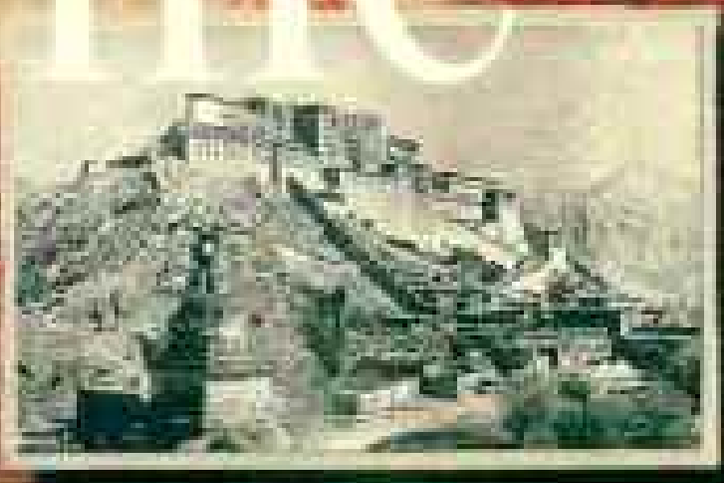
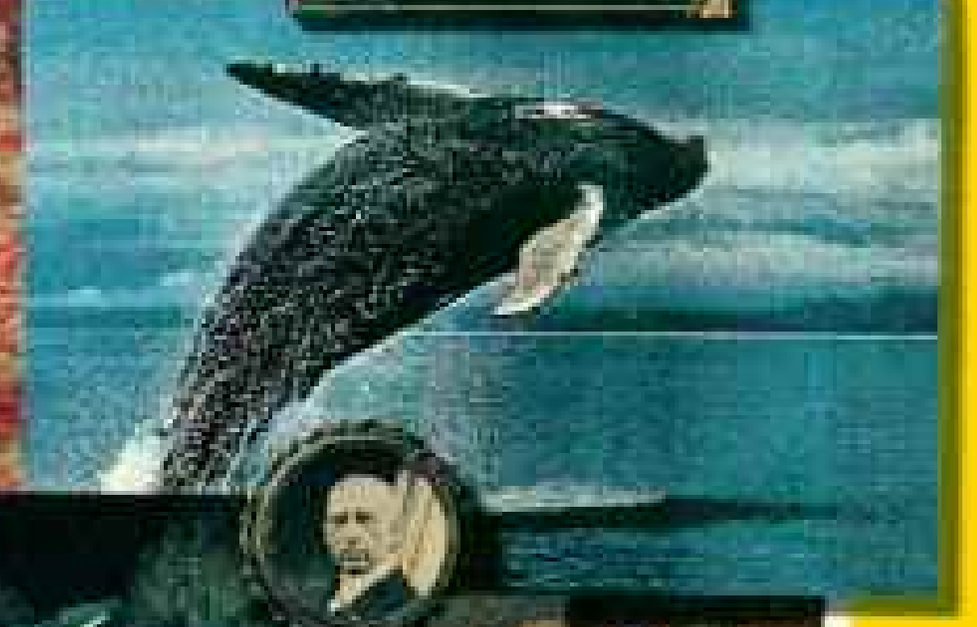
1888 · CENTENNIAL · 1988

VOL. 173, NO. 1 JANUARY 1988

NATIONAL GEOGRAPHIC





One Hundred Years
of
increasing and diffusing geographic knowledge

SEE "AFRICAN ODYSSEY" WEDNESDAY, JANUARY 20, ON PBS TV

1888 1988 NATIONAL GEOGRAPHIC

JANUARY 1988

COVER: *From Robert E. Peary's expedition to the North Pole to the discovery of the Titanic, NATIONAL GEOGRAPHIC has documented a century of exploration. See page 9.*

EGYPTIAN, Chinese, and Greek cultures may be measured in millennia, but in the United States few organizations are lucky enough to celebrate a 100th birthday. This year at the National Geographic Society we do so twice.

On January 13, 1888, thirty-three uncommon men sharing an uncommon fascination for this amazing world met at the Cosmos Club in Washington, D. C., to consider the "advisability of organizing a society for the increase and diffusion of geographic knowledge." It was so moved and so done, "that we may all know more of the world."

The members soon decided the best way to do this was to publish a journal. In October 1888 the first slim issue of the National Geographic Magazine trickled off the press. The Society's membership was scarcely 200. This month—with ten and a half million members—we literally turn our pages back 100 years and reprint from that issue President Hubbard's address to those attending the first meeting of the Society (following pages). It was a cogent statement of direction and policy—as relevant as if written today.

The invitation to the inaugural meeting, the evening of February 17, suggested that members bring friends, including ladies. Secretary Henry Gannett, the great geographer justifiably known as the "father of American mapmaking," announced that the paper of the evening would be delivered by member Maj. John Wesley Powell—the leader of the first exploration of the Grand Canyon. So began the Geographic's policy of presenting first-person accounts by prominent explorers, adventurers, and scientists. In Powell they had all three.

Those Victorian years of the late 19th century, in which many of the founders played historic roles, were times of action,

and the relevant word was conquer—be it wilderness, disease, paganism, or ignorance. Sadly, in conquering the wilderness man virtually destroyed it, while ignorance—especially as far as geography is concerned—has been preserved.

We must share the blame for not having been more effective in promoting geographic education in the past. That has changed. President Gilbert M. Grosvenor is leading the Society into its second century assaulting geographic illiteracy with imaginative new programs.

Certainly the tools for learning abound. The best maps of a century ago were festooned with "terra incognita" labels. Today we can study, map, and communicate with the most remote regions with electronic eyes and ears unimagined then. We can now "conquer" without destroying anything except ignorance.

As for the magazine, we'll celebrate our birthday with special issues and articles throughout this centennial year. To mark the beginning of the second century of the journal, the last three issues of 1988—special in content and size—will review what we know of this planet and its people and where, in the opinion of the best of our scientists, they will be heading in our second hundred years.

In effect we will spend the year as we always do—with a bit more vigor and a lot more pages—fulfilling our first President's goal of diffusing knowledge "so that we may all know more of the world upon which we live."

Wilbur E. Garrett

EDITOR

1888

INTRODUCTORY ADDRESS BY THE

I am not a scientific man, nor can I lay claim to any special knowledge that would entitle me to be called a "Geographer." I owe the honor of my election as President of the National Geographic Society simply to the fact that I am one of those who desire to further geographic research. I possess only the same general interest in geography that should be felt by every educated man.

By my election you notify the public that the membership of our Society will not be confined to professional geographers, but will include that large number who, like myself, desire to promote special researches by others, and to diffuse the knowledge so gained, so that we may all know more of the world upon which we live.

Since my election I have been trying to learn the meaning of the word "geography," and something of the history of the science. The Greek origin of the word shows that it relates to a description of the earth. But the "earth" known to the Greeks was a very different thing from the earth with which we are acquainted.

To the ancients the earth was a flat plain, solid and immovable, and surrounded by water, out of which the sun rose in the east and into which it set in the west. To them "Geography" meant simply a description of the lands with which they were acquainted.

To the members of this society the word "earth" arouses in our minds the conception of an enormous globe suspended in empty space, one side in shadow and the other bathed in the rays of the sun. The outer surface of this globe consists of an ocean of air enclosing another more solid surface (partly land and partly water), which teems with countless forms of animal and vegetable life. This is the earth of which geography gives *us* a description.

Herodotus, who we look upon as the father of geography as well as of history, had visited the known regions of the earth by about the year 450 B.C. and described accurately what he saw, thus laying the foundations of Comparative Geography.

About 300 B.C., Alexander the Great penetrated hitherto unknown regions. He sent a naval expedition to explore India, accompanied by learned men who described the countries and their inhabitants, originating the science of Political Geography, or the geography of man.

About the year 200 B.C., Eratosthenes of Cyrene, the keeper of the

(Condensed from the inaugural address delivered at the Society's first regular meeting, February 17, 1888, in the law lecture room of Columbian University, Washington, D. C.)

"Ladies and gentlemen, the Inaugural meeting of the National Geographic Society will now come to order...."

PRESIDENT, MR. GARDINER GREENE HUBBARD

Royal Library at Alexandria, convinced of the rotundity of the earth, attempted to determine its magnitude. The town of Cyrene, on the Nile, was situated exactly under the tropic, for he knew that on the summer solstice, the sun's rays at noon illuminated the bottom of a deep well. At Alexandria, however, on the day of the summer solstice, Eratosthenes observed that at noon the vertical finger of a sun-dial cast a shadow, showing that there the sun was not exactly overhead. From the length of the shadow he ascertained the sun's distance from the zenith to be one-fiftieth of the circumference of the heavens; from which he calculated that the distance between Alexandria and Cyrene should be one-fiftieth of the circumference of the world. He was the founder of Mathematical Geography; through his labors it became possible to determine the location of places by means of lines corresponding to our lines of latitude and longitude.

Claudius Ptolemy, in the second century of the Christian era, made a catalogue of the positions of places. With this as his basis, he made a series of twenty-six maps. To him we owe the art of map-making, the origination of Geographic Art.

When Rome began to rule the world, the Romans paid attention to geography which facilitated the administration of their empire. They were great road-builders. Maps of their military roads exhibited with accuracy stations on the route from Rome to India, and from Rome to the further end of Britain.

With the fall of Rome came the collapse of geographical knowledge. In the typical map of the Middle Ages, Jerusalem lay in the center, with Paradise on the east and Europe on the west. The Northmen crossed the ocean to Iceland, proceeded to Greenland, and even visited the mainland of North America about 1000 A.D.; but these voyages were forgotten or looked upon as myths.

In the fourteenth or fifteenth century, the mariner's compass was introduced into Europe from China, and it then became possible to venture far out of sight of land. Columbus boldly set sail across the Atlantic. To many of his contemporaries it seemed madness to seek the East by sailing West. Expecting to find the East Indies he found America instead. Five centuries had elapsed since the Northmen had made their voyages to these shores—labors barren of results. The discovery of Columbus, however, immediately bore fruit. The spirit of discovery was quickened and geographic knowledge advanced with a great leap. America was explored; Africa was circumnavigated. Magellan's voyage demonstrated the rotundity of the earth by sailing westward until reaching the starting point.

"At the close of the last century there was but little known of the physical conditions of the sea. At the beginning of the present century, however, expeditions sent out by France, England and Russia began to lay the foundation of the science of Oceanography."

George L. Dyer, 1889
Report on Geography of the Sea

"Atmospheric disturbances are so vast, and their action is so rapid, that it requires the attentive care of thousands of observers before one can well hope to draw the roughest figure of a passing storm."

A. W. Greely, 1889
Report on Geography of the Air

"Our aim should be to correlate the distribution of animals and plants with the physiographic conditions which govern this distribution, and to formulate the laws which are operative in bringing about the results we see."

C. Hart Merriam, 1889
Report on Geography of Life

"The western hemisphere is virtually under the rule of men chosen by the people, and though we cannot claim that in all instances the result has been satisfactory, there has, nevertheless, been a steady advance."

Herbert G. Ogden, 1890
Report on Geography of the Land

The present century forms a new era in the progress of geography—the era of organized research. In 1830, the Royal Geographical Society of England was founded, a landmark in the history of discovery. The Paris Society preceded it, and other countries soon followed. The diffusion of geographical knowledge through these societies directed the current of exploration into the most useful channels. Before organized effort, darkness gave way at every step.

America refuses to be left in the rear. Already her explorers are in every land and on every sea. Already she has contributed her quota of martyrs in the frozen north, and has led the way into the torrid regions of Africa. America has laid the foundations of a new science—the Geography of the Sea. Our explorers have traced the southward flow of the Arctic waters to temper the climate of the torrid zone. They have followed the northward set of the heated waters of the Equator and have shown how those wonderful rivers of warm water flow through the colder sea, till they strike the western shores of Europe and America and render habitable the almost Arctic countries of Great Britain and Alaska.

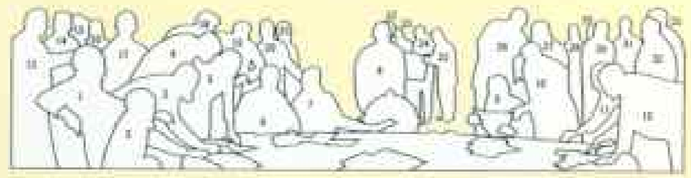
American explorers have sounded the depths and discovered the great plateaus on which the cables rest that bring us into instantaneous communication with the world. They have shown a vast submarine range, extending nearly the length of the Pacific—mountains so high that their summits rise above the surface to form islands and archipelagoes. From the depths, considered uninhabitable on account of the great pressure, they have brought living things whose bodies burst open before they could be brought to the surface; living creatures whose self-luminous spots supplied them with the light denied them in the deep abyss from which they sprang. Vessels of our Fish Commission have discovered in the deep sea, in one season, more forms of life than were found by the Challenger Expedition in a three years' cruise. In marine laboratories, our geographers of the sea have shown that an acre of water may be made to produce more food than ten acres of arable land.

In that other vast territory of the earth, the atmosphere that surrounds it, America has laid the foundations of a Geography of the Air. A little while ago we might have truly said with the ancients "the wind bloweth where it listeth, and we know neither from whence it comes nor whither it goes"; but now an army of trained observers dispersed over the globe observe the condition of the atmosphere according to a pre-concerted plan. Through co-ordination of the observations by a Central Bureau in Washington, we obtain a weather-map of the world for every day of the year. We not only know whence comes the wind and whither it goes, but predict its movements in time to avert disaster to mariners and facilitate agriculture.

When we embark on the great ocean of discovery, the horizon of the unknown advances with us and surrounds us wherever we go. The more we know, the greater we find is our ignorance. Because we know so little we have formed this society for the increase and diffusion of Geographical knowledge. □

Key to painting:

1. *Charles J. Bell, banker*
2. *Israel C. Russell, geologist*
3. *Commodore George W. Melville, USN*
4. *Frank Baker, anatomist*
5. *W. B. Powell, educator*
6. *Brig. Gen. A. W. Greely, USA, polar explorer*
7. *Grove Karl Gilbert, geologist and a future Society President*
8. *John Wesley Powell, geologist, explorer of the Colorado River*
9. *Gardiner Greene Hubbard, lawyer and first President of the Society, who helped finance the telephone experiments of Alexander Graham Bell*
10. *Henry Gannett, geographer and a future Society President*
11. *William H. Dall, naturalist*
12. *Edward E. Hayden, meteorologist*
13. *Herbert G. Ogden, topographer*
14. *Arthur P. Davis, engineer*
15. *Gilbert Thompson, topographer*
16. *Marcus Baker, cartographer*
17. *George Kennan, author, explorer of Arctic Siberia*
18. *James Howard Gore, educator*
19. *O. H. Tittmann, geodesist and a future Society President*
20. *Henry W. Henshaw, naturalist*
21. *George Brown Goode, naturalist*
22. *Cleveland Abbe, meteorologist*



23. *Comdr. John R. Bartlett, USN*
24. *Henry Mitchell, engineer*
25. *Robert Muldrow II, geologist*
26. *Comdr. Winfield S. Schley, USN*
27. *Capt. C. E. Dutton, USA*
28. *W. D. Johnson, topographer*
29. *James C. Welling, educator*
30. *C. Hart Merriam, Chief, U. S. Biological Survey*
31. *Capt. Rogers Birnie, Jr., USA*
32. *A. H. Thompson, geographer*
33. *Samuel S. Gannett, geographer*

Founding of the National Geographic Society, January 13, 1888; painting by Stanley Meltzoff

"Tell me if your civilization is interesting"

THOSE ELECTRIFYING EIGHTEEN EIGHTIES WHEN THE NATIONAL GEOGRAPHIC SOCIETY WAS BORN

By WILLIAM H. GOETZMANN

Illustrated by FRED OTNES

IN THE COSMOS CLUB in Washington, D. C., hangs a picture of 33 men gathered at a round table. It is January 13, 1888, and these bearded, bespectacled men of serious mien are clearly engaged in an important task. Besides the large polished table strewn with books and important-looking papers, a globe dominates the scene.

The man directly in the center of the picture, gesturing toward the globe, looks somehow familiar. Of course: It is one-armed Maj. John Wesley Powell, daring conqueror of the formerly unknown Colorado River of the West and its rapids-filled Grand Canyon. He is now the director of the United States Geological Survey, one of the most effective federal bureaus. At this very time he is about to become one of the most powerful men in the United States, though he doesn't know it. He is soon to be accidentally granted control over settlement of the entire West by virtue of his becoming director of the Irrigation Survey, which must certify all Western land parcels as fit for settlement—in farms, ranches, or towns. He is the nation's most powerful geographer. Perhaps that is why artist Stanley Meltzoff placed him at the focal point of this 1962 painting.

Major Powell is certainly not the man who called the meeting. That is Gardiner Greene Hubbard, the gentleman with the flowing white beard who appears to be reading from something.

Yes, he is reading from a resolution to form the National Geographic Society, which these men are just now in the process of incorporating.

If we look closely at the painting, we begin to notice that it depicts some of Washington's and the nation's outstanding scientific men. Seated to Powell's right is Grove Karl Gilbert, one of America's foremost geologists and a

pioneer in studying the moon's geology—albeit from a considerable distance.

Next to him, waistcoat and watch chain prominently displayed, is the doyen of Arctic exploration, Brig. Gen. A. W. Greely. He looks solid and prosperous now, but back in 1884, when his expedition met with disaster at Cape Sabine on Pim Island, near Ellesmere, overlooking icy Smith Sound, he was found dazed and emaciated, with six other survivors in a half-collapsed tent, not far from a cemetery that yielded evidence of cannibalism.

