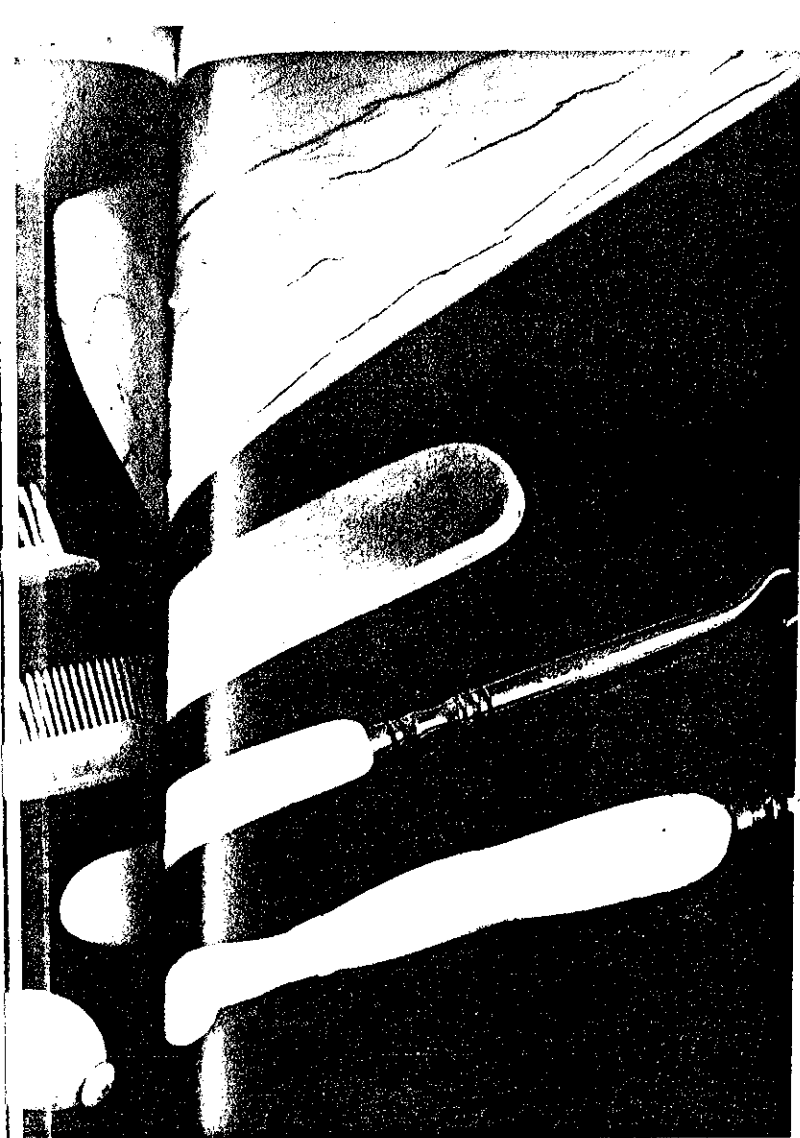
The workers in the factories learned to shave a tusk into sheets, like paper, for painters of miniature portraits. (In 1851 one of these sheets, fourteen inches wide and fifty-two feet long, was sent to the World's Fair in London and hung from the dome of the Crystal Palace.) They learned that ivory varied in density, from the coarse grain near the surface (graded No. 5 ivory) to the finer grain at the inside (No. 1) and that a billiard ball would only roll straight if it came from dead center. (Tusks are hollow for about a third of their length, to about the point where they emerge from the elephant's head, and solid thereafter.) The tusks of female elephants were best for making billiard balls because they tended to be short and less curved. The long nerve running out to the tip, which sometimes meandered in male tusks, ran right down the middle in the female. A well-made ivory billiard ball thus had two black specks, centered on opposite sides, where the nerve ran, and it rolled true as a result.

Most particularly, though, the ivory workers of the Connecticut River Valley learned the art of cutting tusks into thin wafers to be glued onto sugar pine or basswood



and formed into piano keyboards. From mid-century on, their product dominated the booming piano business, to the near-exclusion of competitors. When Paderewski barnstormed the country on behalf of Steinway & Sons, when Scott Joplin composed "Maple Leaf Rag," when countless young ladies in their parlors executed "The Dying Poet"—more or less skillfully—they played on ivory that most probably came from either Comstock, Cheney & Co. of Ivoryton or its larger rival, Pratt, Read & Co., four miles north in Deep River. To supply what amounted to a national mania for the piano, Pratt, Read alone was at one point cutting 12,000 pounds of ivory a month. Tusks then averaged sixty or seventy pounds apiece, so the ghosts of well over a thousand elephants trooped through its workrooms each year. No one kept count of the human ghosts left by the ivory trade, but they were certainly more numerous. Henry M. Stanley, the explorer, once wrote that every pound of ivory "has cost the life of a man, woman, or child" in Africa. The factories in Deep River and Ivoryton required a pound and a half of ivory to make a single keyboard.

The story still sometimes repeated locally is that the ivory trade got its start when New England slavers hid out in the Connecticut River Valley in the 18th Century. In



Drums of elephant ivory, ivory combs, and ivory-handled buttonbooks—artifacts of "an American business that would have a large and bloody role in reshaping Africa." Every pound of ivory, it was said, cost the life of a man, woman, or child.

"plantation of Newyorke."

The New England slavers of the 18th Century would have been no less sensitive than their British counterparts to the commercial possibilities of "teeth." But the Africa trade flourished mainly in Rhode Island and Massachusetts, not Connecticut, and since slaving was not outlawed until 1807, the slave-ship captains were more likely to have been dining at home than hiding out on the Connecticut River.

Ivory would have come to the river second-hand. The small ships that could navigate the river easily were suited mainly to trade along the American coast and to the West Indies. In 1789, the year the Potapaug quarter produced its first ivory comb, the river towns had twenty-five ships in the Caribbean islands during the first three months alone. And this was deemed a slow year.

The sea captains were Yankee traders, with instructions to buy or sell anything that would turn a profit, including the ship itself. One of these shrewd men perhaps saw ivory being offered in Barbados or Newport or Salem and bought it on the chance of a profitable sale back on the river. He might have thought his chances were good because of a tradition, paralleling that of the Yankee trader, of the Yankee inventor and manufacturer. Two hundred years of colonial isolation had required "even the soberest Puritan . . . to devote much of his time to manufacturing farm implements and household goods," one scholar has written. The result was a wealth of mechanical skills and ingenuity: "Eli Whitney, Samuel Morse, Charles Goodyear, and Samuel Colt are merely the best known of a host of Connecticut Yankees whose inventiveness and enterprise would transform the economy of their state." Phineas Pratt and his saw, both now forgotten, did not perhaps transform the economy of Connecticut. But they were the beginning of an American business that would have a large and bloody role in reshaping Africa.

THE TWO MEN who did most to put the ivory business on a sound footing in the Connecticut River Valley were both "saving" men, careful stewards of time and money, practical and relentlessly industrious. They were also both religious and had a strong sense of moral responsibility, at home and abroad. Both became abolitionists early, when it was risky to do so in Connecticut, and both ventured reputation, livelihood, and even personal safety in the anti-slavery cause. Neither seems to have had any inkling of how thoroughly his livelihood depended on the slave trade.

Julius Pratt (a son of Phineas) and George Read (whose sister had married another son of Phineas Pratt) both entered the ivory business at about the same time, in the first decade of the 19th Century. Both soon struck out on their own, taking Pratt's saw with them. By 1819 Read's comb factory in Deep River was employing twenty men. A few years later Julius Pratt's factory in Meriden, twenty-

one improbable version of this story, the ivory merely served as ballast for the transatlantic voyage, which the captains then dumped on the riverbanks. According to another version, it was the captain's privilege to carry a small cargo from Africa to sell for his personal profit. Ivory, being cheap in Africa and easily marketable on the American coast, suited this purpose perfectly.

The story is doubtful on several points. Slavers in Africa did indeed routinely acquire ivory along with their human chattel, but not for the captain's "privilege" or for ballast. A London merchant sending a ship out to Africa in 1728 instructed his captain, typically, to "make what trade you can at all places for Gold, Elephants Teeth, Negroes, or any other Commodity you can meet with for my advantage." The teeth were particularly desirable, another merchant wrote, since "in that commodity there's no Mortality to be feared." Most of the ivory seems to have gone to England, but some was also sold with the slaves in Barbados, Curaçao, and other points in the New World. In 1687, for example, the Royal Africa Company complained that an interloper had violated its monopoly on trade between the two newly opened continents by importing "four negroe Servts" and 2,127 pounds of "elephants teeth" into the

some miles to the northwest, was cutting ivory from six-thirty in the morning till nine at night, with a half-hour off for lunch and another half-hour for dinner.

Julius Pratt was a holy monster. His son later recollected him as "a man of iron will... cherishing an implacable hatred to all forms of laziness, an untiring worker, extracting from himself and those in his employ a rigid discipline." Both Pratt and his wife were strict Puritans, "and most forms of amusement were in their estimation a sin." The son wrote that his "sedate and good" sister grew up in "an atmosphere of depression and fear lest she should transgress unconsciously some rule of morals or religion." Once, when the son was four, his father caught him singing for the loungers at a local grocery. Snatching him from the circle of admirers, Julius Pratt carried the child to a bridge on the route home, "grasped my neck band with one hand and my waist band with the other and shied me like a frog into the water below..."

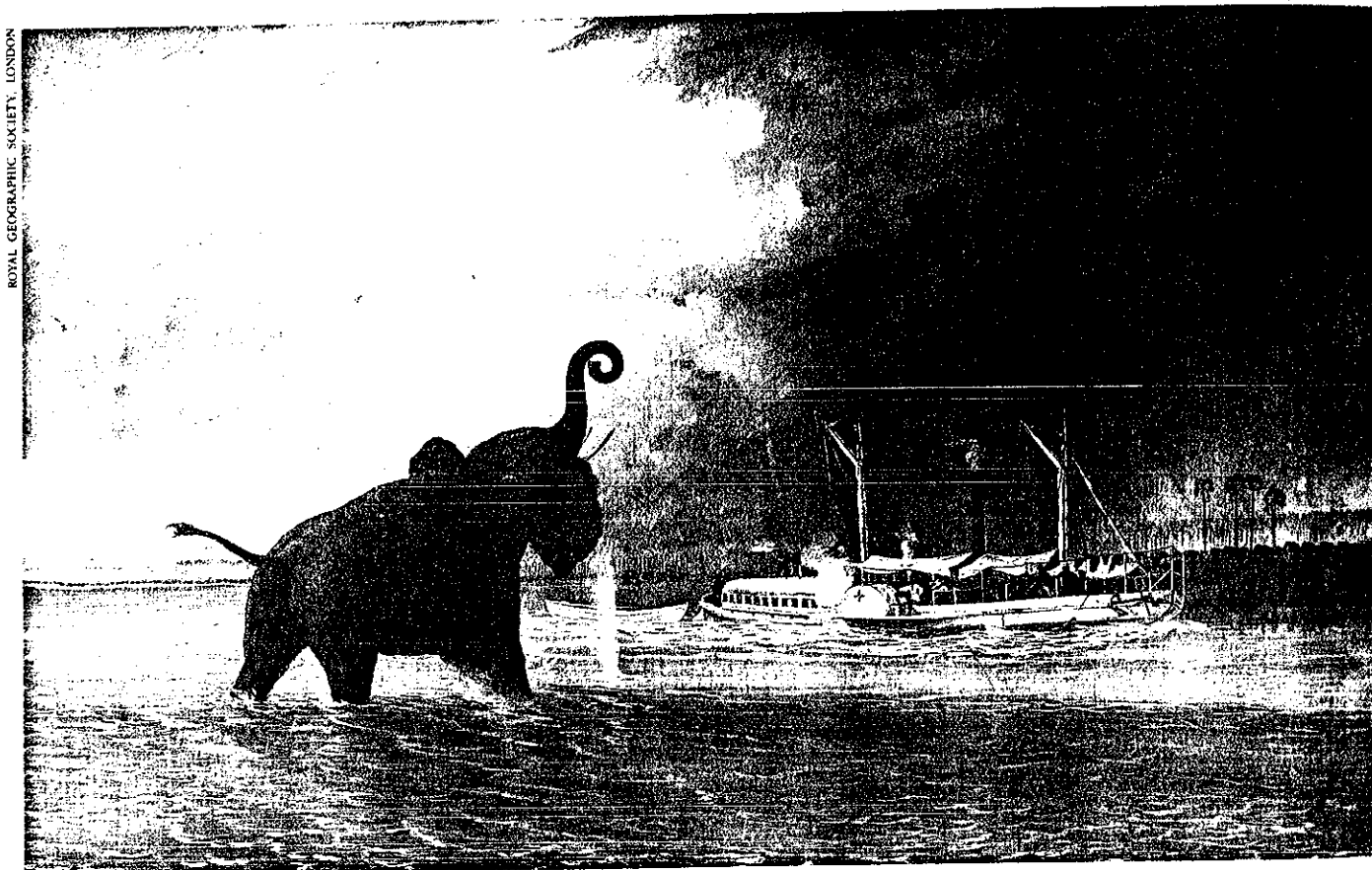
George Read's temperament was considerably less drastic. A boy who knew Read in the 1840s and 50s as the patriarch of Deep River wrote that he was "about six feet in height, clean shaven, blue-eyed; a quiet, silent man." The town, which numbered no more than twenty houses when he began in business, grew up around this "ruling genius" of the ivory company. He founded the Baptist church, the local bank, and the town cemetery. But it was also his maxim that "no Christian man ought to accumulate over \$25,000." "I think he lived up to his prin-

ciples," the writer noted, "earning largely and giving liberally for those days." He took a taciturn interest in every new development, making the rounds of the village several times a day. The writer added that, while Read's influence was great, he was so reticent, or so pithy in what he chose to say, that the people had to guess at his meaning, not always kindly. At one point, his wife said, "Mr. Read, do you know the people say you did *so*, and so?" Read replied, "No, I did not do that, but I do worse things."

By 1828 Read was already an active stationmaster on the Underground Railroad. In that year, a fugitive slave was directed from New Haven to seek refuge with Read in Deep River. Read put him up in the family home for the next twenty years. Deep River was evidently a reasonably safe refuge for runaway slaves, being out of the way and abolitionist. The local branch of the Anti-Slavery Society, founded in 1835 by George Read, had sixty members more than the New Haven branch.

Meriden also had a thriving Anti-Slavery Society, but it faced fierce local opposition. When Julius Pratt and others invited an anti-slavery lecturer to speak at the Congregational church in 1837, a riot ensued. Demonstrators battered down the church doors and pelted the audience with eggs; two townsmen confronted each other at knifepoint. On another occasion, when several Meriden businessmen were urging accommodation of the South, Pratt is said to have uttered a reply that spoke

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In an 1859 painting by Thomas Baines, a bull elephant is fired on from a launch on Malawi's Shire River.