Leaning over to converse with the man behind the patriarchal Hubbard is the youthful-looking Comdr. Winfield S. Schley, USN, who had rescued Greely just in time—in fact, by only a matter of hours. There are others we can recognize at the table: Henry Gannett, chief topographer of the U. S. Geological Survey, and noted engineer Henry Mitchell; they were among those who seconded Hubbard's invitation to the organizational meetings.

To the left of the picture, looking slightly owlish, is George Kennan, explorer of Siberia and now a famous author, whose namesake will grow up to be a famous diplomat and author known for his expertise on Russia. But there are too many distinguished figures present to introduce them all here.

As the first President of the National Geographic Society, whose hundredth anniversary we celebrate this year, Gardiner Greene Hubbard made the objectives of the Society clear in his keynote address. The Society hoped, he declared, to bring together "the scattered workers [in geography, sciences, and exploration] of our country" with "the persons who desire to promote their researches." Hubbard was conscious of the fact that he himself was no scientist; a lawyer and philanthropist, he had helped organize the first telephone company for his son-in-law, Alexander Graham Bell.

"By my election," he explained, "you notify the public that . . . our Society will not be confined to professional geographers. . . ." An aim of the Society was to help educate a nation that was growing and expanding so fast that its most utopian novelists seemed virtually obsolete even as they published their glimpses into the future.

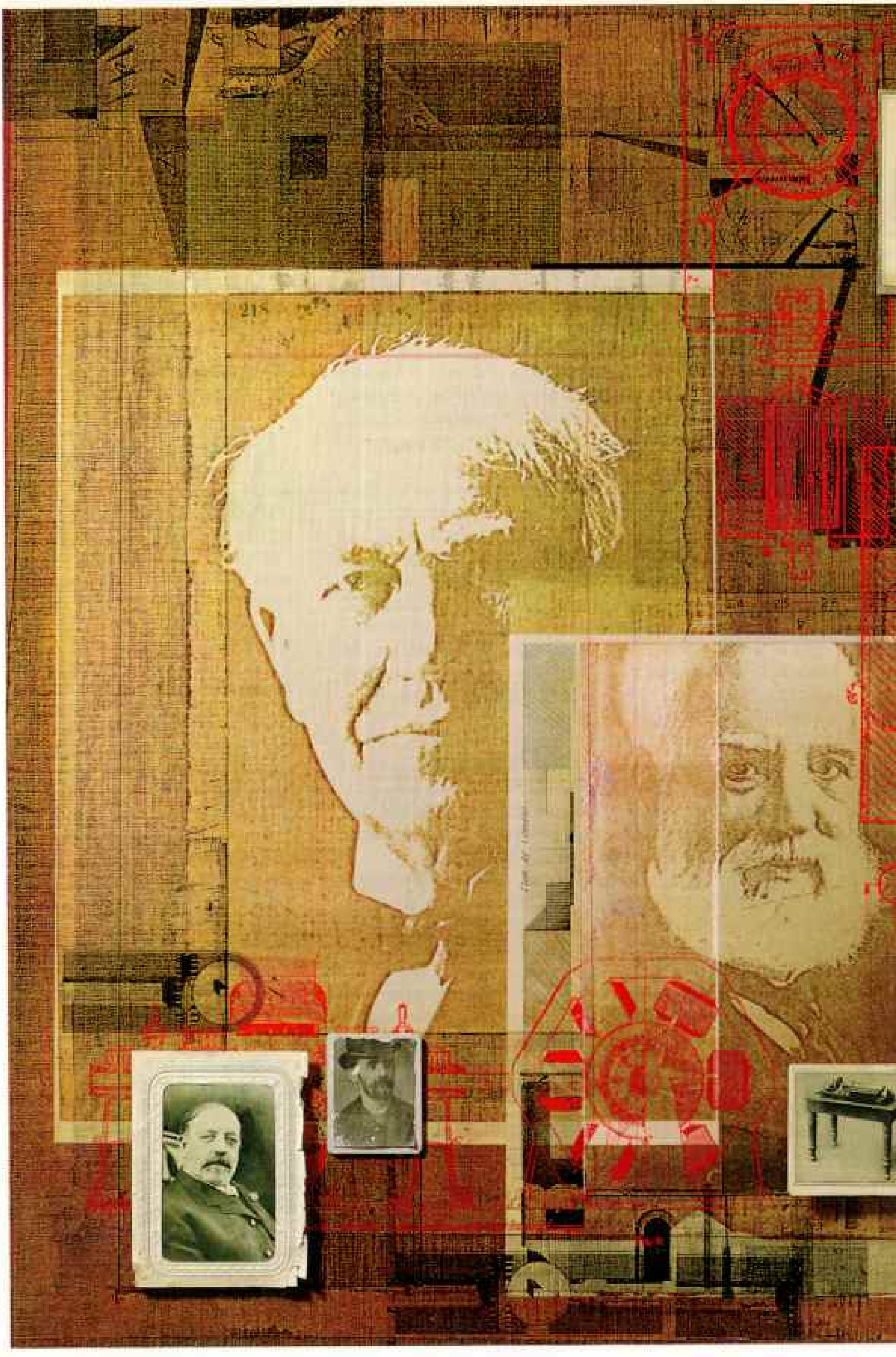
Edward Bellamy's utopian novel, *Looking Backward*, was one of the year's important books. In it the hero, Julian West, went to sleep in 1887 and awoke in the year 2000. He found an unbelievable noncontentious socialist-corporate society with amazing new contrivances.

But could even Julian West have glimpsed, in the year 2000, such things as Edison's motion-picture machine, which at that very time the "wizard of Menlo Park" was inventing? Did the kindly know-it-all Dr. Leete, Julian West's millennial host, even conceive of television, then aborning, or the brainchild of that eccentric Serbian-American, Nikola Tesla, the polyphase alternating-current dynamo? Displayed at the World's Columbian Exposition of 1893 and at the 1900 Paris Exposition, this was the very machine whose silent power was to cause the philosophical historian Henry Adams to doubt the power of the Holy Virgin for just a moment as he stood dazzled before George Westinghouse's version of Tesla's whirring wonder.

Adams knew by then, if not before, that the 1880s had ushered in the electrical age. Self-propelled electric vehicles, a street railway in Richmond,

COVER:

A GEOGRAPHIC tradition: One hundred years of first-person accounts coupled with historic pictures include rare views of Lhasa, Tibet, in 1905, a pioneering effort in photojournalism. Dian Fossey's gorillas, studies of great whales, a Maya jar lifted from a well in Yucatán, and a gold pre-Columbian figurine symbolize a century of interest in natural history and archaeology. Roald Amundsen (locket) and Robert E. Peary struggled to the Poles; Jacques-Yves Cousteau and Robert D. Ballard explored the deep sea. The *Explorer II* balloon reached the stratosphere in 1935, Barry C. Bishop the top of Everest in 1963, and Edwin E. "Buzz" Aldrin, Jr., the moon's surface in 1969. The Society has touched all these places, and more . . . and the wide horizons still beckon.



"Discoveries and inventions arise from the observation of little things," said Alexander Graham Bell (center and lower right in this modern collage), inventor of the telephone and the National Geographic Society's second president. In the 1880s inventive Americans were creating devices to make communications faster, labor less strenuous, and life more enjoyable; electricity was the key.

Thomas Edison (left) invented the light bulb in 1879, but he stubbornly clung to direct-current motors, disdaining the inventions of his onetime assistant Nikola Tesla (right center). In 1888 the Serbian immigrant patented his alternating-current "electromagnetic motor." Electricity powered the Linotype of Ottmar Mergenthaler (bottom right). Setting type from a keyboard spurred production of books, newspapers, and magazines.

George Eastman (wearing hat) popularized photography by introducing roll film and a simple box camera, the Kodak, as early as 1888. Lewis E. Waterman (upper right) gave us the fountain pen, and William Horlick (lower left) introduced malted milk.

Virginia, an entirely lighted ocean liner, a brightly lit-up Wall Street district, telephone and telegraph systems, and even phonographs that reproduced the mysterious chants of Native Americans when taken into the field by a whole new group of scientists who called themselves anthropologists.

Up in New York's Auburn State Prison, convicted ax murderer William Kemmler was the first to die in the new electric chair then thought to be more humane than hanging. It took two jolts to kill him as he stubbornly twitched with life, but ultimately he was successfully "Westinghoused," as the newspapers termed it.

BUT ELECTRICITY was only one of the energies of the '80s. Everywhere there was the urge to uncover the last secrets of the globe. The editor of the New York *Herald*, James Gordon Bennett, knew this when he earlier sent reporter Henry Morton Stanley to Africa to "find" Dr. Livingstone, who was not lost, and when he sent the *Jeannette* to an Arctic doom while seeking to reach the North Pole. When the *Jeannette* was crushed by ice in 1881 off Siberia's Lena River Delta and most of her men perished, Bennett had reporters on hand in the remotest part of Russia to take down stories of survivors, who were led by George W. Melville, another founder of the Society.

Bennett regretted in 1887 that Stanley was no longer on his payroll. In that very year "the Welsh bastard," as the English gentry habitually called him, was leading an expedition up the Congo and through the never-before-explored Ituri rain forest. It was a jungle full of trees and vines that shut out the equatorial sun overhead.

In this forbidding green hell Stanley's party was menaced by fire ants, reptiles, Pygmies, and other roving bands armed with spears and blowguns and poison-tipped darts; renegade Arab slavers ranged about its fringes, and reputed cannibal kings, whom even the Arabs avoided, held the power of life and death over the explorers.

And then beyond the jungle, in which half of Stanley's men perished, was a great body of water, part of the Nile system, Lake Albert. On or beyond this lake was the man Stanley had sworn to rescue—a curious German doctor, Eduard Schnitzer, whom Maj. Gen. Charles George "Chinese" Gordon, the martyred governor general of Sudan, had made governor of southern Sudan, an Egyptian province under British protection.

In a way it was the naturalized American Stanley, born John Rowlands and raised in a Welsh orphanage, who accelerated "the scramble for Africa" that so characterized the late 19th century. He had explored and mapped much of central Africa by the 1880s and had helped set Leopold II of Belgium up with a Congo Free State all his own to exploit shamelessly. Britain, France, Germany, Italy, and Portugal were scrambling after the rest of the "Dark Continent."

In the course of this scramble none matched the explorers as the heroes of the age. Burton, Speke, Grant, and Sir Samuel and Florence Baker, to name just a few, stood larger than life in their search for the sources of the Nile, somewhere near the lofty Ruwenzori. Legend had it that untold wealth lay in these Mountains of the Moon not far from the Nile's source, and the British above all believed it.

WILLIAM H. GOETZMANN, a Pulitzer Prize-winning historian and author, is Dickson, Allen & Anderson Centennial Professor in American Studies and History at the University of Texas in Austin. Kansas-born artist FRED OTNES bases his widely published collages on a lifelong collection of photographs, clippings, and fragments of the past.

Thus after the Mahdi, a Muslim holy man, began his massive holy war in Sudan, Britain sent its best to the scene—"Chinese" Gordon, who had earned his nickname helping quell China's Taiping Rebellion. But Gordon was not enough. He was killed, and the Mahdi's forces overran Sudan, with the exception of the territory ruled by Dr. Schnitzer, better known as Emin Pasha. The "civilized" world sensed that he could not hold out long, and Stanley set out to rescue him.

But like the Dr. Livingstone who was not lost, the pasha was not necessarily beleaguered. He did not want to be rescued! Poor Stanley, the most famous explorer of his day, was reduced to dragging the unwilling Emin Pasha past the towering, mist-hidden Ruwenzori Mountains, which no white man had ever explored, past the shores of Lake Victoria, and all across what is now Tanzania to East Africa's coast. There German officers sought his knowledge in their efforts to subdue East Africa.

IN THE 1880S, however, and indeed through the '90s and much of the early 20th century, the public idolized intrepid explorers like Henry Morton Stanley and Fridtjof Nansen, the Norwegian who first crossed the silent, white interior of Greenland. Americans came to be especially proud of Comdr. Robert E. Peary, who grew to know Greenland and Ellesmere Island like his own backyard and who never wavered in his desire to be the first to reach the North Pole, a feat finally announced in 1909.

In these heroic final efforts in the northern wastes, his sponsors included none other than the National Geographic Society. His likeness appeared most frequently, however, on cards given out with packs of Hassan cork-tipped cigarettes! Though Yale's football team, with a 13 and 0 record, won the national championship in 1888, and the New York Nationals won an infant World Series, it was not just pictures of sports stars that keyed mass advertising of the newfangled manufactured cigarette. The explorers were also represented: Stanley, Livingstone, Burton, Speke, the mysteriously poisoned Arctic explorer Charles Francis Hall, Shackleton, Scott, Amundsen, Nobile, even walrus-like General Greely, whose expansive presence had nearly dominated those first meetings of the National Geographic Society.

But there was more international activity in the 1880s than heroic exploration in unknown lands. In the Treaty of Constantinople European countries and the Ottoman Empire declared the Suez Canal open to all nations. At about the same time, British Empire builder Cecil Rhodes, who already owned most of the diamond mines of South Africa, dramatically extended his holdings into Rhodesia, today's Zimbabwe, by a treaty with the king of the Matabele.

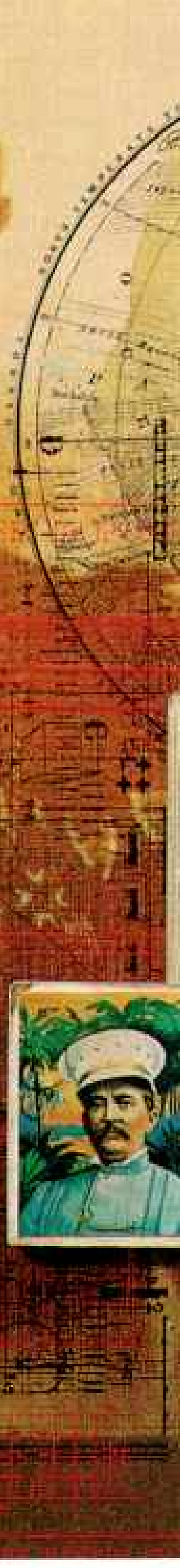
Across the Atlantic the United States began to have the first glimmering dreams of an empire. With Alaska exploration well under way, the concept of the Pacific as an "American lake" gained momentum. The U. S. had just acquired the right to use Pearl Harbor as a coaling station. A South Seas naval battle nearly erupted early in 1889 between U. S., British, and German

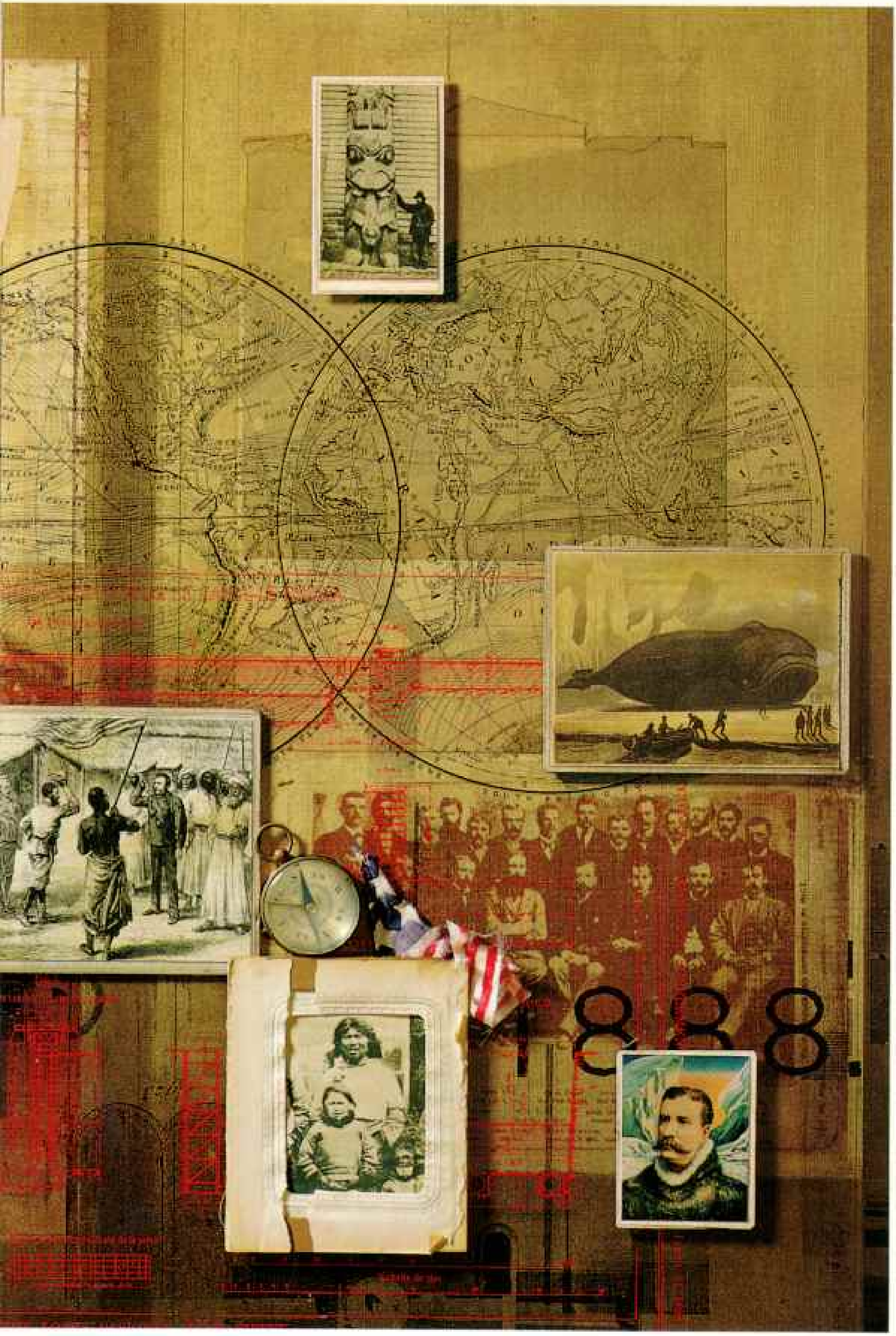
OVERLEAF:

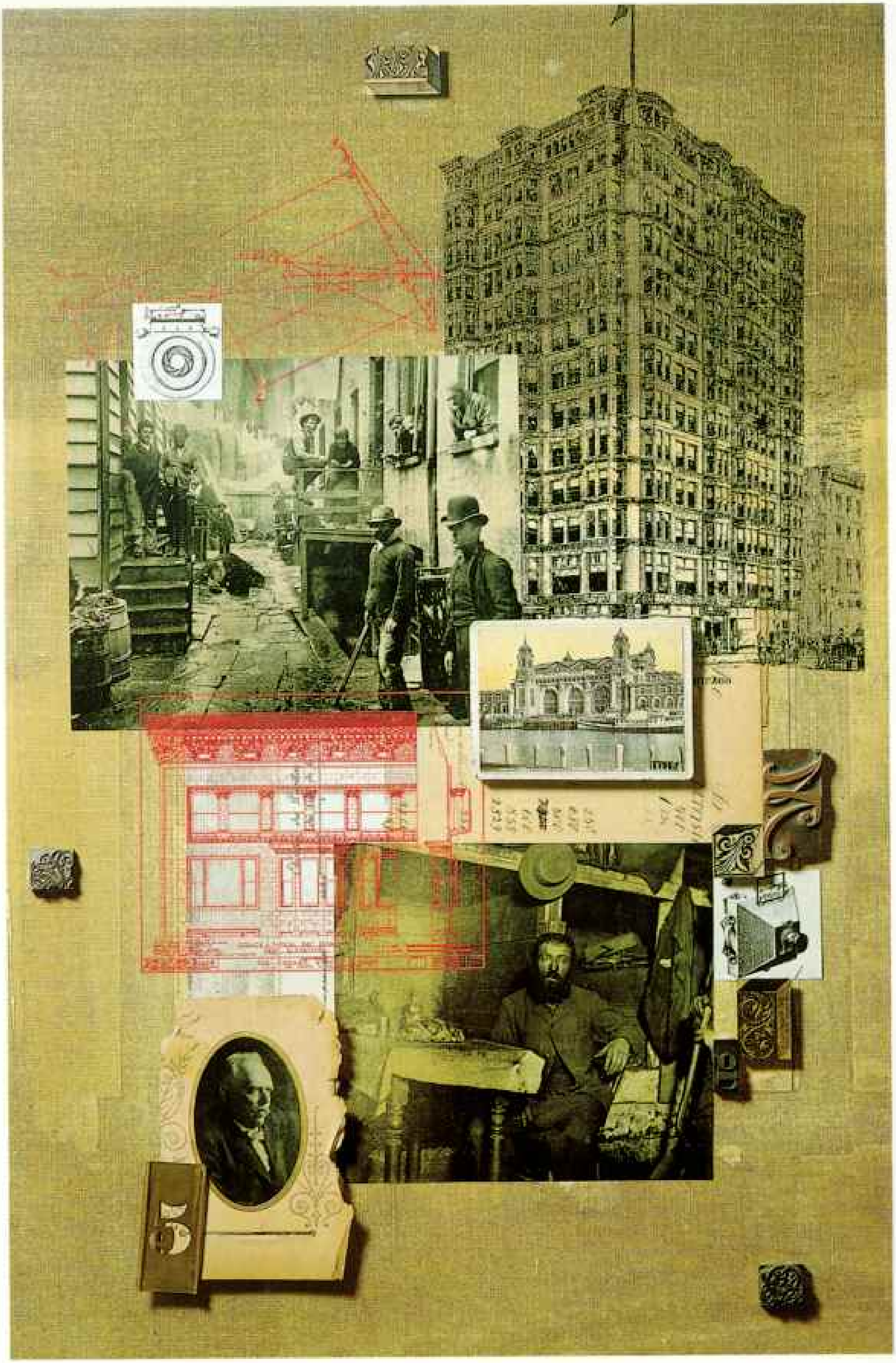
Exploration was the forerunner to acquiring the "vast resources of the earth for useful exploitation by the masses," according to Brig. Gen. A. W. Greely, a Society founder and explorer (at left). The 1880s and '90s saw Americans probing their new territory of Alaska, seeking a shortcut between the Atlantic and Pacific, and challenging the Arctic.

Greely's three-year scientific expedition to Canada's Lady Franklin Bay met disaster when resupply ships failed to arrive. Most of his men (group photograph) perished—among them James B. Lockwood, who in 1882 reached latitude 83° 24', the farthest north yet achieved.

Later, explorer cards—bonuses with cigarettes—honored Lockwood (lower right) and journalist Henry Morton Stanley (center), who in 1871 had located missionary-explorer David Livingstone with the immortal "Dr. Livingstone, I presume." Stanley's 1880s explorations of central Africa helped open the way for its colonization.







ships over control of the Samoa Islands. A timely hurricane that damaged nearly all the combatant ships helped prevent a showdown and left Samoa under joint international control.

With a shortcut to the Pacific as the major consideration, an isthmian canal became a necessity. The French were failing in Panama. The U. S. Congress, however, in 1889 incorporated the Maritime Canal Company of Nicaragua to build and operate a canal there. But the ultimate showdown in Congress over this issue would be a heated one, since a number of American businessmen favored taking over the Panama project from the French.

United States foreign policy was still much centered on the Pacific, especially when Washington Territory became one of four new states to join the Union in 1889. Along with California and Oregon, it broadened a United States "window" on the Pacific.

THOUGH ONE would never know it from the Sooners' unseemly stampede into Oklahoma Territory, by 1889 the mood of the country was not one of helter-skelter disorganization. On the contrary, the formation of societies like the National Geographic Society was just one expression of the demand for progress through organization and efficiency spawned by the experience of handling large numbers of men and machines during the Civil War.

Indeed, the individual explorers became heroes, because they stood out as individuals—exotic examples of a new "can do" mentality that overtook Americans in the decades after the Civil War. As symbols, they represented those Darwinian, survival-of-the-fittest emerging "captains of industry"—men like John D. Rockefeller, who, starting with a single refinery, came to dominate the oil industry through what the tycoons of the day called a trust. The daring explorers also matched in initiative, and in go-getter spirit, Scottish-born Andrew Carnegie, who rose from bobbin boy in a Pennsylvania cotton mill to president of the world's largest steel company. "Triumphant democracy," Carnegie called it in his book of the same name, published in 1886.

Go-getter spirit also moved a clergyman named Russell Conwell to go around the country touting the captains of industry in a speech that he ultimately would deliver some 6,000 times and that he boiled down to one book, *Acres of Diamonds*, inspiring reading in 1888. Men went to the ends of the earth, Conwell declared, in search of wealth hidden in lost treasures like those of the legendary King Solomon's mines, when at their very feet lay acres of diamonds!

These acres consisted of opportunities for Americans who worked alertly at their everyday tasks, paid attention to business, and had strength of character. Inventors like George Westinghouse and George Pullman, in inventing the railroad-car air brake and the palace sleeping car respectively, had seen those acres of diamonds and scooped up their fill of rewards. Conwell casually skipped over the shenanigans of the railroad promoters and gold-market manipulators like Jay Gould and the flamboyant Jim Fisk.

Cities burst their seams, luring farmers' sons and daughters and immigrants with expanding industrial opportunities. Between 1880 and 1890 Chicago doubled in population to one million. There architects first built great steel-framed skyscrapers—like the Tacoma Building (upper right) and the Stock Exchange.

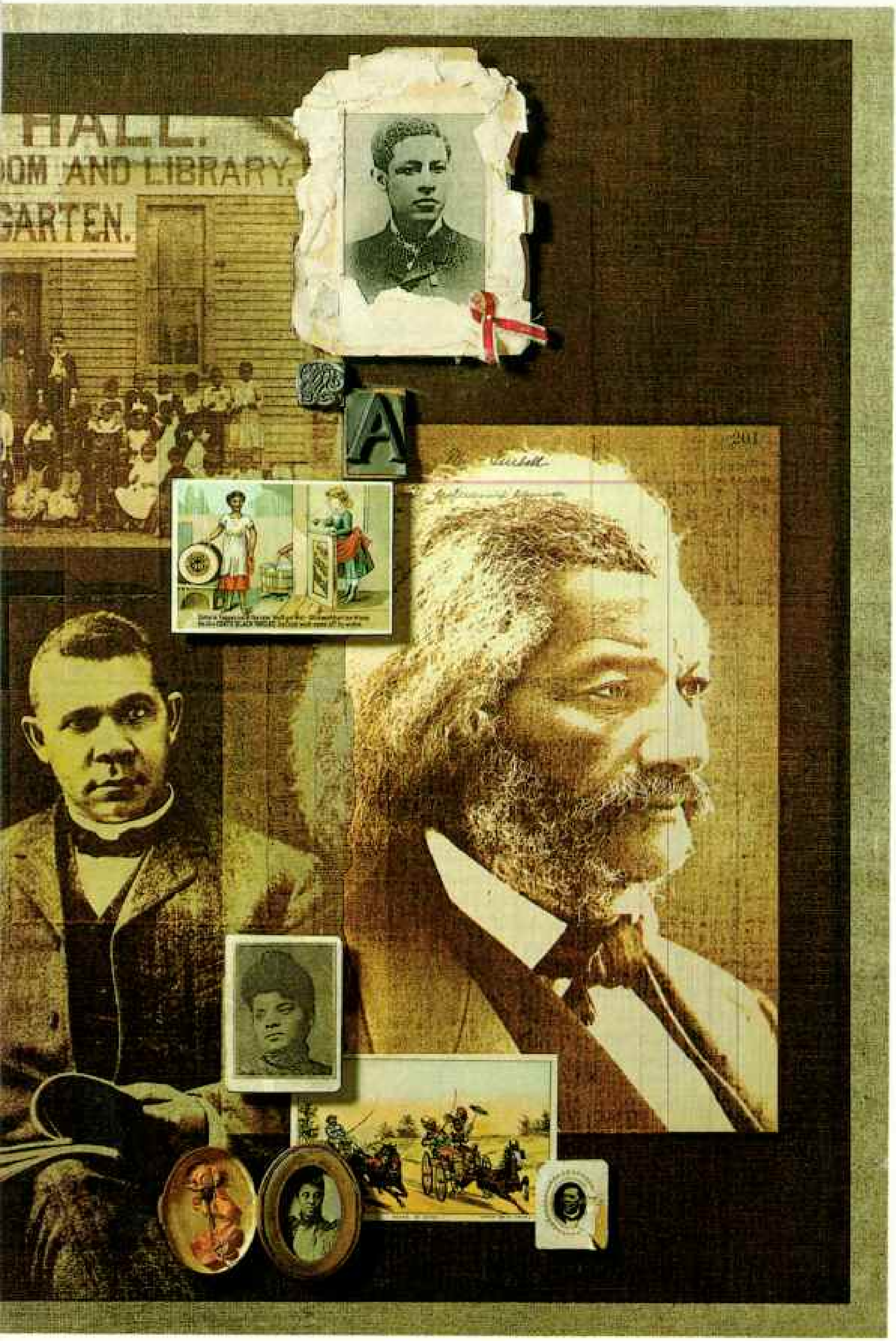
Municipal governments were often corrupt and city services lacking. Immigrants, many of whom landed at Ellis Island after 1892 (right center), were herded into crowded tenements, such as this back alley called Bandits' Roost off Mulberry Street (upper left) in New York's lower East Side. A Jew living in a Ludlow Street coal cellar celebrates Sabbath Eve (lower right). Reporter Jacob A. Riis (bottom), himself once a struggling immigrant from Denmark, employed the camera to record the "foul alleys and fouler tenements" he wrote about for the New York *Tribune* and his 1890 book, *How the Other Half Lives*.

Exhilarated by emancipation, Afro-Americans began to play a larger role in U. S. life in the 1870s and '80s. George Washington Williams (left), Civil War veteran and Ohio legislator, published his acclaimed *History of the Negro Race in America* in 1883. In the same year Jan Matzeliger of Lynn, Massachusetts (top right), patented his shoe-lasting machine, which revolutionized shoe manufacture. A decade later Philadelphian Mrs. Nathan Mossell (in locket) published *The Work of the Afro-American Woman*, focusing on fellow journalists.

But reaction set in. Southern states disenfranchised black voters. Mobs had lynched hundreds of blacks by 1894, a sorry chronicle compiled by Ida B. Wells (lower center). Insulting stereotypes appeared in trade cards, newspapers, and sheet music ("black" was then a slur).

The great abolitionist Frederick Douglass (right), U. S. Minister to Haiti in 1889, continually spoke for full equality, while Booker T. Washington (center), founder of Tuskegee Institute in Alabama, counseled accommodation.

Fleeing Southern prejudice, a group of Tennesseans settled in Topeka, Kansas, where in 1893 they founded the city's first black kindergarten (upper left).


HALL.
OOM AND LIBRARY.
GARTEN.
A

Now a movement for industrial laboratories force-feeding new discoveries came to the fore. In Pittsburgh, Westinghouse backed the strange Serbian wizard, Tesla, who, dressed in white tie and tails and thick cork-soled shoes, liked to make himself glow in the dark while thousands of volts of electricity from his inventions played through or around him as he lit up fluorescent swords in the darkness or vacuum bulbs that produced a blinding incandescence. So grandiose was Tesla that he dreamed of manipulating the earth's magnetic fields so that the very globe would transmit his alternating current.

Meanwhile, in Ohio, Albert A. Michelson and Edward W. Morley, in a world-changing experiment, demonstrated that the speed of light was constant as the earth moved through space. They thus posed a question that Albert Einstein was to answer a few decades later with his theory of relativity. Reality would never be the same again.

In New Jersey, Edison and his co-workers with more modest aims turned out invention after invention. During the 1880s and '90s applications to the U. S. Patent Office took a quantum leap, registering such practical aids as the Burroughs adding machine. Alexander Graham Bell established an industrial invention-oriented laboratory in Washington, D. C., while in Rochester, New York, George Eastman introduced the roll film, mass-produced Kodak as early as 1888. Now, thanks to American genius, everyone could become a recorder of his own history and perhaps even an artist in the "realist" mode. Eastman made even creativity simple and unleashed upon the world a never-ending flood of family albums of "what we did on our vacation" pictures. Today, of course, they form a treasure of otherwise lost social history and views of land and cityscapes now greatly changed.

THE MODELS of organization exemplified by industrial laboratories and big business influenced each layer of society. Every year new professional organizations appeared: The American Economic Association, American Historical Association, American Chemical Society—and so it went. In 1888 alone the following associations were formed: the Geological Society of America, American Society of Church Histories, American Folklore Society, and American Mathematical Society. Still another association of the 1880s was the Amateur Athletic Union, which paradoxically—like its later rival, the National Collegiate Athletic Association—professionalized amateurism.

Even machine politics had become organized and much more subtle since the days of Boss Tweed and the "plug-uglies" in New York City. In the election of 1888, Republican political bosses counseled presidential candidate Benjamin Harrison to stay home and conduct a "front porch" campaign. Although Harrison managed to speak to more than 300,000 people from his front porch in Indianapolis, party strategists with some difficulty pulled the strings that aligned the party organization behind the colorless Harrison and pulled him to an electoral, though not a popular, vote victory.

IN THAT VERY ELECTION YEAR the British political analyst James Bryce, later a viscount, was finishing perhaps the most complete and perceptive analysis of American political life ever produced, *The American Commonwealth*. Unlike so many foreign analysts, Bryce succeeded in understanding the nature of American politics without condescending to the people of the United States. His observations were subtle—including acute descriptions of "rings and bosses," politics as a machine, the spoils system, corruption, the nominating convention, reform efforts, the

manipulation of public opinion, and the ongoing presidential campaign.

In describing the general character of Americans, Bryce saw them as good-natured ("Even a mob lynching a horse thief in the West . . . will give him a good drink of whiskey before he is strung up"), indulgent, humorous, full of faith in the right judgment of "the People," relatively well educated even if superficially so, moral, religious, busy—not contemplative—but above all a people of paradox who are "changeful" but at the same time "conservative."

When Americans move, according to Bryce, they hold on to their most cherished values and carry them with them, like the turtle his shell and the English their manners, only to establish them as a kind of order in a new physical and social environment. No political analyst before or since has understood the American people quite so well as James Bryce. *The American Commonwealth* should be a cornerstone in the "cultural literacy" of Americans even today. Bryce's opinions seem dated only in his neglect of the black population, one generation removed from slavery. But in 1888 Booker T. Washington was still building the seven-year-old normal school that would become Tuskegee Institute. W.E.B. Du Bois was then just graduating from Fisk University. And nervous, post-Reconstruction whites were proposing the Jim Crow laws they would enact during the next decade. Black social participation was a long struggle away.