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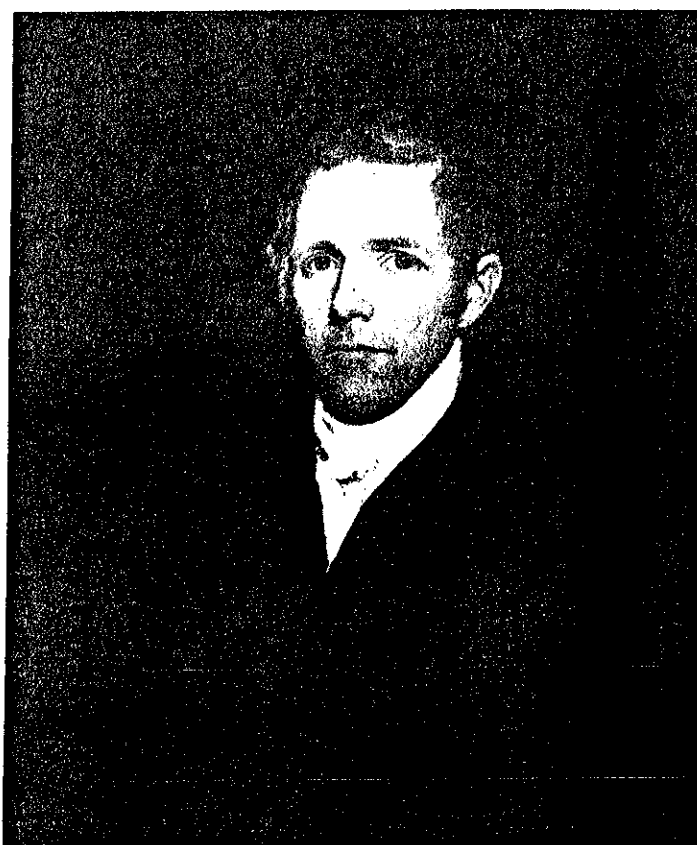
multaneously of the sanitary function of his product, of the Connecticut monopoly on the ivory business, and of diehard abolitionist sentiments: "If the southerners don't want to buy my combs, they can go lousy."

Ivory might have appealed to such men as George Read and Julius Pratt precisely because it seemed free of the taint of slavery. Even Moses Brown of Providence, who knew the Africa trade both as a merchant and as an abolitionist, apparently believed it to be a clean business. In 1783 he sent an earnest letter imploring a Rhode Island trading firm not to mount a slaving voyage. He recalled the shame of his own early participation in slaving, and then he made it clear that trade in gold dust, ivory, or wax all satisfied his quick conscience as moral alternatives for the Africa trade. Read and Pratt probably shared this satisfaction, but there is no evidence to prove it. Both men chose as partner and ivory importer a Providence merchant named Thomas Howard. Little is known about him—except that in one researcher's very thorough listing of 934 slavers sent out by Rhode Island between 1709 and 1807, Howard's name does not turn up as either owner or captain.

Few Westerners knew where the ivory came from or how it reached the African coast. The interior of Africa was a blank expanse on the map. Knowledge of ivory and slave raiding there was almost nonexistent. Pliny had written that the luxurious tastes of the Romans caused the forests to be "ransacked for ivory." But he also reported that the land beyond the Atlas Mountains "swarm with every kind of elephant." Elephants were rumored to be so numerous that in places the tusks served tribesmen as doorposts and interior partitions in their huts, and as poles for tethering cattle. Adventurers of the 19th Century were to find both reports dead accurate, a situation Western tastes promptly remedied.

IN 1830, SENSING what Henry Stanley later called "splendid opportunities for commencing a mercantile business," John Bertram of Salem chartered the ship *Black Warrior* and sailed to Zanzibar. The trip marked the opening of regular Western trade with Zanzibar, which Bertram was to dominate for the rest of his life. It was not just a personal landmark; Zanzibar was to supply the bulk of the world's ivory for the remainder of the century.

Bertram's prosperity was assured by a number of developments apart from his own enormous enterprise. At about that time, another Massachusetts man, Lowell Mason, was organizing the Boston Academy of Music, which marked the beginning of the "better music" movement in the United States. Mason's campaign for music appreciation had a missionary character. Its aim was "the perfecting of man's emotional or moral nature." It coincided with the stirring of similar aspirations in the rapidly expanding middle class, which had an eye both for real cultural uplift and for the symbols of its new status. The piano, having benefited from recent technical developments, fit both needs. It also fit neatly as the centerpiece of the middle-class parlor. In the Connecticut River Valley, in March 1839, George Read cut his first piano keys. Business in Zanzibar began picking up nicely.



A portrait of George Read. He and Julius Pratt were abolitionists with "no inkling of how thoroughly their livelihoods depended on the slave trade."

"Zanzibar presents a very imposing appearance... is very level and luxuriant," wrote Michael Shepard, on an 1844 trading voyage for his father and John Bertram, who were then partners. "The town presents a very good appearance from the harbour... composed of stone and covered with choca, or mortar." On shore, unfortunately, filth and "horrid smells" assaulted the visitor. (David Livingstone, who was not especially fastidious, later called it "Stinkibar.") Situated a few hours by sail off the mainland, it teemed with the varied merchandise of East Africa, for which it was the principal entrepôt. Recognizing the island's growing commercial importance, Sayid Said of Muscat had recently made Zanzibar the capital of his extensive East African dominions.

Shepard wrote that the local merchants, a mixed group of Arabs and Indians, "obtain the ivory of these people for almost nothing, giving a string of beads or a small coil of brass wire for a tooth weighing 140 pounds or even more." He also noted, without comment: "It is the custom to buy a tooth of ivory and a slave with it to carry it to the sea shore. Then the ivory and slaves are carried to Zanzibar and sold." The slaves, he added, were "discharged in the same manner as a load of sheep would be, the dead ones thrown overboard to drift down with the tide... the natives come with a pole and push them from the beach."

Ivory and slave trading had been linked for centuries, alternating in importance according to which was more valuable at a given moment. In the 1840s Arab caravans



An engraving from an 1897 *Scientific American* shows "natives carrying elephants' tusks to Congo."

from Zanzibar to the interior became increasingly common as demand for both commodities boomed. The British anti-slave campaign in West Africa caused Arab, Brazilian, French, Spanish, and American slavers (the last often disguised as whalers) to try their luck in East Africa. At the same time, Bertram's agent in Zanzibar reported that European and American competitors had arrived to stir up the trade in ivory.

"You must be aware," he wrote in 1849, when the Arab caravans were overdue in Zanzibar, "that we cannot always have our choice of Ivory, and are sometimes obliged to take in some Ivory of less than 50 lbs weight & pieces which we know are not good; but competition obliges us to do this." The Germans were particularly troublesome; they had one brig "waiting for Ivory alone" for more than a month. English demand was also strong, and the American competition was so fierce that the Bertram man had told his rivals "that we should not be driven out of Zanzibar by anybody." To guarantee this, he obtained a list of everyone bringing ivory into the island and went out early in the morning knocking on doors to buy it.

The Western buyers were shrewd enough to keep up the price for ivory even when the supply improved, as in 1851. "You will then say, why not reduce the price of

goods," the new Bertram man wrote his superiors. "Thus we have done slightly on Ivory, but it must be done gradually, as the natives from the interior, having received a large price at one time for their Ivory, go back to procure more, calculating to receive the same price again, & pay more for it themselves. Then, if when they come to the coast they find it reduced, they are disappointed... thereby preventing others from coming for a length of time."

The important thing was to keep the system of supply in motion. The caravans were at first relatively brief expeditions, under three hundred miles. The trader brought along a cadre of trusted slaves, each armed and carrying trade goods—notably the Massachusetts-made cotton cloth known everywhere as *merikani*. They returned with long lines of slaves chained together at the neck and carrying raw tusks for Zanzibar. Gunpowder, another commodity supplied by the Westerners, aided this commerce appreciably. It was always in demand. In 1851 an American business agent in Zanzibar wrote, "Our market for all articles of American & European produce (except for powder) is very dull..." This efficient system of supply would shortly accelerate into frenzy. In the hands of slavers and tribesmen, "powder" would achieve miracles of depopulation, eliminating human beings and elephants from vast, ravaged areas of East Africa.

The Connecticut River Valley companies were at that point already an important force in the world ivory market. By the early 1840s Julius Pratt's son, also named Julius, had joined the firm.

"In November, 1845," young Pratt later wrote, "I went to England on business. We were threatened with a short stock of ivory, for which we had always depended on Salem, Mass., merchants, who imported direct from the African coast, and I was sent in company with Mr. George Read, an old gentleman interested in our business, to make purchase in London." Read, then fifty-eight, was in fact a partner in Julius Pratt & Co. in addition to managing his own company. Their trip was successful, as Pratt noted with offhand boastfulness: "We arranged for the needed supply, although with the result of disturbing the ivory market of the world by raising the price ten to fifteen percent."

Young Pratt proved himself to be a shrewd businessman. He soon proposed that the three largest ivory companies—Julius Pratt & Co., George Read & Co., and Pratt Brothers & Co. (which his cousins were operating in Deep River)—buy out two smaller competitors in the area and take control of the market. Instead of fighting each other for customers, all three would sell through a single agent in New York—himself. In 1863 the three companies merged and began operating in Deep River as Pratt, Read & Co. Pratt later wrote:

"The ivory comb business and piano key business was very profitable during the time I was manager in New York, commencing in 1851 and ending in 1869, the annual sales averaging \$500,000. With the exception of one rival manufactory, which had been created and encouraged by certain large dealers in New York, who were opposed to our so-called monopoly, all the goods of our class that were consumed in the Western world, including

Canada, Central and South America, passed through my hands. The goods had almost the fixed value of coin; our sales were for cash, while most other goods were sold on eight months' time."

The rival was S.M. Comstock & Co., in what was to become Ivoryton. Samuel Comstock, born in the Potapaug quarter, the ninth child of a captain in the West Indies trade, had begun making ivory toothpicks in 1847 and quickly expanded into comb-making. In 1860 George A. Cheney joined the firm, and the newly christened Comstock, Cheney & Co. added a piano-key line. Cheney was a significant addition to the ivory-cutting business. He had gone to Zanzibar for a Rhode Island firm at the age of twenty and had spent twelve years in Africa, trading cloth, powder, and kerosene for ivory. At one point he purchased 60,000 pounds brought in by a single caravan. Cheney's family was subsequently allied with the New York and London trading firm of Arnold, Hines & Co. (later Arnold, Cheney & Co.), which was the principal rival to John Bertram in Zanzibar. The battle for control of the ivory market in America was thus being fought on two fronts: Zanzibar and the Connecticut River Valley.

BETWEEN 1852 AND 1860, production of pianos in the United States more than doubled, from 9,000 to 22,000 annually. Even the larger figure adds up to only 33,000 pounds of ivory—the tusks of fewer than three hundred elephants a year. But this was only the beginning, as keen businessmen would readily have perceived. (It was also, of course, only a portion of the total ivory business in this country.) The growth begun in that decade would soon make the United States the largest piano manufacturer in the world, producing 350,000 pianos in the peak year of 1910, more than twice as many as the Germans, who were the nearest competitors.

American audiences of the 1850s were hardly connoisseurs, either of the piano or music generally. In his *History of Music in American Life*, Ronald Davis writes that they put musical performance in about the same category as the circus, to be applauded mainly for what was odd or astonishing. Jenny Lind's tour of the country in 1851 was a triumph largely because it was organized and promoted by the champion huckster P.T. Barnum. Those who followed in her wake found that gimmicks—of both

Ivory-buyer Ernst Moore reclines atop Zanzibar's largest shipment: 355 tusks weighing 22,200 pounds.



PHOTO BY ERNEST MOORE FOR THE NEW YORK TIMES



the promotional and performing varieties—were essential. Leopold de Meyer drew crowds by announcing that he would perform melodies on the piano with elbows, fists, and even a cane. Another pianist appeared on stage with a string of sleigh bells attached to his right leg, which he stuck out and shook at appropriate passages. To rouse the patriotic fervor of backcountry audiences, Louis Moreau Gottschalk played "Yankee Doodle" with one hand and, at the same time, "Hail, Columbia" with the other. "A program featuring sixteen pianists on eight pianos could count on reasonable success," Davis writes.

But if they lacked a certain sophistication at first, American audiences made up for it by their enthusiasm. Gottschalk, a romantic figure who performed in white gloves, became a matinee idol, and women sometimes rushed the stage to snatch away his gloves and tear at his clothing. Davis writes: "He was able to create an audience for piano recitals even in areas where a grand piano itself was a rarity." Jonas Chickering, the Boston pianomaker, recognized a good thing for business and signed him up to play Chickering pianos exclusively.

The growing interest in the piano was also good for the sheet music business. Stephen Foster's "Old Folks at Home" ("Way Down upon the Swanee Ribber") sold 40,000 copies in 1851-52, followed almost immediately by sales of 50,000 each for "Massa's in de Cold, Cold Ground" and "My Old Kentucky Home," which was apparently based on the novel *Uncle Tom's Cabin*. The sentimental and the maudlin did fierce battle for precedence in sales. Among the favorite themes, according to Davis, were "dead babies, crippled children, blessed old decrepit grandparents, dying sweethearts, and ascents into Heaven."

People bought sheet music to sing, of course, usually around the parlor piano. "Every American woman feels bound to play the piano, just as she feels bound to wear clothes," a French visitor reported in 1860. In the post-Civil War prosperity of 1867, the *Atlantic Monthly* noted that for a couple setting up house, the piano was "only less indispensable than a kitchen range." The piano in the parlor did not merely embody the ideal of the family at home; it helped create it. In England a musician noted that where "nearly all" amusements in pre-Victorian days had been "away from home and in public; now, with the more educated portion of society, the greater part is at home and within the family circle, music on the piano contributing the principal feature."

The piano was taking hold of the country at all levels, among the wealthy and the working class, and for all musical purposes. At one end of the market, the Steinways and Chickerings were constantly improving the piano's sound (winning imitation as well as respect from German competitors) and contracting with the finest virtuosi to show off their products. At the other end, a Massachusetts man, Joseph P. Hale, had begun manufacturing pianos "as he would have manufactured bedsteads"—the words are from a manufacturer of high-quality pianos—halving labor costs and trading on low inventory to make a piano even farmers could afford. The same competitor conceded that Hale and his followers enabled dealers to sell ten times more pianos than "if they had

been restricted to the sale of high-class makes only."

At either end of the market, no substitute was available for ivory. In contact with the human hand, it possessed what one writer called an "exquisiteness" matched by no other material: "It is yielding to the touch, yet firm; cool, yet never cold or warm, whatever the temperature; smooth to the point of slipperiness, so that the fingers may glide from key to key instantly, yet presenting just enough friction for the slightest touch of the finger to catch and depress the key and to keep the hardest blow from sliding and losing its power."