Political, economic, and social issues in the United States were no less complex in the late 19th century than today's ethnic, gender, and special-interest fragmentation. Throughout the 1880s, women's causes were in full swing. While men admired the voluptuous stage star Lillian Russell, women were rallying to Julia Ward Howe, May Sewall, Lucy Stone, and Susan B. Anthony in a march toward suffrage and political equality. In 1888 the latter helped plan a congress on woman's rights, chaired by reformer Frances Willard, that met in Washington, D. C., where the government could hardly ignore it.

But the movements' objectives went far beyond merely getting the vote; they included many of the causes pressed by women today: labor unions, temperance crusades, attacks on double standards of morality, educational equality at all levels, equal employment and career practices, and child-care centers. And it was a woman who founded a new religious denomination—mystical, mercurial Mary Baker Eddy with her delineation of Christian Science.

Thus the era, belying a calm surface that mirrored little beyond the domestic ambitions of Louisa May Alcott's *Little Women*, was astir with profound turning points in the campaign to gain full rights and more fulfilling life roles.

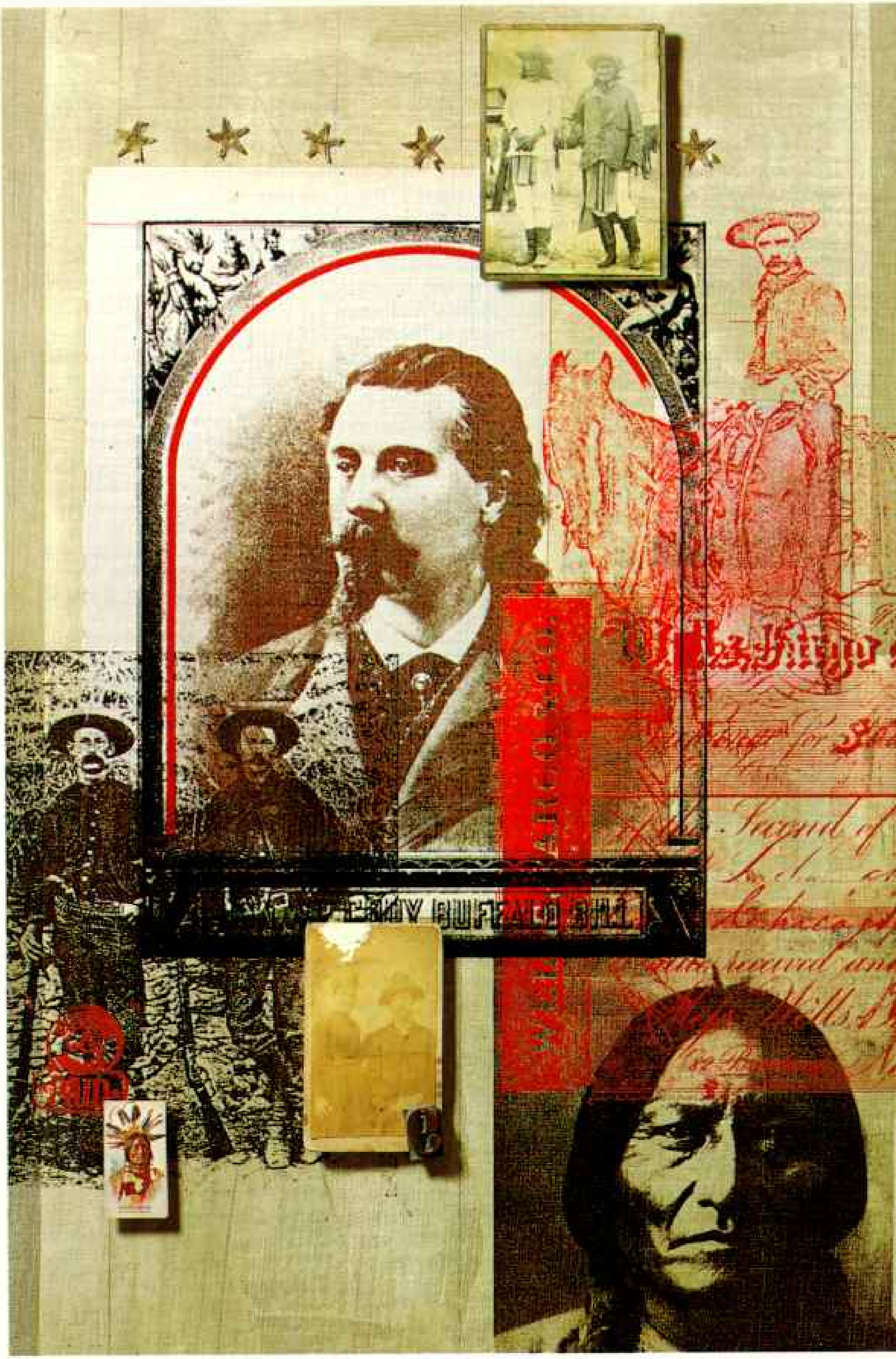
In addition, great waves of immigrants were pouring into the country, primarily from southern and eastern Europe, at the rate of 500,000 per year. Because of language barriers and kinship, these new immigrants gathered together in the fast-growing major cities of America. New York and Boston and other East Coast cities *(Continued on page 26)*

OVERLEAF:

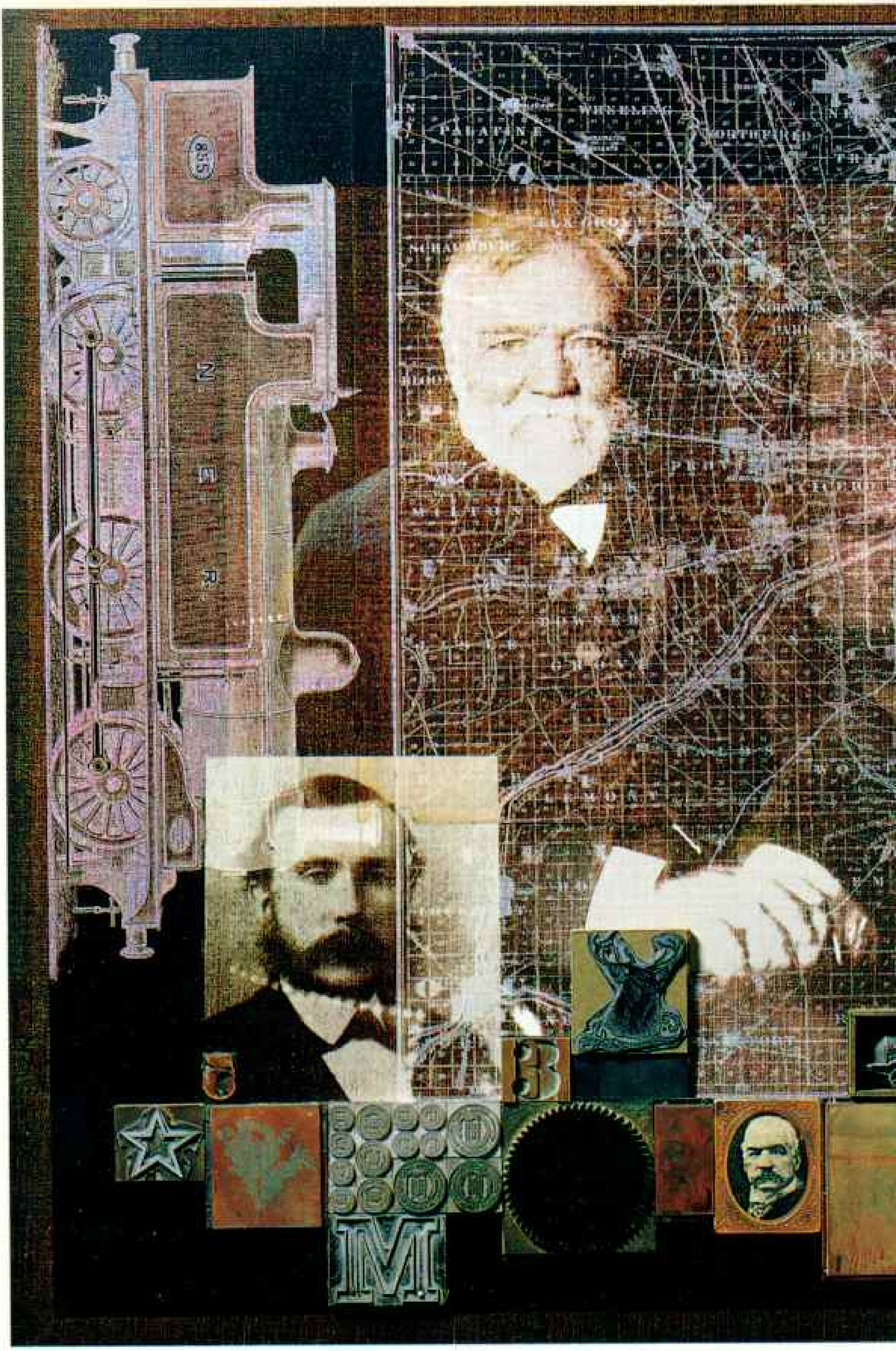
The Old West was no more. By 1888 railroads had replaced wagon trains, surveyors were marking farmland, Wells Fargo—no longer a stage line with armed outriders (center left)—was completing its transcontinental express service, and the feared Apache Geronimo (top left, at right) was on the reservation. The West moved into the realm of popular nostalgia.

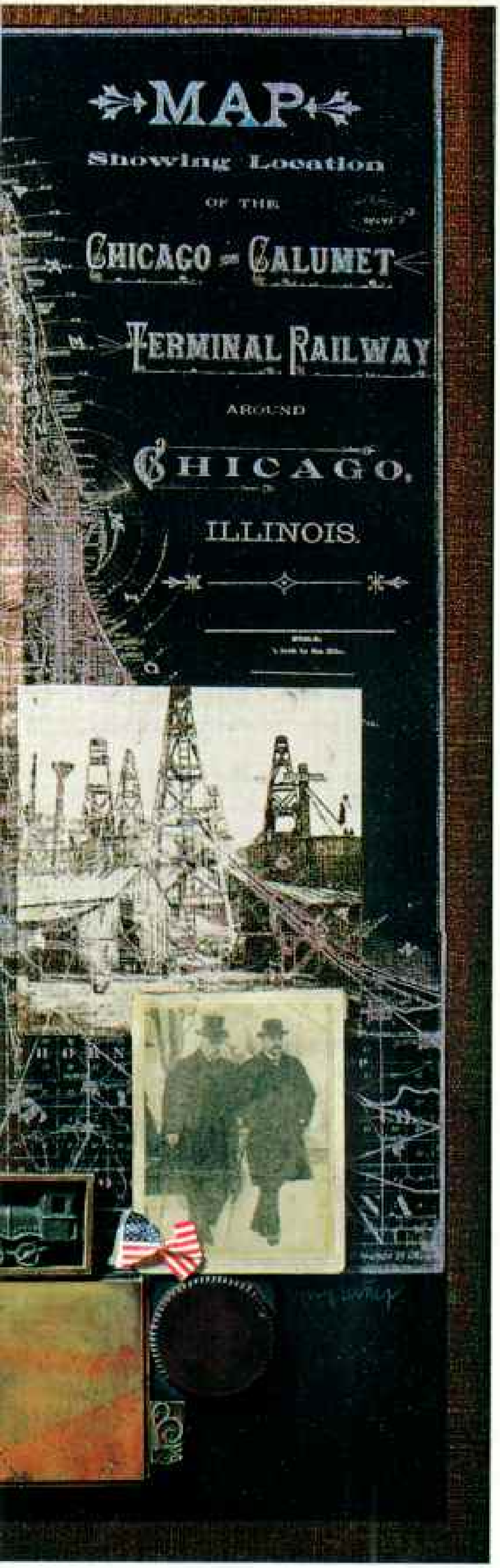
In 1888 Theodore Roosevelt (far right) published *Ranch Life and the Hunting Trail*, recounting his experiences during his two years in Dakota Territory. In the book he expressed his sorrow at the passing of "perhaps the pleasantest, healthiest, and most exciting phase of American existence."

Goateed William F. Cody spread Western images around the world with his Buffalo Bill's Wild West Show. Sitting Bull (bottom center) appeared during the 1885 season. In 1887 Cody took the troop to Britain, where cowboys, Indians, and sharpshooter Annie Oakley (behind flowers) performed at Queen Victoria's golden jubilee.


BUFFALO BILL


293





"The capitalist class. . . . includes the best executive ability of the country," Britain's James Bryce wrote of Americans in 1888.

Andrew Carnegie (center) harnessed the steel industry from his Pittsburgh headquarters, and by 1889 U. S. production had surpassed Great Britain's. After oil was first pumped in Pennsylvania, John D. Rockefeller (lower left) started buying refineries. Eliminating competitors, his Standard Oil Company monopolized the American petroleum industry by the 1880s.

Financier J. P. Morgan (bottom center) provided money and expertise for ventures from railroads to U. S. Steel, the largest corporation in the world by 1901. Railroads burgeoned in the 1880s, and lines radiating from Chicago helped make Illinois the state with the most miles of track.

Labeled robber barons, many entrepreneurs—following Carnegie's lead—later donated millions to medical research, education, and museums. Still, a small coterie owned more than 50 percent of the nation's wealth, while the average annual wage was $450.

naturally ballooned in population, but so did places farther west like Chicago, St. Louis, Milwaukee, and Omaha. And from these expanding cities people spilled out over the surrounding country, especially the Great Plains and, drawn by sudden mineral booms, to the Far West beyond, or into the Rocky Mountains at such unlikely places as Leadville, Bannack, Virginia City, and Deadwood, in the Black Hills of Dakota Territory. In terms of population the great West was an "oasis culture" dominated by towns, cities, the railroads, and the large mining, timber, and cattle interests.

BY THE LATE 1880S the Indian wars were nearly over, and the buffalo were fast disappearing—in fact disappearing so rapidly that people like George Bird Grinnell, Theodore Roosevelt, and Buffalo Bill himself began an effort to conserve and protect the endangered species. T. R. and others formed the Boone and Crockett Club in 1888 to do just that and in the process protect sportsmen hunters against the commercial predator who hunted simply for hides and fur.

As for the Native Americans, the Dawes General Allotment Act of 1887 seemed to solve their problems in one stroke of the pen. Some Indians were now made U. S. citizens, eligible for homestead farms and other citizen privileges. Instead of standing out against the white population, thanks to a whole series of new Indian schools they were expected to just melt into the total population. The fact that the Native American seemed stubbornly disinclined to do so did not unduly alarm most Americans. After the massacre at Wounded Knee in December of 1890, the U. S. Army considered the Indian wars over; the noble red man became a national hero appearing on coins and in Buffalo Bill's Wild West Show.

Beginning in 1883 with his first Wild West Show, Buffalo Bill became a worldwide hero, an increasing flood of dime novels touting his fictional exploits. He also created other heroes such as the cowboy, the patriotic chiefs—Sitting Bull, Rain-in-the-Face, and especially Chief Gall, who had helped doom Gen. George Custer's reckless attack on the Little Bighorn that hot June day in 1876. "Little Sure Shot" Annie Oakley stood for all the heroic frontier women in Bill's show, which played to at least a million people on both sides of the Atlantic. But Buffalo Bill did the most to make the cowboy perhaps the world's most recognized hero figure.

IN 1888 young Theodore Roosevelt helped along what Buffalo Bill had started. He published a series of articles about his own experiences in the West in the prestigious *Century Magazine*. The articles were made into a book, dramatizing T. R. as a cowboy but also providing an analysis of various kinds of typical Westerners from "old-style" French-Canadian trappers to modern cowboys, small-town dudes, and gunfighters.

Roosevelt himself had no use for gunfighters; instead he was an admirer of the real cowboy, who was, in T. R.'s eyes, "Brave, hospitable, hardy, and adventurous . . . the grim pioneer of our race. . . ."

Ranch Life and the Hunting Trail was a thorough description of Western life—a style of living that inevitably was passing away. On this point Roosevelt set the tone for those who came after him and wrote about or painted the West—one of nostalgia.

He predicted: "In its present form stock-raising on the plains is doomed, and can hardly outlast the century. The great free ranches, with their barbarous, picturesque and curiously fascinating surroundings, mark a primitive

stage of existence . . . and we who have felt the charm . . . will not only regret its passing for our own sakes, but must also feel real sorrow that those who come after us are not to see . . . what is perhaps the pleasantest, healthiest, and most exciting phase of American existence."

Roosevelt's book was wondrously illustrated by a young man destined to leave behind many of our most vivid visual images of the West—Frederic Remington. Remington, once a burly Yale football player, became the West's most famous chronicler in 2,700 paintings and drawings, 25 bronzes, five collections of short stories, two novels, and a play, plus countless magazine articles and interviews.

Remington, like Roosevelt, saw himself as the preserver of the memory of the West and the vigorous years of American life. That world really came to an end in the "great die-up" in the winter of 1886-87, when terrible blizzards decimated all the great cattle herds and set cowboys to looking for another line of work.

MEANWHILE IN THE WEST, railroading, mining, town building, speculative farming, and even ranching became big business. American youth, like Mark Twain's Huckleberry Finn, reckoned they had to "light out for the Territory" in the 1880s. In the period between 1870 and 1890 the population west of the Mississippi grew from 6,877,000 to 16,776,000. The population in Nebraska grew ninefold, and in the bleak Dakotas, 40-fold.

Down in Waco, Texas, in 1887 one C. W. Macune organized the farmers into what was called the Farmers' Alliance but which soon came to be known as the Populist Party, whose most famous presidential candidate was William Jennings Bryan.

Populism set out to be more than a farm-and-ranch interest group. It was a protest against big business, the far-off bankers, the railroads, and the loss of freedom caused by the West's increasing dependence on the vicissitudes of world markets. The Populists resented the West's being, as it long remained, a colony of the eastern cities. But because they failed to make alliances with the other large groups of disenchanted people—the laborers, factory workers, and immigrants of the cities of the East—they failed as a political party.

The big cities of the East and Midwest had engendered social forces that became the new frontiers, as the great historian of the frontier Frederick Jackson Turner pointed out in his presidential lecture to the American Historical Association in 1910. This lecture, alas, has remained far less well known than his famous lecture of 1893 on "The Significance of the Frontier in American History."

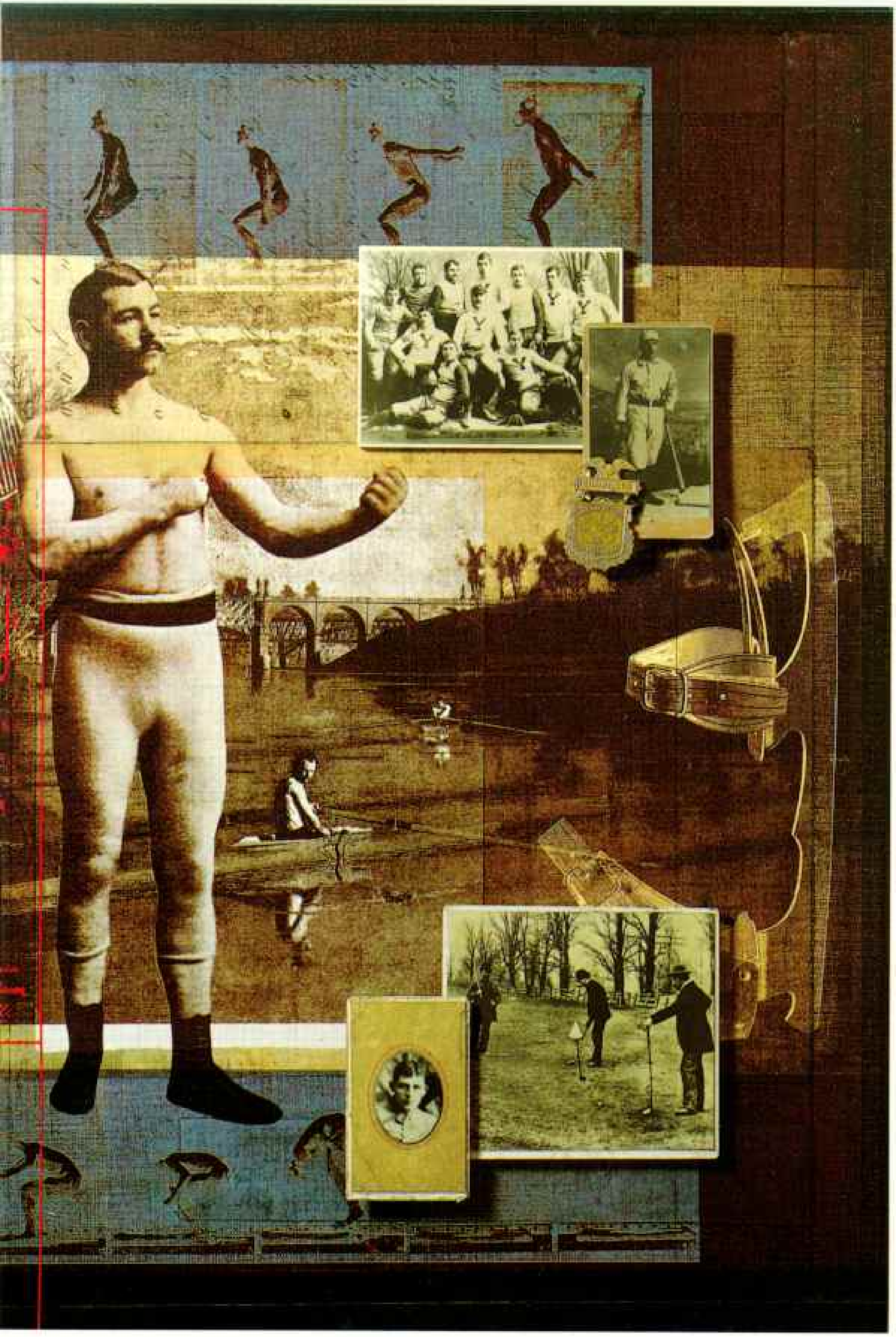
In the 1880s the Knights of Labor, America's first large union, reached the height of its power, but before the decade was out, the American Federation of Labor (AFL) began to replace it. All during the decade one strike after another broke out. Even the cowboys down in Texas went on strike. Big labor was just beginning to catch up with big business. It received a setback in the Chicago Haymarket bombing in 1886, when seven policemen were killed. The blame for the act was thrust upon immigrant anarchists and labor leaders, impeding union growth for decades.

As huge new steel-frame skyscrapers began to rise in agitated Chicago and then New York and other major cities, concerned citizens turned their attention to the new urban frontier. The reformer-photographer Jacob Riis toured Corlears Hook, Hell's Kitchen, Five Points, and other ghettos and rabbit-warren slums. Soon he authored *How the Other Half Lives*, a different kind of 1890s best-seller. Journalist Riis was armed with a camera and

America's only national religion, as sports has been dubbed, was winning converts by the score in the 1880s. The "safety" bicycle with wheels of the same size helped make cycling the most popular outdoor sport. Football was for ruffians until Yale's coach Walter Camp helped devise lasting rules. His championship team of 1888 (group portrait) included end Amos Alonzo Stagg (bottom), who would coach for 71 years. Baseball's ball and strike hand signals were devised to help William "Dummy" Hoy (upper right), who was deaf.

Emigrating Scots and Americans returning from holidays in Scotland popularized golf. Though judged as "ridiculous folly" by some, the game spread so quickly that both men's and women's amateur championship tournaments were held in the U. S. in 1895.

John L. Sullivan demonstrated the art of pugilism with theatrical groups and offered first $100, then $500, to any opponent who lasted four rounds. Sullivan went 75 rounds before besting Jake Kilrain in the nation's last bare-knuckle bout in 1889 in Richburg, Mississippi.



flash-powder apparatus as he penetrated the filthy tenements and back alleys of the nation's largest city. His beat was "the Bend" in Mulberry Street, which he called the "foul core of New York's slums."

He described women carrying loads of decaying vegetables fallen from the market wagons, stands selling slimy fish, and "big, awkward sausages" hanging in the grocer's doorway. "What they are," Riis wrote, "I never had the courage to ask." Perhaps they were all that was left of a "dead goat . . . lying on Pell Street . . . [that] was mysteriously missing by the time the offal-cart came by to take it away."

Below 14th Street there were by actual count 111 Protestant churches and 4,065 "stale-beer dives." Police raided these saloons like soldiers crossing an enemy frontier. Riis often went along "as a kind of war correspondent" with the constables, who hit places "crawling with bugs" where "grouped about a beer keg . . . a foul and ragged host of men and women on boxes, benches, and stools" passed tomato cans of stale brew from hand to hand. Riis's work, together with a mounting number of newspaper and magazine articles, helped to call attention to these ghastly urban horrors.

But long before Riis started his exposés, Charles Loring Brace had begun establishing his Newsboys' Lodging Houses for orphaned and delinquent children. It was these waifs, these "street Arabs," that Horatio Alger used as models for his wildly unrealistic rags-to-riches stories that were actually palliatives, or pacifiers, to the middle class, since the poor couldn't read and the rich didn't care to be reminded of "how the other half lived." Brace, however, was one of the great reformers of the era. Besides the Newsboys' Lodging Houses, he formed the Children's Aid Society, and through it placed more than 100,000 orphaned children in homes in rural America. It was a migration as large as the 1849 gold rush to California.

In Chicago's congested immigrant section Jane Addams in 1889 opened Hull House, the famous settlement house that aided working mothers and poor families. Hull House, essentially a bastion against the hostilities of the urban world, expanded its activities until it became an educational facility as well. It was copied all over the country, as Americans in the 1880s and early '90s turned inward to the urban frontier that has not yet been conquered.

IN MARCH OF 1888 New York City itself was paralyzed by a great blizzard that generated drifts as high as 20 feet. Hundreds were killed, including the Gilded Age political boss Roscoe Conkling, who eventually died of overexertion as a result of his strenuous two-mile walk from Wall Street to Union Square through snowdrifts as deep as his armpits. Eastern papers, especially *Harper's Weekly*, dramatized the New York storm in a way that they never approached the "great die-up" in the West the year before.

According to *Harper's*, as the snow pelted down in gale-force winds, the city suddenly became snowed under. Most of the vehicular and pedestrian traffic stopped. "The city wore a strange aspect," *Harper's* reported. "In such a great thoroughfare as the Bowery there was almost no life and movement. . . . There was no roar and rattle of trains overhead, no clatter of hoofs and jingle of bells in the street below. The air was strangely darkened . . . as it is at the time of an eclipse. . . . The drifts were littered with . . . barber poles, cigar-store Indians, and other fallen signs . . . . [the] signs that still swung, snapped and creaked in concert with the whistle and swish of the 60-mile wind and its icy freight. A stranded horse-car lifted its bulk here and there among the other wreckage . . . abandoned vehicles

. . . and a huge truck piled up with eighty frozen carcasses of hogs."

The great cable-hung Brooklyn Bridge, completed in 1883, held firm, though a daredevil pedestrian trying to cross it nearly perished of exhaustion before he was rescued by policemen. In Brooklyn the wind blew roofs off houses, and in Manhattan panicked people were stranded on the elevated railways. In one case they made their escape from the cars on a ladder erected by an enterprising citizen who charged 50 cents a head for the frightened passengers to descend. Though New York City had come to an eerie halt, the spirit of entrepreneurship among rank-and-file citizens scarcely missed a beat.

The federal government in those days did not provide disaster relief, but it was not entirely oblivious to the massive social dislocations caused by excessive entrepreneurship and especially big business. In 1887 Congress passed the Interstate Commerce Act and in 1890 the Sherman Anti-Trust Act. Industrial lobbyists and small-time ward bosses now had the federal government to contend with. They did not have to worry, however, because the U. S. Supreme Court declared that corporations and trusts had the status of fictitious persons who could not be regulated without "due process of law." Enforcement of reform acts became difficult if not impossible.

WHILE THE NEW CLASS of industrial managers and emergent labor leaders, as well as the courts and the capitalists, wrestled with the "real" problems of everyday life in a rapidly growing industrial society, people found time for the arts as well. For at least two decades, the 1870s and '80s, artists Albert Bierstadt and Thomas Moran reached great heights of popularity with their grand landscapes of the American West. Moran's brilliant watercolors of Yellowstone helped congressmen decide to set the region aside as the world's first national wilderness park. His watercolors of the scenic West were made into beautiful chromolithographs by the Louis Prang Company and distributed by the thousands from 1876 on. With this new multi-color printing process that brought copies of works of art to the public at relatively cheap prices, America became what E. L. Godkin, editor of the *Nation*, called, disdainfully, "a chromo-civilization."

Color suddenly was everywhere—in the architecture of Frank Furness of Philadelphia, whose Pennsylvania Academy of Fine Arts is a masterpiece, in the shingled cottage-style houses of David Russell Brown and Ferdinand von Beren with their brightly colored stones and sweeping storybook roofs, in the exploding stick-style extravaganzas that housed people from industrial towns like New Haven and Bridgeport, Connecticut, to the picturesque hills above San Francisco Bay. These spectacular houses were "eclectic"—a pastiche of styles in which the jigsaw had run wild and all the newly developed paint colors were employed with seemingly reckless abandon.

One heard a great deal about the Fifth Avenue mansions of New York, like that of Cornelius Vanderbilt II, which was *(Continued on page 36)*

OVERLEAF:

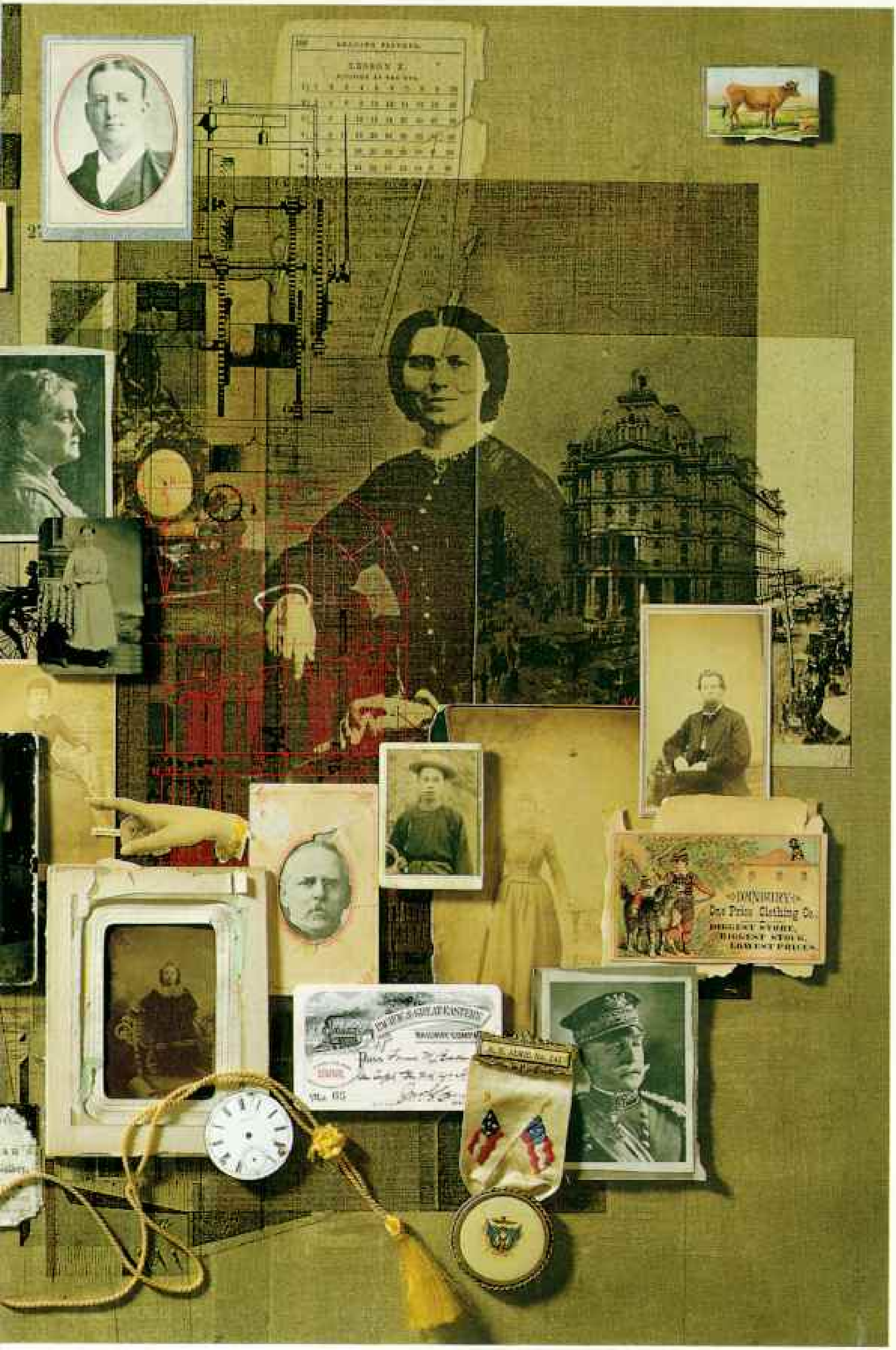
Like the contents of a catch-all drawer in great-grandmother's house, fragments of an era help capture the time when the National Geographic Society was born.

Some faces are unknown; others bear famous names: Mark Twain (lower left), whose books included his Mississippi riverboat experiences, and bearded John Wesley Powell (left), a Society founder and explorer of the Grand Canyon. Gen. Nelson A. Miles (lower right) directed Army troops that put down the last Sioux uprising and quelled the Pullman strike in Chicago.

Women found role models in Clara Barton (upper right), first president of the American Red Cross, Jane Addams (profile at center), founder of Chicago's Hull House for the poor, and journalist Nellie Bly.

Photographs of animals and humans in motion by Eadweard Muybridge, published in the 1880s, helped Frederic Remington (top center) paint Western scenes. Pool-playing firemen in Johnstown recall the disastrous Pennsylvania flood of 1889.