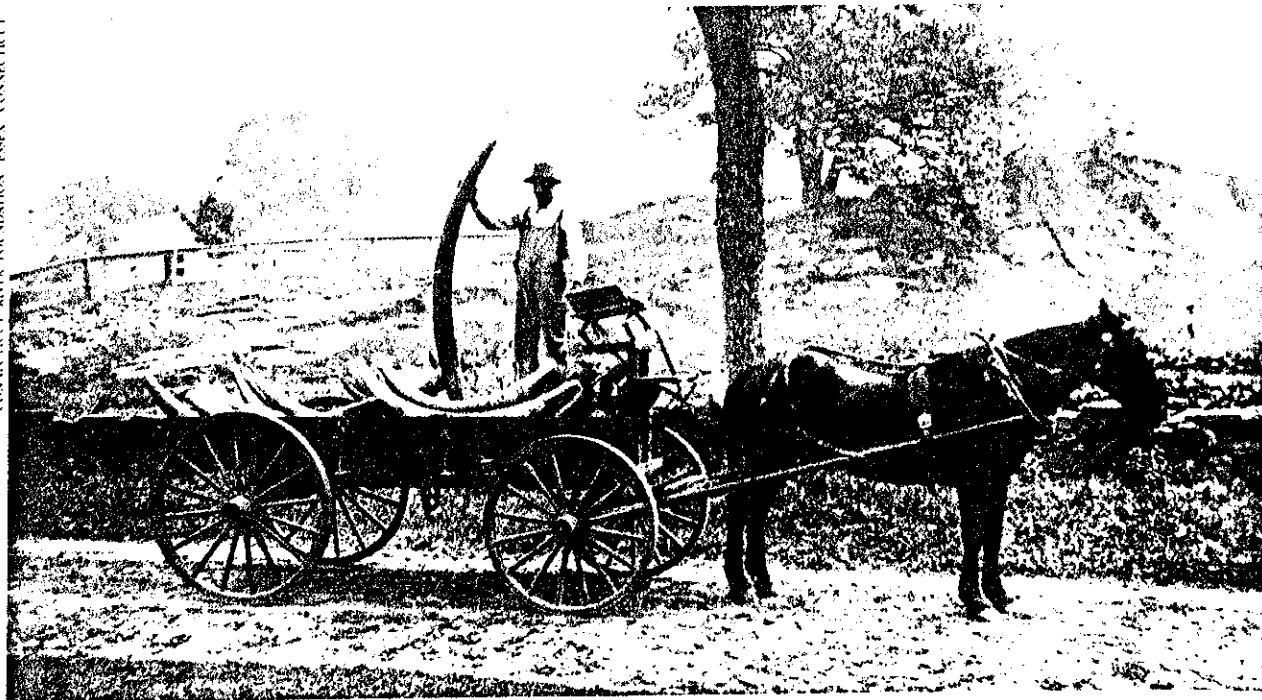
THE PROCESS of getting ivory from the tusk to the keyboard would have been a closely guarded secret throughout the 19th Century. In an 1892 letter about a new apprentice, a director of Pratt, Read wrote: "A stranger should not be introduced to the valuable secrets of the business," particularly the "manipulations required" in the oil bleaching process, "until he... is known to be Pratt Read Company's man." Later accounts of the business must therefore suffice, but it is likely that a 19th Century ivory cutter would have recognized the techniques described.

The first step in breaking down the tusk was to cross-section it into cylindrical pieces just over four inches long and with the ends parallel—a sort of solid ivory drum. Since the tusk was gracefully curved to start with, this meant cutting out waste wedges between the drums—a process an agent of the company aptly described as "straightening the tusk by wedges" (the cutters themselves called it "junking"). A skilled marker then studied each drum and drew a precise map on one end showing where subsequent cuts should be made.

The drum had to be slit lengthwise into blocks, each approximately the length and width of a piano key. In the marker's map, these blocks, seen end-on, radiate from the center of the tusk. The wedge-shaped bits in between the blocks went to scrap, and the object for the marker was to get the best possible position of the grain on the key surface with the least possible waste. The blocks in turn had to be reduced either to tails (the narrow pieces between the black keys on the piano) or to heads (the wide pieces in front, where the fingers touched); tails were four inches long and heads two. Finally, both head and tail blocks had to be "parted" horizontally into piano key veneers, sixteen of them per inch of ivory.

These careful steps required the use of a modified band saw (or junking machine), a parting saw, a scoring saw, blocking saws, facing saws, and slitting saws. Each saw was equipped with a water jet to play over the work surface and prevent burning of the ivory. In the early years the saw blades "were thin as paper, and were imported from France." Since the kerf of the saw translated into sodden and very expensive dust, the operator also had to pay constant attention to the condition of his blade. Bullets embedded in the tusk would, in time, become a frequent hazard.

The cutting room seems, from the accounts of reporters who visited there, to have been an odd blend of the industrial and the sensual. It smelled of bleaching liquid



A wagonload of "32 tusks of ivory worth \$9,000" bound for the Pratt, Read factory in Deep River in 1906.

and ivory dust—the latter “a penetrating, unpleasant odor not unlike the smell of burning bones.” But “to observe a man at work with ivory” was “to watch a man in love.” The material constantly asserted its luster, warmth, and beauty. “As it is sorted, sliced, cut, and matched,” one reporter wrote, “each workman actually fondles and caresses it.”

From the cutters, the ivory went on to soak in a bleaching solution—kerosene in the early days and hydrogen peroxide later. The veneers were then set on racks under the glass of long bleaching sheds, which resembled greenhouses holding up blank calling cards to the sun. It took thirty sunny days to achieve the desired whiteness. The pieces were then sorted for color and grain, and later glued, with a layer of linen in between, to the wood of the piano keyboard. Much trimming and refining and polishing followed to produce the finished product: a seven-and-one-third-octave piano scale of thirty-six black keys (ebony or dyed birch) and fifty-two white ivory keys, which was promptly shipped to Chickering, Steinway, or any of scores of other piano-makers.

BUT IF THE SECRETS of ivory cutting remained jealously guarded, the scandalous details of the ivory trade in Africa became increasingly public from the 1860s on.

All of the great explorers, beginning with Burton and Speke, who set out from Zanzibar in 1856, had their horror stories to enlighten and alarm the world, and also to thrill it. Of necessity, all of them followed the slave and ivory routes and relied on the protection of Arab traders for their survival. The Arabs, they reported, seized slaves to ransom for ivory, then seized more slaves to carry the ivory out to the coast. These traders befriended tribal chiefs and used their help to empty an area of tusks, then slaughtered or enslaved their former allies and burned their villages. They herded long lines of half-starved cap-

tives, bound with chains that Stanley said would have restrained an elephant, on marches that lasted months. Those who lagged behind were slaughtered. At Ujiji, an Arab outpost on the eastern shore of Lake Tanganyika, a French traveler wrote that the dead and dying were abandoned to the hyenas, who were so sated with human flesh that they left corpses half-eaten. An English missionary visiting there saw eight slaves suffering from smallpox who had been placed close to the water so the crocodiles could carry them off after sunset. He asked an Arab why no effort was made to cure the smallpox and save their lives: “‘Oh,’ he replied, with a shrug of the shoulders, ‘it’s not worth it. They are pagans, and we have had all the expense and trouble of bringing them from the Congo for nothing. Who will carry their load of ivory to the coast?’”

Livingstone estimated that no more than one in five slaves who started for the coast reached their destination, and not more than one in nine on some routes. And yet at the height of the trade, 30,000 slaves a year arrived in Zanzibar.

The constant trafficking in slaves emptied the countryside. Where the coastline had been densely populated at the beginning of the 19th Century, it now took eighteen days’ march—about 150 miles—to reach an African village of any size. Much of the ivory and slave raiding was necessarily concentrated west of Lake Tanganyika, in part of what is now Zaire.

Henry Stanley, who launched at least one of his expeditions from the Bertram establishment in Zanzibar, later wrote: “In 1878, Abed-bin-Salem despatched coastward a caravan consisting of Manyuema slaves bearing 350 tusks. At Zanzibar, the ivory was sold, and the proceeds invested in double-barrelled guns, Minie rifles, and carbines, gunpowder, percussion caps, buckshot, and bar lead. Within twenty months the new weapons and war munitions reached Nyangwé.” Pillaging expeditions

were soon under way along the Leopold, Lufu, Lowa, Luta, and Ulindi rivers.