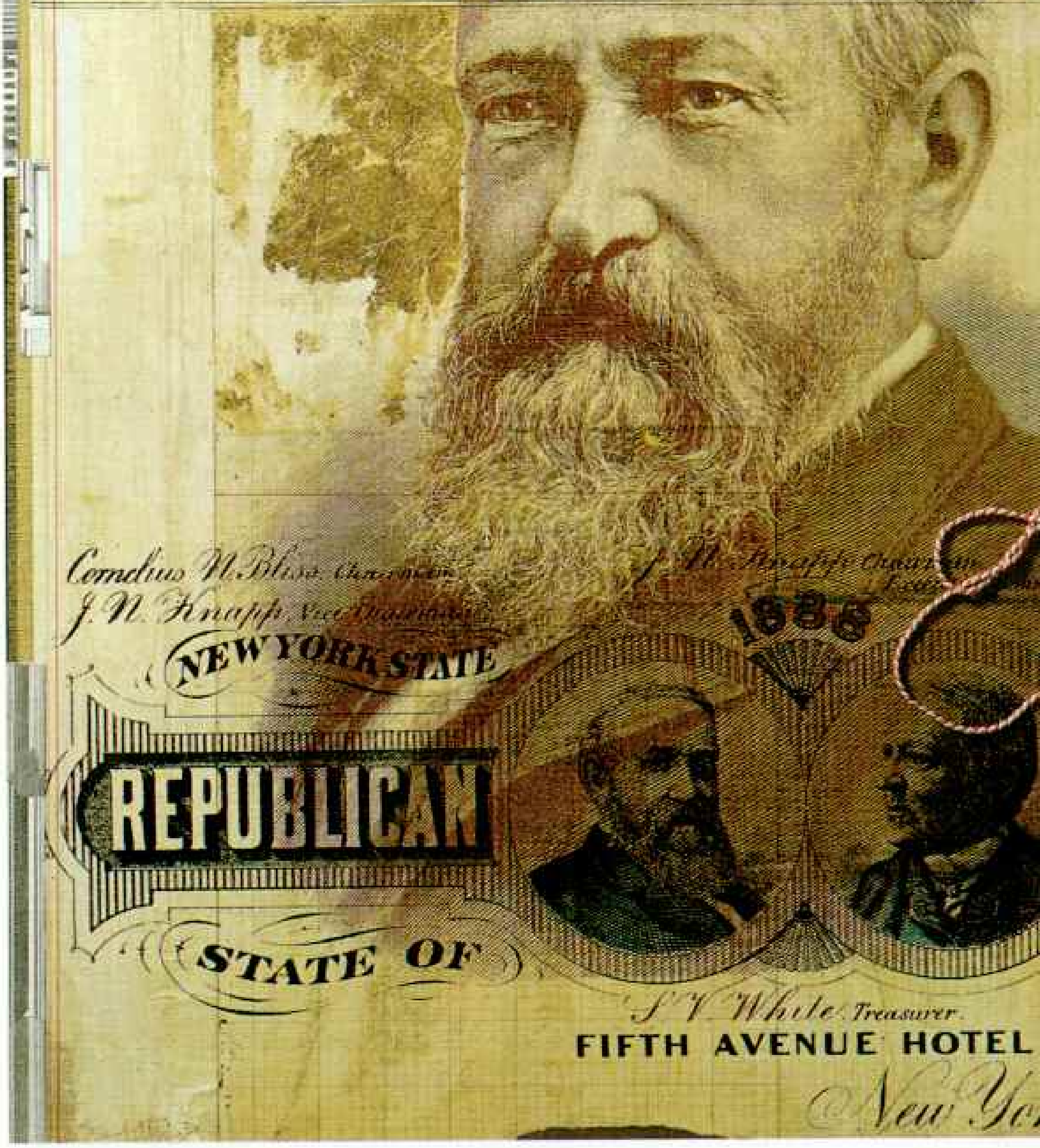

TY-THREE YEARS IN MARKET
DIXON'S
CARBURET OF IRON
Stoves, Grates, Ranges.
Jos. Dixon Crucible Co., Jersey City, N. J.
PLEASANT TO
Chill Cure.
Cough Cure
Corn Cure
C. MENDENHALL & CO., Evansville, Ind.


«DAVIDSON'S»
Best Price Clothing Co.
BIGGEST STORE,
BIGGEST STOCK,
LOWEST PRICE.

HARPER'S W

A JOURNAL OF CIVILIZAT

Vol. XXXII.—No. 1643. NEW YORK, SATURDAY, JUNE 30, 188



An election year, 1888 saw all the hoopla of a presidential campaign and lived up to James Bryce's observation: "In American elections everything is held to depend on organization."

The Democratic Convention selected incumbent Grover Cleveland by acclamation, while the Republicans wrangled through eight ballots before choosing Benjamin Harrison. The rotund Cleveland, running with Allen G. Thurman, made an issue of reducing the protective tariff, thereby alienating big business. The bearded Harrison and his running mate, Levi P. Morton, sided with the magnates.

Harrison's campaign committee raised money, put out campaign literature, and kept him at home in Indianapolis while the organization did its work. Harrison's friend Lew Wallace—author of *Ben Hur*—was brought in to pen a biography. The candidate himself gave more than 80 extemporaneous speeches from his front porch and a nearby park to nearly 300,000 people. Although Cleveland won the popular vote by 90,000 votes, Harrison was the victor in the electoral college. Because of the close election, the era has been called the "period of no decision."

pseudo-Renaissance in style. This impressive structure was more than matched, however, by another Renaissance-revival building constructed of pink granite—the Texas State Capitol—which opened in 1888.

Built by Scottish stonemasons and 500 convicts, who quarried the granite 50 miles away and loaded it on a specially constructed narrow-gauge railroad, the Texas State Capitol was described as the seventh largest building in the world, a few feet higher than the U. S. Capitol in Washington, D. C. Construction costs were borne by the donation of three million acres of state land in west Texas to a consortium that became the massive XIT (Ten in Texas) Ranch. The opening ceremony at the capitol was marked by an address given by Sam Houston's youngest son, Temple Houston: "Here glitters a structure that shall stand as a sentinel of eternity, to gaze upon passing ages. . . ."

ALL OVER THE COUNTRY the City Beautiful movement was gaining momentum. It involved the construction of large city parks, triumphal Roman arches, and impressive neoclassic buildings ranging from banks to city halls and from state capitols to town jails. This whole late 19th-century period has, and without irony, been dubbed the American Renaissance, in part because of the dominant architectural style of its mansions and public buildings.

In Chicago something else was stirring. William Le Baron Jenney's Home Insurance Building, completed in 1885, was the prototype of a structure that would become known as a skyscraper. In 1889 the steel-beamed Leiter Building and the first 16-story, steel-framed office building, the Manhattan Building, pointed the way to a rising future. Two of Jenney's young draftsmen, Daniel H. Burnham and Louis Sullivan, would carry the Chicago School and its skyscrapers into its fullest flower.

John Singer Sargent's aristocratic portraits went well with the Renaissance concept, as did the work of a hundred lesser painters in the same blue-blood vein. But Americans were also enthralled by the colorful narrative works of Winslow Homer, whether in his favorite medium, watercolors, or in oils. Homer told stories with his paintings—of men lost on the Grand Banks or menaced by sharks in the Gulf Stream off the Bahamas, or of fashionable grand ladies taking the air at Long Branch, New Jersey, or of equally dignified but common ladies heading to work at "the morning bell."

Some American artists in the period were mavericks, but masters all the same. Thomas Eakins dedicated himself to realism, even to the point of using nude models of both sexes in his classes at the Pennsylvania Academy of Fine Arts. At other times he had students dissecting cadavers of horses (and some said humans) so that they might get the musculature just right.

On the other hand, James McNeill Whistler brought exotic orientalism and Far Eastern art techniques to his murky, screen-like, dramatic pictures. Also, in 1886 the American public was introduced to the new highly colorful work of the French Impressionists in a mammoth exhibition in New York City got up by the Parisian dealer Durand-Ruel. His show, entitled "Works in Oil and Pastel by the Impressionists of Paris," numbered 300 pieces: works by Monet, Pissarro, Renoir, Degas, Manet, Sisley, Seurat, Morisot, and even the American expatriate Mary Cassatt, who had also flirted with the Japanese style. The sensational show signaled the American, and perhaps the Western world's, desire for color, light, variety, and grandeur as a kind of fantasy counterpart to the grimness of recent wars and the factory and industrial world.

In achieving this, the French vied with Americans in applying science and engineering to art. And they punctuated the modern era with Gustave Eiffel's majestic tower—itself a work of a new art that, like the Brooklyn Bridge, became an ultimate symbol of beauty for a new machine age, one that triggered the first phases of a movement that began to be called modernism, just as the 1890s, a whole new era, dawned.

THUS WHEN BASEBALL AND FOOTBALL in America rose to the forefront during the period, and Walter Camp's first All-America team was announced in 1889, people seemed to look ahead toward the Gay Nineties. After all, 200,000 "safety" bicycles, with wheels of equal size, were produced in 1889, John L. Sullivan defeated Jake Kilrain in the 75th round of the last barbaric bare-knuckle championship fight, the U. S. Lawn Tennis Association was formed, the Newport Casino was completed, and for the first time in history the world heard a public rendition by actor DeWolf Hopper of "Casey at the Bat" at Wallack's Theatre in New York City. It was an event rivaled only by the world's first beauty contest held at Spa, Belgium, and the terrifying activities of London's notorious Jack the Ripper, who managed to brutally murder six women in one year, thus offering a real-life counterpart to Arthur Conan Doyle's newly created Sherlock Holmes stories. And, ironically, all these events seem to have overshadowed the great flood of the Yellow River in China, in which some 900,000 people perished in the greatest natural disaster in history.

In 1889 Indian tribes in the Far West, following the words of Wovoka, a Ute prophet, began the Ghost Dance ceremony. Tragic victims themselves of civilization's juggernaut, the red men sought to dance away the white men, dance back their murdered friends and relatives, and at the very least dance back the buffalo. They wore special magical shirts that were said to be bulletproof. This proved not to be the case for the Sioux at Wounded Knee Creek in 1890. The whites stayed, the ancestors remained ghosts, and buffalo roamed in newly built zoos, a craze for which was sweeping the country.

NELLIE BLY, the famous female reporter for the New York *World*, missed much of this. At the time, she was busy beating Jules Verne's record fictional journey by a fictional Phileas Fogg, Esquire, "around the world in eighty days." In one of the world's outstanding pseudo events, she *did* beat it, making the global tour in just 72 days, 6 hours, 11 minutes, and 14 seconds.

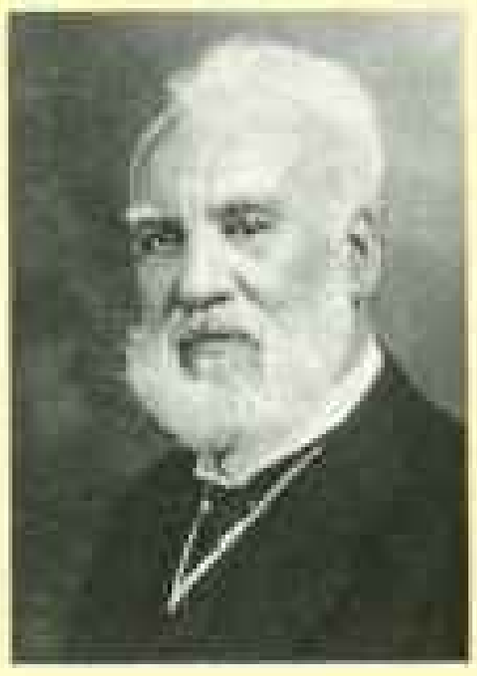
The 1880s had been an incredible decade for sensational feats, from that of Nellie Bly to those of Henry Morton Stanley, spectacular scientific discoveries, a time of world-shaking inventions, Indian wars, phenomenal urban growth, massive immigration by whole new cultures with new ideas and values, and a time of almost magical change in the whole countryside—change that would have dazzled Edward Bellamy's Julian West and the know-it-all Dr. Leete, as well as Mark Twain's Connecticut Yankee, who in Twain's novel of 1889 had brought his modern technical knowledge back to King Arthur's court with disastrous results.

Curiously, historians, as well as other people at the time, seemed to have realized or sensed that the 1880s marked the end of one phase of American life and the beginning of another—leaving us only to ask, as the British poet Matthew Arnold did in his book of 1888, "Tell me if your civilization is *interesting*."

1988

The Trustees Who Have Carried On the Tradition

By MELVIN M. PAYNE
CHAIRMAN OF THE BOARD EMERITUS
NATIONAL GEOGRAPHIC SOCIETY



FOR MORE than half of an eventful century, it has been my extraordinary fortune to serve our 100-year-old Society. In my 55 years of service I have known more than half of the 155 distinguished men and women who have sat on our Board of Trustees—as diverse and talented a group as any American organization could boast: Two U. S. Presidents (Taft and Coolidge), one Vice President (Dawes), four Chief Justices (again Taft, as well as Hughes, Warren, and Burger), scientists, men and women of arts and letters, business executives, educators, philanthropists, inventors, statesmen.

Among the most versatile trustees was Dr. Lyman J. Briggs, longtime director of the National Bureau of Standards. He was famous in scientific circles for work in physics that prepared the way for the atomic age, but once Dr. Briggs made headlines on the sports pages. "A distinguished physicist told baseball pitchers yesterday how to throw curves," read one news story. "Spin that ball, he said."

Dr. Briggs tested the baseball's trajectory at Washington's old Griffith Stadium, figured the most effective speed (about 100 feet per second, or 68 miles an hour) and the widest possible curve (about 17 inches), and thus took some mystery out of our national sport.

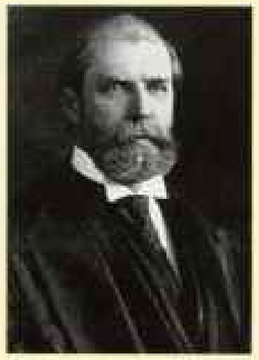
Many another national tradition has been shaped by our trustees. For example, two board members and the wife of a third helped bring Japanese cherry trees to Washington. One was David Fairchild, a botanist and plant explorer. He roamed the world for the U. S. Department of Agriculture and was responsible for the introduction of more than 80,000 kinds of useful plants. He personally collected a variety of sorghum from the Sudan, dates from the Persian Gulf, and tung tree seeds from China. In Japan Dr. Fairchild was delighted by the flowering cherry trees and brought several specimens back to his Maryland estate.

Dr. Fairchild had long known Eliza R. Scidmore, an "authoress of clever books on Japan," as a contemporary described her. The remarkable Miss Scidmore joined our board in 1892, bringing a wealth of knowledge from her travels. A doctor of literature, she wrote reports for the GEOGRAPHIC on elephant hunts in Siam, sealing ships off Alaska, and an earthquake and tsunami in Japan.

With characteristic energy, Miss Scidmore joined Dr. Fairchild and 83 schoolchildren on Arbor Day, 1908, to plant the first Japanese cherry tree in a Washington park. Four years later—after enlisting the help of Mrs. William Howard Taft—Dr. Fairchild, Miss Scidmore, and the nation's capital welcomed the official Japanese gift of 3,000 cherry trees. Mrs. Taft herself planted the first tree.

Half a century ago, of course, the world was a different place, and our eyes then were not on astronauts (two astronauts currently serve as trustees) but on explorers such as Rear Adm. Richard E. Byrd. My most memorable impression of Admiral Byrd was, appropriately, during a snowstorm.

As a boy I had long read about this great



Facing page from left:

GIFFORD PINCHOT, 1865-1946, *First Chief, U. S. Forest Service*

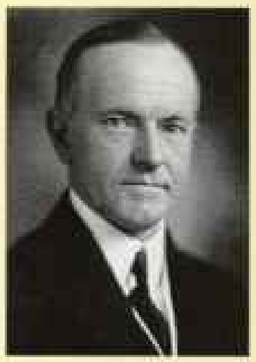
ELIZA R. SCIDMORE, 1856-1928, *Writer*

ALEXANDER GRAHAM BELL, 1847-1922, *Inventor, educator*

From left:

CHARLES EVANS HUGHES, 1862-1948, *Chief Justice of the United States*

STEPHEN T. MATHER, 1867-1930, *Director, National Park Service*



WILLIAM HOWARD TAFT, 1857-1930, *27th President of the United States*

CALVIN COOLIDGE, 1872-1933, *30th President of the United States*

polar explorer. The Society was helping to support his research when I became a fledgling Society employee in 1932. I regarded Admiral Byrd with awe and felt a special excitement each time he returned from one of his Antarctic expeditions. His long absences, however, presented some difficulties for the admiral, and before one meeting he asked a favor of me.

"Please stand here beside me," he said, "and when members come in, whisper their names." I did, and he responded with flair. "Bill! How good to see you again!" he would shout heartily. Each Bill was impressed with the admiral's splendid memory.

During one such meeting a blizzard hit Washington and grounded all flights, including Admiral Byrd's plane to Boston. We arranged for train tickets, and I tapped him on the shoulder to tell him it was time to go.

"How can I ever get a taxi in this?" he asked. I explained that we already had a car for him with motor running. He beamed: "Sometimes I think the National Geographic Society is more efficient than the Navy."

High praise indeed. But then among our trustees we have enjoyed the efficient help of five other Navy admirals, as well as five Army and Air Force generals, a tradition that dates from the era when exploration was usually arranged in cooperation with the armed forces. Robert E. Peary and his exploits were an exception—but that was before my time.

So were other giants of the early years—inventor Alexander Graham Bell and pioneer conservationists like Gifford Pinchot and Stephen Mather. I worked closely with the next generation of trustees, during the time of Gilbert H. Grosvenor and John Oliver La Gorce.

Among our founding trustees, I met only one, Maj. Gen. A. W. Greely. But in 1932 the famous 19th-century Arctic explorer moved with the full weight of his 88 years and needed help to push open the heavy front door at Society headquarters. At that time board members were elected for life, but later the board provided for the retirement of older members and then for the participation of emeritus members whose health permits.

Charles Evans Hughes served as a member from 1930 until his death in 1948. I remember him as a very distinguished but reserved man, certainly no handshaker. Earl Warren, in contrast, was delightfully down to earth. He stayed on after meetings—often for a swim at the University Club across the street—and reminisced about his days in elective office.

Each trustee has brought his own expertise and personal style to the service of the Society. Gen. of the Armies John J. Pershing (George Washington was the only other leader to receive that title) was a man of splendid military bearing, even in his declining years. His doctors had warned him to avoid climbing stairs, and he missed many meetings until I found a way for him to use a basement elevator.