"Ivory was the first object of the raiders, women the second, children the third," Stanley wrote. "Ivory was now rapidly rising in value, for the slaughter of fifty thousand elephants a year makes it scarce. In this region, hitherto unexploited, it was abundant." Here the tribesmen used ivory to chop wood on, as a workbench for carvings, as a loose framework for a bedding of Phrynna leaves, as pestles, and as seats for elders in the council house. "In a village," Stanley said, "there would probably be found, on an average, ten tusks, good, bad, and indifferent, thirty full-grown women, and fifty children above five years old, besides a few infants."

The most notorious of the Arab traders, Tippoo Tib, was also in Nyangwé at about that time. He was a figure of considerable charm and ability who gave vital help to Livingstone, Stanley, Cameron, Wissmann, Swann, and other European explorers. They typically described him as "graceful and polite," and also as a plunderer and a mass murderer, the scourge of Central Africa. Tippoo, born Hamed bin Muhammed, liked to say that tribesmen had given him his nickname because it echoed the "sound of guns" or because it meant "gatherer of wealth," and he readily admitted his depredations.



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AMERICAN HERITAGE

Shooting for Fortune, Margaret Bourke-White photographed a workman making piano keys at Steinway's factory in Queens in 1934. The proliferation of parlor pianos kept this piano-tuner busy in Massillon, Ohio.

An 1840 watercolor of Zanzibar harbor crowded with ships, and a postcard showing a Zanzibar street. Traders exchanged New England gunpowder and cloth for slaves who carried tusks to the island.



PRATT READ MUSEUM (G. ALLAN BROWN)

In any case, there were plenty of other witnesses. In 1882 Tippoo was coming down to Zanzibar with thirteen years' worth of booty when the missionary Alfred Swann met up with his caravan: "As they filed past we noticed many chained together by the neck," Swann wrote. "Others had their necks fastened into the forks of poles about six feet long, the ends of which were supported by the men who preceded them. The neck is often broken if the slave falls in walking. The women, who were as numerous as the men, carried babies on their backs in addition to a tusk of ivory on their heads. They looked at us with suspicion and fear, having been told that white men always desired to release slaves in order to eat their flesh, like the Upper Congo cannibals."

The headmen were characteristically polite to the white missionary and answered his questions readily. What did they do when one of the slaves became too ill to travel? "Spear them at once! For, if we did not, others would pretend they were ill in order to avoid carrying their loads." And when a woman became too weak to carry both her child and a tusk? "We spear the child and make her burden lighter."

This same expedition figures in the book *Ivory—Scourge of Africa*, which Ernst Moore published in 1931, after his retirement from Pratt, Read & Co. "It had taken well over a year for Tippoo Tib to force his way through, and relay his ivory, from Ujiji to the coast," Moore wrote. The delay was due partly to a self-appointed chieftain, named Mirambo, who had bottled up all trade east of Lake Tanganyika. "During this year and more, when no ivory of consequence was arriving at Zanzibar on account of Mirambo's blockade, the Yankees in the Connecticut ivory-cutting factories were starving for ivory tusks... The arrival of Tippoo, with tons and tons of ivory, and the news that he had arranged peace with Mirambo and



PEABODY MUSEUM OF SALEM, MASSACHUSETTS

that the trade route was again open, were hailed with shouts of joy that reverberated from the eastern coast of Africa to the inner shores of Long Island Sound; and Tippoo was a hero in the streets of Zanzibar, in the houses of the Arab, European, and Yankee traders, and in the palace of... the Sultan." Tippoo promptly invested his profits in "muskets, blasting-powder, percussion caps, bar lead, beads, and *merikani*" and returned to Central Africa, where the shouts of joy presumably did not reverberate.

BEFORE THE PUBLICATION of Moore's remarkable book, there is no evidence that anyone in the Connecticut River Valley saw cause for regret in all this. Like much of the educated world, they presumably read Livingstone's *Last Journals*, Stanley's *Through the Dark Continent*, and other accounts of adventure and destruction in Africa, but nothing seems to have hit home. In 1885, three years after Tippoo Tib's triumphant arrival in Zanzibar, *The History of Middlesex County* was published, and it reported approvingly: "The factories in Deep River and Ivoryton receive three-fourths of the prime ivory that is exported from Zanzibar, prime ivory being that which is of the best quality and heaviest weight."

George Read had died in 1859, leaving no fortune. Julius Pratt lived ten years longer and died in comfortable circumstances. The ivory importers, having studied the piano industry and sensed continued "splendid opportunities" for doing business, had taken over Pratt, Read. Before his death in 1882, John Bertram of Salem had become the single largest stockholder. Benjamin Arnold, of Arnold, Cheney & Co., had become president. The company symbol then was an African man with a spear in one hand, a tusk in the other, and a palm tree in the back-

ground. It was a romantic business.

It was also prosperous. In Ivoryton, Comstock, Cheney & Co. built cottages for its married workers and housed its unmarried workers in a boarding house known as the "Hotel de Ivory." In time it had a "wheel club" for bicyclists, a drum corps, and a baseball team. In winter the company flooded a pond for skating, then drained it again in the spring to avoid the danger of drownings.

Deep River by then had about 1,200 houses, sixteen "well-paved" streets lined with "huge elms," 2,500 souls, and two churches, each filled to capacity for the Sunday service. The church bells tolled not just to announce the service but also twice for the death of a child, three times for a woman, and four times for a man. Men socialized at the two general stores, the women at the monthly "sewing society." The children got into mischief. People of all ages participated in spelling bees at the school in the evenings or in debating society sessions on capital punishment and on the tariff question. "It was the boast that there was a musical instrument in every house—mostly square pianos and Burdette organs," one man recalled. Hard work was rewarded with prosperity, but "there was no great wealth and... very little difference in the style of living between the most prosperous and the average day laborer." The village sentiment was "thoroughly democratic."

The booming piano business supported this enviable way of life through the turn of the century, when one American in 260 was buying a piano every year. (In Britain, where the rate was a more modest one in 360, the *British Medical Journal* thundered against the ubiquity of the piano and speculated that "the chloroses and neuroses from which so many young girls suffer" were largely due to practicing on the piano. But no one was paying any attention.) To sustain the bubble of prosperity, the Ivoryton and Deep River companies entered into strict price agreements and exchanged information with the aim of shutting out competitors.

In Africa the slave trade ended and Arab control collapsed shortly after 1890. But the Western demand for ivory—and the need of the European powers to make their new colonies pay—guaranteed that the decimation of the elephant would continue and even accelerate. South of Lake Nyasa in 1859 Livingstone had seen "nine large herds of elephants," sometimes forming "a line two miles long." Another time he counted eight hundred elephants there. Twenty years later another English explorer in the area wrote: "People talk as if the ivory of Africa were inexhaustible... Let me simply mention a fact. In my sojourn of fourteen months, during which I passed over an immense area of the Great Lakes region, I never once saw a single elephant."

But the prevailing point of view was that expressed by a Connecticut paper, a decade later, in an article about Comstock, Cheney & Co.: "Although fifty thousand animals are annually slain to meet the demands throughout the world for ivory, there appears to be little danger of decimation, owing to the fact that, in the wilds in the backcountry, hundreds of miles from civilization, elephants are as numerous as flies."