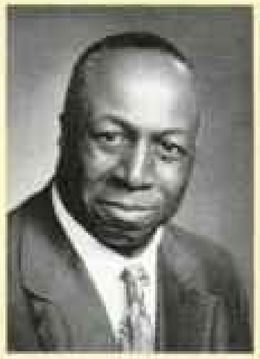
Charles Kettering, the General Motors executive who invented the self-starter and many other devices for automobiles, flew his own airplane to attend meetings. Among the personal quirks of this original genius, I recall, were that he never carried cash money and he had an aversion to college-trained engineers: "College teaches them what they *can't* do."

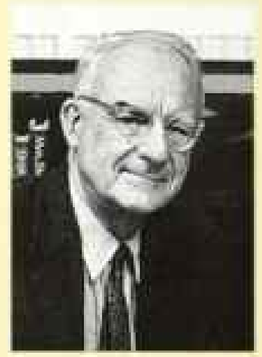
Through the years we have been fortunate that our trustees' bold decisions supported far-reaching changes in Society policies as we moved from flatbed printing to state-of-the-art rotary presses, entered radio and television, and went into the production of books, atlases, globes, and a host of educational materials.

From left:

GILBERT H. GROSVENOR, 1875-1966, *Editor and Chairman, National Geographic Society*

LEONARD CARMICHAEL, 1898-1973, *Secretary, Smithsonian Institution*





MELVILLE BELL GROSVENOR, 1901-1982, *Editor and Chairman, National Geographic Society*

JEROME H. HOLLAND, 1916-1985, *Former U. S. Ambassador to Sweden*

Many great scientists have served the Society. There was Leonard Carmichael, former Secretary of the Smithsonian Institution. A psychologist and primatologist, Dr. Carmichael had been president of the American Philosophical Society. Even in the last painful days of his terminal illness, he traveled to Africa making a reconnaissance for our Committee for Research and Exploration, which he chaired. We borrowed pillows and placed them around him in a van, as we bumped over difficult African roads.

Natural history photography had its pioneers among our board members. Naturalist George Shiras 3d developed techniques for photographing birds and other wildlife at the turn of the century and won medals for his pictures at the Paris Exposition in 1900 and the St. Louis world's fair in 1904.

Another sort of bird photography was perfected by Crawford H. Greenewalt, chairman of E. I. du Pont de Nemours & Company. A scientist as well as an industrialist, Mr. Greenewalt pursued a hobby of photographing hummingbirds with ultra-high-speed flashes that he himself designed. He also analyzed birdsong by sonograph and used the electron microscope to show for the first time the feather structures that create, by optical interference, the hummingbird's brilliant colors.

"I spent last weekend in South America," Mr. Greenewalt told me once. He had left by plane on Friday afternoon, taken pictures of some rare hummingbirds in Brazil, and returned to his desk on Monday. "It was the only free time I could find," he explained. He produced an outstanding article on hummingbirds for this magazine.

Juan Trippe, founder of Pan American World Airways, did his homework carefully for each meeting of the board. His experience in overseas business added a valuable dimension to Society operations.

Diversity of talent, of course, has always been a hallmark of our board, but we wanted to broaden its representation. I recall the visit I paid to the late Dr. Jerome Holland in New York City some years ago with an invitation to join our board.

"Why me?" he asked pointedly. Well, "Brud" Holland had been a national hero since his days at Cornell as an All-American football player. He had served two universities as president and won praise as an author and as U. S. Ambassador to Sweden. He was highly qualified. Dr. Holland considered our invitation, accepted—and became our first black trustee.

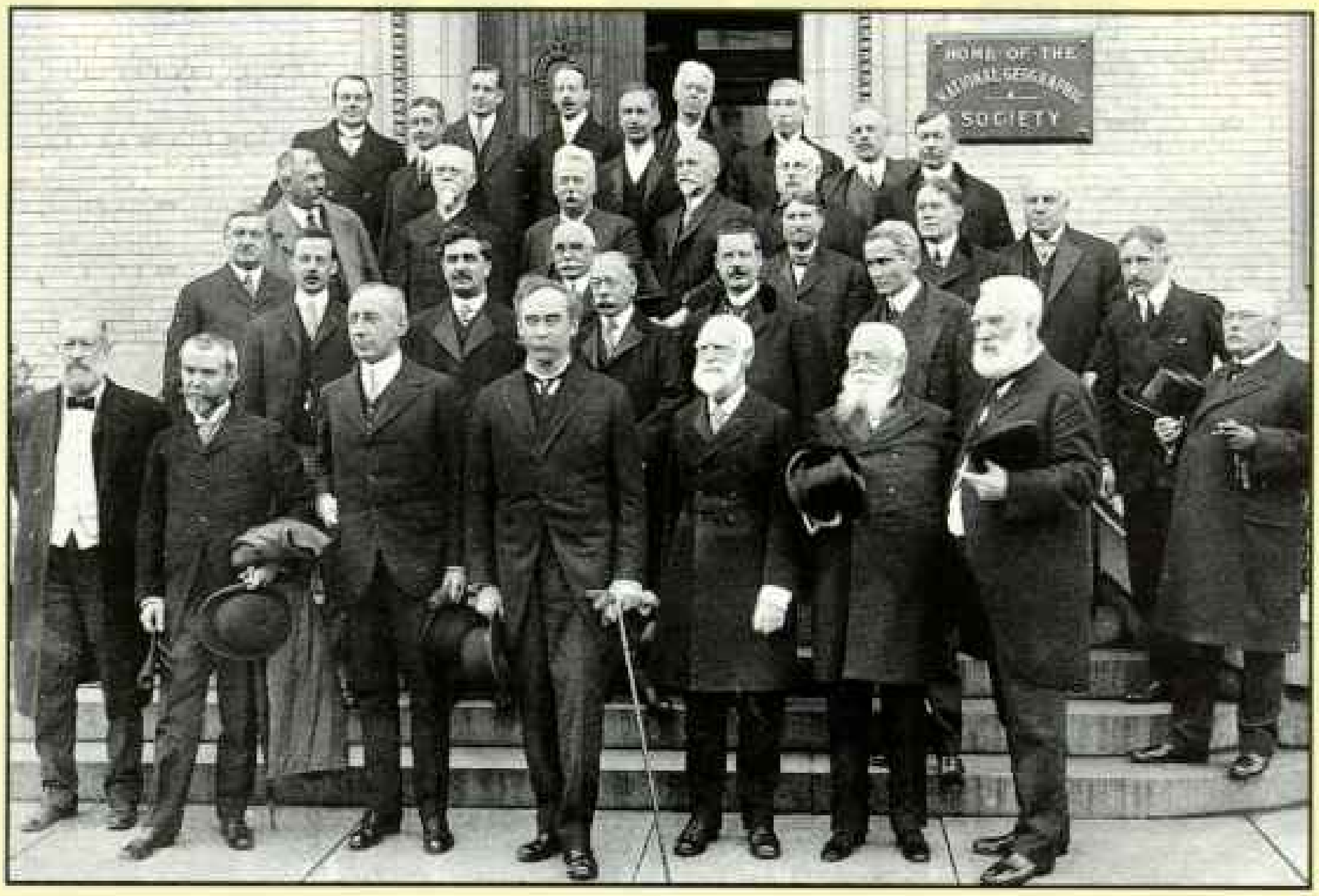
The members of our current Board of Trustees represent a heterogeneous group. Their pictures and affiliations we can see on the following pages—two from banking, two astronauts, two jurists, people from the arts, science, education, communications, philanthropy, business, and law.

Trustees meet five times a year, electing an executive committee, new board members as required, and the Committee for Research and Exploration. And when the latter committee exceeds its five-million-dollar grant budget, the board enthusiastically approves. (I can recall in the 1930s when our research budget was $50,000!)

They act on behalf of you and the 10.5 million other members of the Society, planning for the future of this, the world's largest nonprofit scientific and educational organization.

NATIONAL GEOGRAPHIC PHOTOGRAPHER JOSEPH H. BAILEY

DISCOVERERS OF THE POLES meet for the first time at Society headquarters on January 11, 1913. Roald Amundsen and Robert E. Peary (third and fourth from left, front row) are flanked by Henry Gannett, Society President; J. J. Jusserand, French Ambassador; James Bryce, Ambassador from Great Britain; and Col. Henry F. Blount and Alexander Graham Bell, both of the Society's Board of Managers. Joining with other Society officers are (second row, from left between Peary and Bell) U. S. Attorney General George W. Wickersham, Norwegian Minister Helmer Halvorsen Bryn, and Hiram Bingham, explorer of the ancient Inca city of Machu Picchu.



LEADERS OF TODAY, the Board of Trustees of the National Geographic Society gather on the steps of Hubbard Memorial Hall.

Front row, from left: Melvin M. Payne, former President and Chairman Emeritus, National Geographic Society; Mrs. Lyndon B. Johnson; Warren E. Burger, former Chief Justice of the United States; Robert L. Breeden, Senior Vice President, Educational Services, National Geographic Society; Owen R. Anderson, Executive Vice President and Vice Chairman, National

Geographic Society; Thomas W. McKnew, former Vice President and Chairman Emeritus, National Geographic Society; Arthur B. Hanson, Counsel Emeritus, National Geographic Society; Floretta Dukes McKenzie, Superintendent of Schools, District of Columbia; Gilbert M. Grosvenor, President and Chairman, National Geographic Society; Wilbur E. Garrett, Editor, NATIONAL GEOGRAPHIC magazine. Seated at right: William McChesney Martin, Jr., former Chairman, Board of Governors, Federal Reserve System, Trustee Emeritus.

Second row: Caryl P. Haskins, former President, Carnegie Institution of Washington, Trustee Emeritus; Frank Borman, Vice Chairman, Texas Air Corporation; George M. Elsey, President Emeritus, American Red Cross; Alfred J. Hayre, Vice President and Treasurer, National Geographic Society; James H. Wakelin, Jr., former Assistant Secretary of the Navy for Research and Development, Trustee Emeritus; Curtis E. LeMay, former Chief of Staff, U. S. Air Force, Trustee Emeritus; Lloyd H. Elliott, President, George Washington University, Vice Chairman, National Geographic Society; Joe L. Allbritton, Chairman, Riggs National Bank; B. Francis Saul II, President, B. F. Saul Company.

Third row: Michael Collins, President, Michael Collins Associates; John Jay Iselin, former President, WNET/Thirteen; Robert C. Seamans, Jr., Department of Aeronautics and Astronautics, Massachusetts Institute of Technology; Frederick G. Vosburgh, former Editor, NATIONAL GEOGRAPHIC magazine, Trustee Emeritus; J. Willard Marriott, Jr., Chairman and President, Marriott Corporation; J. Carter Brown, Director, National Gallery of Art; Thomas E. Bolger, Chairman, Bell Atlantic.

Shown at left: Lewis M. Branscomb, Kennedy School of Government, Harvard University; A. Leon Higginbotham, Jr., U. S. Court of Appeals, Third Circuit; Carlisle H. Humelsine, Chairman, Executive Committee, Smithsonian Institution Regents. □

< OPPOSITE PAGE FOLDS OUT

DISCOVER

AMERI

I N G

C A

By MAŁGORZATA NIEZABITOWSKA

Photographs by

TOMASZ TOMASZEWSKI

ON A BUS in Manhattan I looked over the shoulder of my neighbor at the newspaper he was reading. An entire page was taken up by one line, an advertising slogan for an airline: "If you don't like the weather today, you have 207 ways to change it."

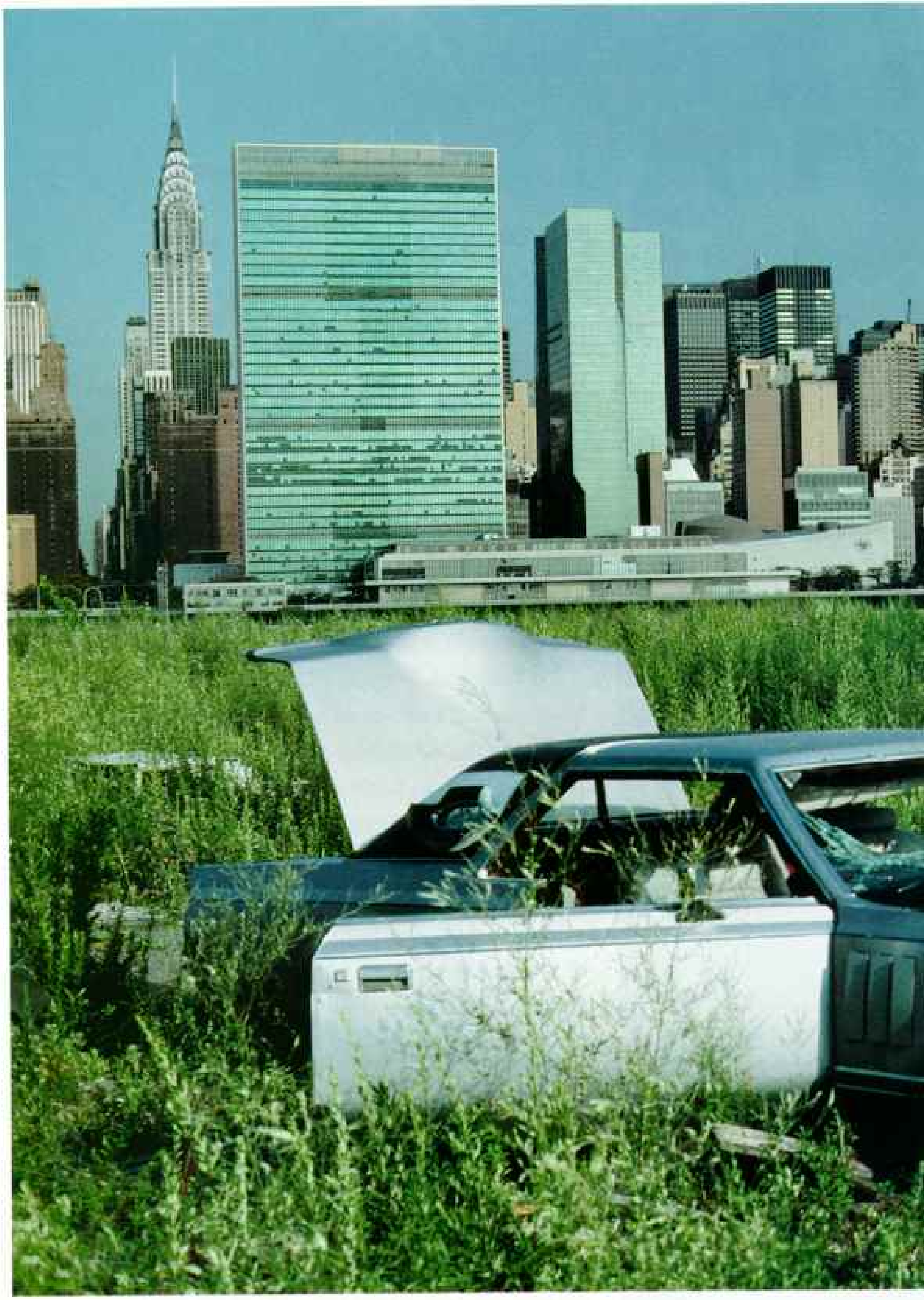
America! In Poland if you don't like the weather, all you can do is stay home and draw the curtains.

My husband, Tomek, our eight-year-old daughter, Maryna, and I had come to the United States from Poland in the summer of 1986. Since our youth Tomek and I had known the America of our dreams, the country of our favorite movies, books, and songs. And now NATIONAL GEOGRAPHIC gave us an assignment to "discover" the America of reality.

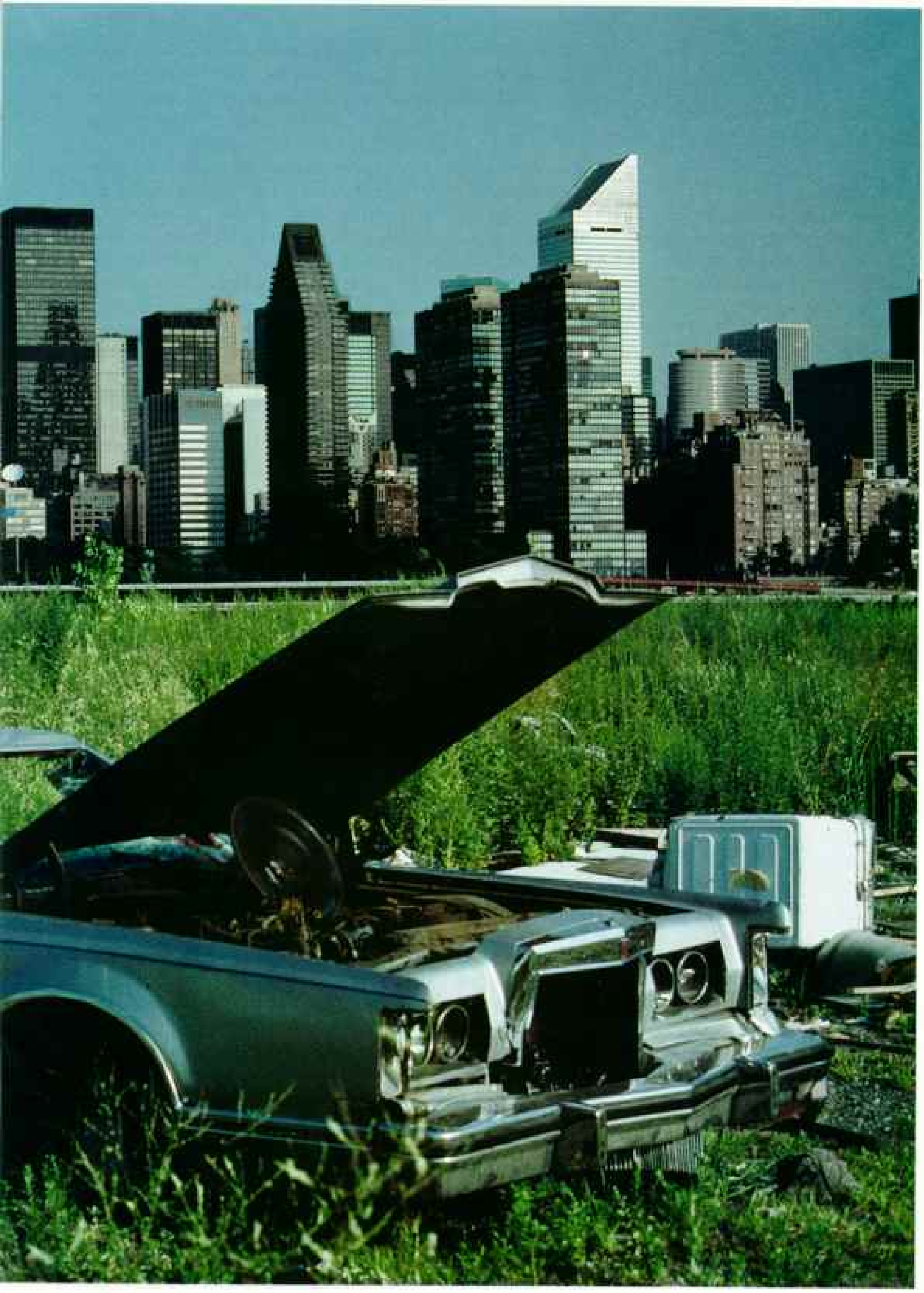
How to do it, the Editor said, was entirely up to us. In a very American way he gave us total freedom and also total responsibility. For the first time in our lives we could experience the charm and peril of free choice. Without plans, research, or even advice from friends, we went on the road to see what would happen.