No one saw the continuing destruction from quite the

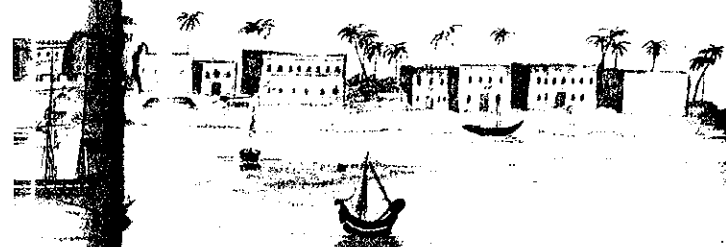
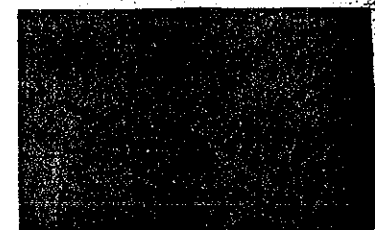
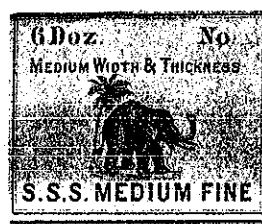
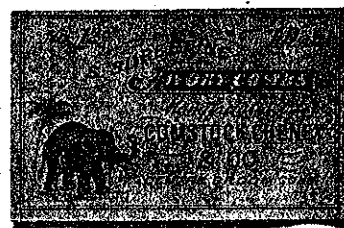
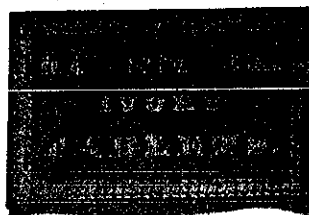
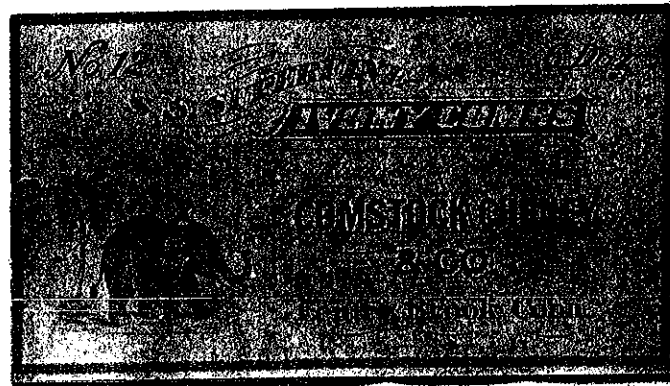
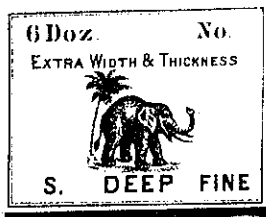
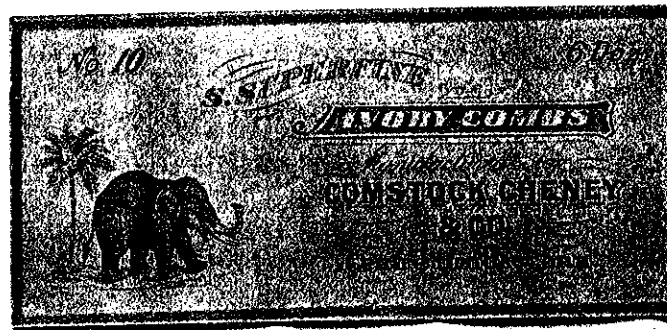
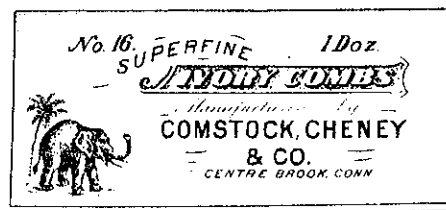


Illustration of Ivoryton, Connecticut, showing the town and harbor.



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perspective of Ernst Moore, whose job required him to pay for it and catalog it tusk by tusk. A Cheney on his mother's side and a product of what he termed "somewhat adventurous stock," he represented Arnold, Cheney & Co., beginning in 1907, as an ivory buyer in Aden and Mombasa and finally Zanzibar. Moore's outlook straddled the two centuries; he was a shrewd and enthusiastic buyer, without a hint of squeamishness or distaste for the business, but he was also a student of the country and ultimately a conservationist.

Ivory—Scourge of Africa, his account of the business from the 1840s on, begins with a straightforward declaration: "During all the turbulent period of which I write my people lived and traded [in Zanzibar] for the ivory spoil the Arabs brought out from the depths of the mysterious interior. I . . . in my time went to Africa to trade for the precious stuff; and I dare say I held in my own hands as many large ivory tusks as any man in the world in my time, as my predecessors had in theirs." This was not, however, intended as a *mea culpa*; Moore's book is a curious mixture of pride and horror.

For the most part, he behaved in Africa as the perfect Yankee trader. He knew better than to weigh ivory or pay for it until it had been in his house long enough to dry out (sellers sometimes boosted the weight by standing the tusks on end and filling them with water, which the ivory absorbed). Like other traders, he checked the hollow of each tusk for molten lead or shot or stones hidden behind beeswax. He describes the method of prodding the hollow with a metal rod, to dislodge "the little beans that indicate diseased, and therefore, waste ivory within the tusk." And he adds that if beans appeared and the trader "did not wish to buy the tusk, he went at it savagely, until it seemed certain that no more beans could be dislodged and the tooth appeared normal and healthy. Then he would tell the Indian or Arab to take it to a white competitor."

But he also taught himself enough Swahili to talk with "the sweating blacks who laid the ivory before me" about their history under the Arabs. He did not merely buy tusks from the professional hunters and the poachers who succeeded them; he also read their books. In his own book, he comments: "How can one read the accounts of the elephant-killings by those heroes of the chase, Cumming, Baldwin, Oswell, Vardon, and others, without being sickened by feelings of disgust and abhorrence?"

He cites an instance, from Cumming, of the "remarkable sport with elephants." Having immobilized an elephant with a single shot to the shoulder, Cumming resolves to contemplate the nobility of the animal for a time before finishing it off. He kindles a fire, brews coffee, and drinks it, "with one of the finest elephants in Africa awaiting my pleasure beside a neighboring tree," then sets to work: "Having admired the elephant for a considerable time, I resolved to make experiments for vulnerable points, and, approaching very near, I fired several bullets at different parts of his enormous skull. These did not seem to affect him in the slightest. . . ."

Moore does not spare himself or his readers even the gruesome details of getting the tusks out of the elephant's head: ". . . it takes two to four hours to chop a



Backing for the raids of Arab trader Tippo Tib, the scourge of Central Africa, came from the last Sultan of Zanzibar (seated, center) and his advisors.

pair of good-sized tusks out of a full-grown bull elephant and about a quarter of the time to cut the ivory out of the head of a cow." A better technique, with less risk of chipping the ivory, was to let the elephant lie for three to five days. It was then possible to loosen the tusks "with a quick tug, after the holding tissues have become sufficiently decomposed, and then work them out gradually."

Considering the strength of feelings in his book, the reader naturally wonders that Moore spent the rest of his life in the business, eventually going to work for the player-piano division of Pratt, Read back in Deep River. Ivory was what he knew, of course. Perhaps the need to earn an income or the pressures of everyday life did not give him the leisure, until retirement, for contemplating means and ends or for considering alternatives. In another context, speaking of his years in Zanzibar, he told a reporter, "Our lives were so crammed with our business and adventure that we were perfectly content to take what we had and make the best of it."

Perhaps in the end the practical businessman predominated. In his book, Moore comes to "the question of whether or not the killing for ivory must go on . . . until the elephant is exterminated throughout the whole continent of Africa." He answers with another question: "Can we find a substitute for ivory that will give us equal

grace, delight, and satisfaction?" Pratt, Read had begun offering celluloid as an alternative to ivory in 1892, but it was a poor substitute. Moore concludes that no alternative exists. The killing would continue.

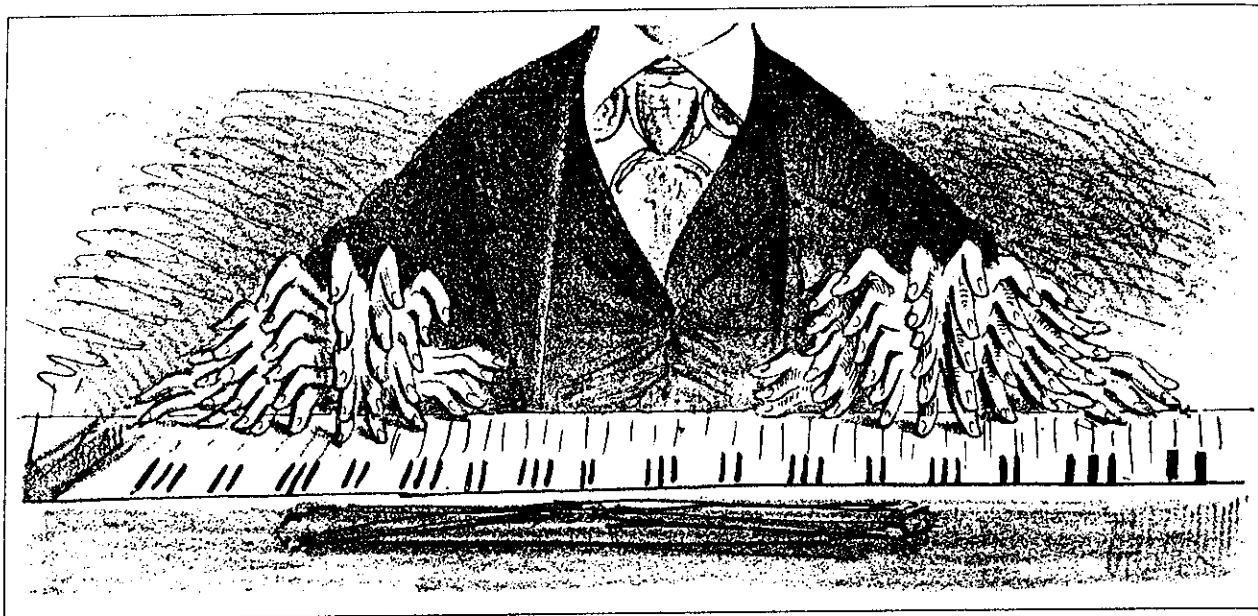
Until the Victrola, the movies, the automobile, and other novelties began to overtake the piano among the amusements and status symbols of the industrial nations, that reasoning was evidently good enough not just for Moore and for the Connecticut River Valley, but for much of the Western world.

On a Sunday morning in March 1985, I visited the old Pratt, Read factory, long since abandoned. (The company merged with Comstock, Cheney in the mid-1930s, retaining its name but moving its operations to Ivoryton.) It was empty and cold. Huge windows, where the workers once matched and beveled and polished and caressed their bits of ivory, let in an abundance of light. A real estate company had lately begun sandblasting old paint off

number of instruments with ivory keys.)

I went home for a cup of coffee and took it down to the river landing, where they used to unload the ivory, and sat there on the dock. I was thinking of the macabre joke with which Conrad ends *Heart of Darkness*. Deep in the Congo, Mr. Kurtz, the ivory trader, utters his dying words: "The horror! The horror!" But this message is too dark for the civilized world, and when a companion visits the dead man's fiancée, he tells her: "The last word he pronounced was—your name."

I was thinking of George Read and Julius Pratt, and wondering what message, what notion of the ivory trade, they'd gotten from John Bertram, who knew the iniquities of Zanzibar at first hand. He would have known their sympathies. He would also have known that the truth was too dark, and that it might pose an impediment to business. Did he keep silence, then? Even if he did, did it never occur to the two abolitionists to ask? In all their correspondence with Bertram, their meetings in Deep River



The hands of Gottschalk in an 1869 caricature, and the hands of Vladimir Horowitz at a 1985 rehearsal.

the bricks and the beveled columns. They were converting the place into a condominium complex called *The Piano Works*. (For the ground-breaking ceremony, the developers obtained forty leftover ivory heads and tails from Pratt, Read and glued them to invitations saying: "Come tickle the ivories with us.") Here and there, assemblages of gears, pulleys, and belts remained bolted to the ceiling. Otherwise, there was no trace of 130-odd years of ivory cutting. (The ivory business is also defunct in Ivoryton, where Pratt, Read now devotes itself to making wooden piano keys, which are then covered with plastic. It is of course still possible to buy a piano with an ivory keyboard from other manufacturers, but only at great expense. Bösendorfer, the Austrian piano-maker, sells about 150 such pianos each year in this country, beginning at \$28,000. Steinway & Sons also sells a small

and Salem, their discussions of prices, deliveries, delays in the arrival of the caravans at Zanzibar, did it never occur to either man to inquire who carried the ivory there or how it was obtained? Was it really possible that they did not know? Or were they merely practical men, like Bertram, who saw the inevitable sinfulness of human existence and put limits on their own accountability for it? I thought of George Read's odd phrase: "... but I do worse things." And I thought of Ernst Moore's peculiar confessional dedication to his book: "I, too, have slept in the arms of Zanzibar, have been her slave, and am her lover still."

On the river, low, forward-leaning columns of mist rose from the surface, a ghostly procession of slaves, traders, ivory workers, merchants, and elephants, all drifting endlessly toward the sea.

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SOHMER



When on the air the notes of Sohmer's Grand
Rise up toward the high immortal band,
With looks that speak appreciative praise
Beam the great masters of the greater days.

The while their modern followers here below,
Approval more emphatic still bestow;
The smile of pleasure and the applauding hand
Show that they truly think the Sohmer "grand."

A mighty art the symmetry has planned
That lends perfection to the Sohmer Grand
And of what other can it well be said
"It charms the living, and delights the dead"

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AUDUBON

Magazine of the National Audubon Society

JULY 1987

8 Essay: A Vision of Lakes

A generation of Americans thought of summer as a pristine lake. But our lakeshores are becoming cityscapes, their waters fouled.
By Peter Steinbart

24 Warning: The Friday Night Fish Fry May Be Hazardous to Your Health

From the chemical soup of Lake Michigan's Green Bay come perch whose consumption, like Packer games, is a local ritual.
By Marc Hudson

44 Jim Corbett: The Reluctant Executioner

Between 1906 and 1941 he hunted down a dozen man-eating tigers and leopards with a combined toll of 1,500 victims; but it took considerable effort to coax him into the field.
By Geoffrey C. Ward

61 The State of the Tiger

Some good news, much bad news from a gathering of experts.
By Jon R. Luoma

64 Children of the Sun

After more than a hundred million years on Earth, the dragonfly asks no more of life than sunshine and living insects to eat.
Photographs by Frank Cocco Jr., with writings by Edwin Way Teale

72 Me and That Groundhog

From our good old stuff, a yarn about an ambush in the peonies, a condemned woodchuck, and a shotgun that wouldn't work.
By C. E. Gillham, with a painting by Salvatore Catalano

76 When the Music in Our Parlors Brought Death to Darkest Africa

Because of a national mania for the piano, humans and elephants perished in uncountable numbers to supply ivory for keyboards.
By Richard Conniff

94 Of Moose and Men

We haven't learned how to deal with America's largest deer when they stroll onto our lawns, malls, and paved preserves.
By Donald Dale Jackson, with a drawing by Keith Bendis

102 A Report to Spark a Prairie Fire?

The President's Commission on Americans Outdoors is met with stony silence from the Reagan Administration, but its recommendations may be just shy of revolutionary.
By Chris Wille

6 The Audubon View

108 Dialogue

12 Nature Stories

111 Bylines

The cover: African elephants at dusk on the Chobe River in Botswana, photographed by George W. Calef.