Here is the America we saw, and here are some of the Americans we met.

"My name doesn't matter, I'm just an American," said this celebrator, starred and striped for Mardi Gras in New Orleans. "I love my flag, and I'm very proud of it."



Wealth and waste: This was one of our most vivid impressions of America. A view of Manhattan from a dump in Queens captures our mixed emotions



about New York City—elegant and ugly, dirty and supermodern. When Poles think of the United States, Manhattan is what they think of first.

IT HAPPENED at the very beginning of our journey across America. On a July morning we were driving through small Massachusetts towns. Flags were hoisted on many houses, stores, banks, and gas stations along the way. I said to Tomek, "It must be a national holiday."

When we stopped for gas, however, we found out that the day was no different from any other. Only later did we realize that Americans fly the flag for no other reason than patriotic sentiment.

We Poles are also greatly attached to our white-and-red flag, but its public use apart from official holidays is forbidden. Any violation of this state monopoly is in Poland a symbol of resistance. That is why the famous Solidarity emblem shows the Polish flag defiantly streaming in the wind. We were startled, delighted, and a bit envious to be among people who so freely use their flag to express their feelings.

Thus began our own private love affair with the American flag. In our travels we devoted a lot of time to it. Tomek photographed the Stars and Stripes in hundreds of places and situations, while I collected the accompanying lore. "Our collection" is now quite substantial, but we found our favorite, as often happens, near our temporary home in Cambridge, Massachusetts.

In a store window in Arlington, against the background of the flag and several antique portraits in oval frames, stood a combat-ready mannequin in the uniform of an American soldier of the Revolutionary War. The exhibit belonged to a lawn-mower repair shop. Its owner, Eddie Gilbert, arms greasy to the elbow, greeted us and after a short conversation invited us to see his museum. "Me and my wife, Beth," Eddie said, "are building an American heritage museum next to our house."

Their house stands amidst woods and hills in Mont Vernon, New Hampshire. You turn off the road onto a small bridge and drive straight into a huge black locomotive, behind which looms a spacious wooden house with an adjoining barn. This contains the Gilberts' enormous collection of machines and tools spanning the past two centuries, and sundry sleighs, furniture, and military uniforms.

"Nowadays everything is plastic, vacuformed, and it's wham, bam, and there it is," Eddie says. "Most people don't appreciate how much work and time and pride went into crafting even a simple little thing in the old days. They don't appreciate history, so you have to trick them into it. Fun is a magic word in America. You can put fun in front of anything and sell it. And we'll put loads of fun into our museum."

Eddie and Beth do everything themselves, after work or on weekends. With a little help from friends the two of them cleared the forest, put up the bridge, built the house and the barn. They reconstructed or restored all the pieces in their collection. They want everything to be in working order, so that it may be freely used by the visitors six years from now, when the place opens as the Beaver Brook Farm and Transportation Museum.

"This place," Eddie says, "will be the opposite of the traditional museum, where you always have to keep your hands away and never touch. We want you to touch, to work it, hop on it, ride it, do it, live it. There is a big difference between smelling a donut and eating it."

Down on plastic, Eddie Gilbert of Mont Vernon, New Hampshire, sits on Ronald McDonald. The head once inflated balloons in a McDonald's restaurant. Gilbert and and his wife, Beth, are building a museum to house their collection of handcrafted items from an era "when the biggest worry wasn't which video to watch on the weekend, but whether there was food to last the winter." The clown won't be on display.

Fast food is not our favorite American memory, but our little girl loved it. We found that in America you can buy a hundred kinds of cereal, but it's hard to get good bread and flavorful coffee.

Eddie even plans to encourage guests to take a stab at plowing the field, because "maybe doing all this will give people some idea why and how we've gotten to where we are today, maybe even steer them back to the better things we've forgotten."

AMERICANS LOVE MONEY. Not with greater fervor than other peoples, but certainly with more brashness. The golden license-plate frame on a Mercedes in Texas declared: "This is my $40,000 toy." A McDonald's in Gulf Shores, Alabama, displayed the slogan: "Make money while you make friends." In Monterey, California, a young woman flaunted a necklace of thick gold letters reading, "I'm rich."

During Mardi Gras a civic-minded New Orleanian was shown on TV in a street covered with a thick layer of cans, paper, food, and colorful rags. Gesturing at this crop of garbage, he gleefully declared: "The more trash, the more money made."

During the Sunday service at a Baptist church in Tuxedo, North Carolina, the pastor assured his congregation of the Lord's love and providence and proceeded to give an example of divine grace. I expected a story of the kind familiar to me from Poland, about a miraculous healing or the spiritual redemption of a sinner gone astray.

To be on the road is a very American experience. You have to drive through America to understand how enormous it is. With no set itinerary, we logged three months of travel on cross-country drives from our home in Cambridge, Massachusetts. We flew to see Wyoming in winter and New Orleans during Mardi Gras.

Americans are not always held in high opinion in Europe. But our experiences during the 14 months we lived in the U. S. were very positive. We can make only one generalization: Americans are extremely nice, warm, open people. We have the best of memories of them.

MALGORZATA NIEZABITOWSKA, a 1986-87 Nieman Fellow at Harvard University, and her husband, photographer TOMASZ TOMASZEWSKI, contributed "Remnants: The Last Jews of Poland" to the September 1986 issue. During their year-long sojourn in the United States, the GEOGRAPHIC invited them to share the reactions and insights of journalists seeing this country for the first time.

We grew up watching American Westerns. Near Meeteetse, Wyoming, we found the real thing: Pitchfork Ranch. Cow foreman Ray Mills is teaching the ropes to 14-year-old Louis Abarr. They spend the summer in Jack Creek Cabin and, with two dogs, run 2,500 head of cattle on the ranch's summer range in the Rocky Mountains.

The pastor recalled that many years before, when he and his young wife desperately needed money for their next car-insurance premium, they heard the mailman knock at the front door. At this point the minister's voice rose: "And Brothers and Sisters, he delivered a $50 check for a job I had done long ago and forgotten!"

AMONG MY GENERATION in Poland, Western movies were at least as popular as among my peers in America. In the sixties in Warsaw, during a screening of *Rio Bravo*, which I have seen seven times, the audience of the film's devotees sang along with Dean Martin, "My rifle, my pony, and me. . . ."

While still in Cambridge we decided to make a "real ranch" the one fixed point of our first trip across America. I picked out a road to nowhere on the map of Wyoming, a state completely unfamiliar to me. The map showed the road branching off the main highway at the small town of Meeteetse, following a river, and then abruptly ending at the foot of the Rockies.

Three weeks later and 3,000 miles farther on we found ourselves at the end of this road facing a sign: "Pitchfork Ranch." We drove past it, into the prairie where herds of antelope and deer were grazing.

Six miles beyond, when we were beginning to doubt that the valley was inhabited, we saw a string of houses. The children playing under the bridge pointed out the owner's house. A man in his 40s opened the door. Brusquely, he interrupted our rather elaborate explanations: "You have found the best place in the country."

The Pitchfork Ranch was established in 1878 by the German prince and American cattle baron Otto Frank von Lichtenstein. He died at the beginning of the century, and that was when Louis Graham Phelps, a banker from Chicago, bought the ranch and began to build his empire. About a dozen

years later, having acquired mineral rights to the oil fields and to a quarter of a million acres of land, Phelps was christened the "king of Meeteetse."

In 1986 there are no more "barons" or "kings" on the ranch. The cook, the gardener, and the maids have disappeared. Pitchfork sits on approximately 120,000 acres of private and leased land, now employing ten instead of a hundred cowboys. "We don't like luxuries," said Jack Turnell, Pitchfork's manager and husband to Lili, Louis Phelps's great-granddaughter, who along with her three siblings now owns the ranch. "What we like is hard work, friends around, and the feeling that we are part of a community."

In these turbulent times Pitchfork is a place that continues to thrive. "Efficiency," explains Jack, "is what keeps us in business."

"We always figure everything out on paper," adds Lili, who is the ranch bookkeeper. "If it won't, what we call, 'pencil out,' we don't do it."

On most ranches different people do different jobs. Here, whatever the job is—farming, calving, plumbing, or irrigating the fields—the same person does it. "We hire the best multitalented people we can find. Then the simple rule is to pay them well and treat them well."

Jack and Lili married very young, when Jack had nothing apart from his desire to work. Then his wife's family offered to make him manager of the ranch, which at the time was not prospering. He was 25 years old and had no experience with this kind of work. "They never gave me a penny beyond my wages, but they gave me an opportunity," Jack says.

The first few years were tough. He worked from dawn to dusk alongside his hired hands, because "if you are going to tell somebody to do something, you'd better know how to do it yourself." He worked nights planning new projects and taking care of the paperwork. Today, after 16 years, he says, "There is nothing on the face of the earth that I'd rather do than manage the Pitchfork Ranch. Nothing."

We met a lot of other truly contented people in Meeteetse and its vicinity. The town has about 500 inhabitants, twice that many counting the outlying farmers and ranchers. The community is no more prosperous than others we had visited, and like them it has suffered from declining oil and cattle prices. But here, more often than in other places, we heard exclaimed: "It's a wonderful little place to live." After our brief first visit we returned to Meeteetse in the winter, hoping to learn the secret of its people's contentment.

The residents' diligence is clearly a part of the mystery. Idleness is not a popular pastime in Meeteetse. Work here is not just a chore, but also a meaningful and often pleasurable way to spend one's free time. Even while socializing, women sew, embroider, mend, knit, or weave. After working all day, the men ply a trade at home—build furniture, curry leather, or craft saddles.

The younger generation gets accustomed to hard work early on. Besides helping out at home, the three Turnell daughters, though their parents are wealthy, work at the ranch, tend to the family store, and, for the last several years, breed cattle on their own. Whatever the girls earn, they put away in the bank for college tuition, because the Turnells believe the children should pay for their education themselves. "I want them to have a work ethic," Jack says. "When they go out in the real world, I'm not going to pay their way. They won't get anything for free."

Steak dinner for our family one night on Pitchfork Ranch weighed more than the five and a half pounds of beef and pork we are allowed per person per month in Poland.

Near Pitchfork, Sandy and Pete Roussan restore old sheep wagons. They use this one, with a wood-burning stove, as a camper. Sheepherders used to live in these wagons as they followed their flocks.

The Pledge of Allegiance opens a meeting of the Meeteetse Lions Club. This night the men discussed volunteer projects for the town school. With grades from kindergarten through high school, it is one of the best and most modern schools we saw in America. More than half the students go on to college, and many return to this close-knit town.

"Meeteetse has always been a family town," Bob Sell, the manager of the general store, told me. "Everybody knows everybody and cares. City people might think that's boring, but it gives us this good feeling of community."

Volunteers recently rebuilt the main street to resemble a frontier town, with wooden walkways and porches. Neighbors help each other move cows and brand cattle. Together they celebrate weddings and mourn the dead. And together they make decisions about community issues. They are particularly proud of their modern, well-equipped high school, more than half of whose graduates go on to college.

"We believe in local control," Jack said. "The federal government ought to decide about defense, foreign policy, and import-export. But what affects us on our level should be in our hands, without anybody putting his nose in our business."

"We're not perfect here, not at all," added Jack's father, Marshall, a retired oil-field worker and a country-music fiddler. "But we know who we are and where we belong, and we like it this way."

WE WERE DRIVING through a wide valley in New Mexico when we saw a steep, golden mountain with a village on its flattened top. The village, visible only in silhouette, was mysterious and beautiful. At the top, where the 30 families of Acoma Pueblo live, the silence was so deep as to seem unreal. There are few cars in the pueblo, no telephones or electricity.

We wandered among houses that have not changed shape in nearly a thousand years. It was late in the afternoon, and the Acoma were enclosed in their own world. Although tourists come here in great numbers during the day, it is exceedingly rare for strangers to be here after five, when the pueblo closes to outsiders.

We had come as guests of Margaret and Velma, the two daughters of Connie Cerno, the spiritual matriarch of the tribe. They had been glad to show us around earlier, but after the sun set, even they insisted on our departure. No stranger, however trustworthy, is allowed to stay after dark.

In the glimmering red light of the sunset, the mountain, the pueblo, and we ourselves seemed suspended between heaven and earth. Although Tomek and I were spellbound by the beauty of the place, we departed without trying to convince anyone to let us stay.

This was a conscious decision, the result of our growing conviction that Indians ought to be left in peace. The feeling that we were

intruders was painfully present in all our encounters with Native Americans. Feeling like an intruder is, of course, something that journalists often experience in the course of their work. In the past we have met with resistance, hostility, and even aggression, but those only increased our determination to seek the truth. The Indians, however, were always gentle, even friendly. But underneath we sensed resignation and sadness.

That day, just before our visit to the pueblo, in the middle of a conversation that had been in progress for hours and seemed to me to be peaceful and friendly, Connie Cerno, "mother of the Acoma people," suddenly became visibly irritated and began to speak to her daughter in the Keresan language. Only after many queries did I finally learn that Connie had become apprehensive that she had told me too much.

I was astonished by her reaction, because she had only told me the plain story of her life, and I had been particularly careful not to be too pressing. Her granddaughter, Shyatesa White Dove, had said earlier that during the sacred and secret religious rituals of the Acoma, people fly over the village in helicopters. They sit in the open doors and take pictures with cameras that have extremely long lenses. "They don't even try to hide," Shyatesa said.

In order to reassure Connie, I promised

Shyatesa White Dove stands in Acoma Pueblo, New Mexico, one of the oldest inhabited sites in America. Nearby she mines the clay she uses to make polychrome pottery. She learned traditional methods from her grandmother and sells her wares in Santa Fe and Albuquerque. Acoma was the most magical place we've ever seen.

Just married, Naomi Robertson-Simmons and David Simmons were celebrating at a reception in our Shreveport, Louisiana, hotel. Naomi is studying for a Ph.D. in public administration; her husband is a sergeant in the Air Force. They invited us to join their guests for champagne and cake.

her that before writing anything about her, I would first consult her grandson, Conroy Chino. Conroy, the pride of the whole tribe, works for television in Albuquerque as an investigative reporter. "Indians don't feel confident," he told me. "They don't even try to fight, because they don't believe they can win. Somehow over the centuries we've lost our sense of risk taking and adventure. It would be easy to put the entire blame on the U. S. government, on white Americans, and earlier on the Spaniards. . . . They can be blamed for a lot, including the very idea of reservations. But I think that the issue is more complicated. And I cannot clearly tell you what stifled the spirit of Indians."

After leaving the pueblo, as we drove through the wide valley, I thought about Conroy's words and about the pitfall of allowing yourself the comfort of facile compassion for the vanquished. That is the last thing they want. I understood this very well, being part of a nation that has been defeated so many times.

Night was falling. I turned to look at Acoma Pueblo for the last time but could not see anything. The immense mountain and the tiny unlit houses were drowned in darkness.

WE CAME UPON a farm set among the rolling hills of Iowa, which reminded us of our favorite vacation spot, a rural homestead in eastern Poland. And Curtis Petersen, the farm's owner, told us what we had often heard from Polish peasants outside of Janów Podlaski: "Work, work, work. Seven days a week, all year around."

The similarities ended there. On his 320-acre farm Curtis has more tractors and agricultural equipment than several Polish villages put together. But when showing them to us, he said, "What we have here seems small to many farmers."

On the farm there are also several horses and ponies used solely for riding. In Poland, where over two million horses work on private farms, no one uses horses for recreation. Polish farmers consider horseback riding an aristocratic pastime.

Fresh cow's milk and the cheese and butter produced from it are the symbols of the Polish countryside. But the Petersens buy their dairy products at the supermarket. They raise only beef cattle, and even if they had dairy cows they wouldn't drink the milk because "it's not pasteurized." But what surprised us even more was Curtis's statement, "The government pays us not to raise a crop."

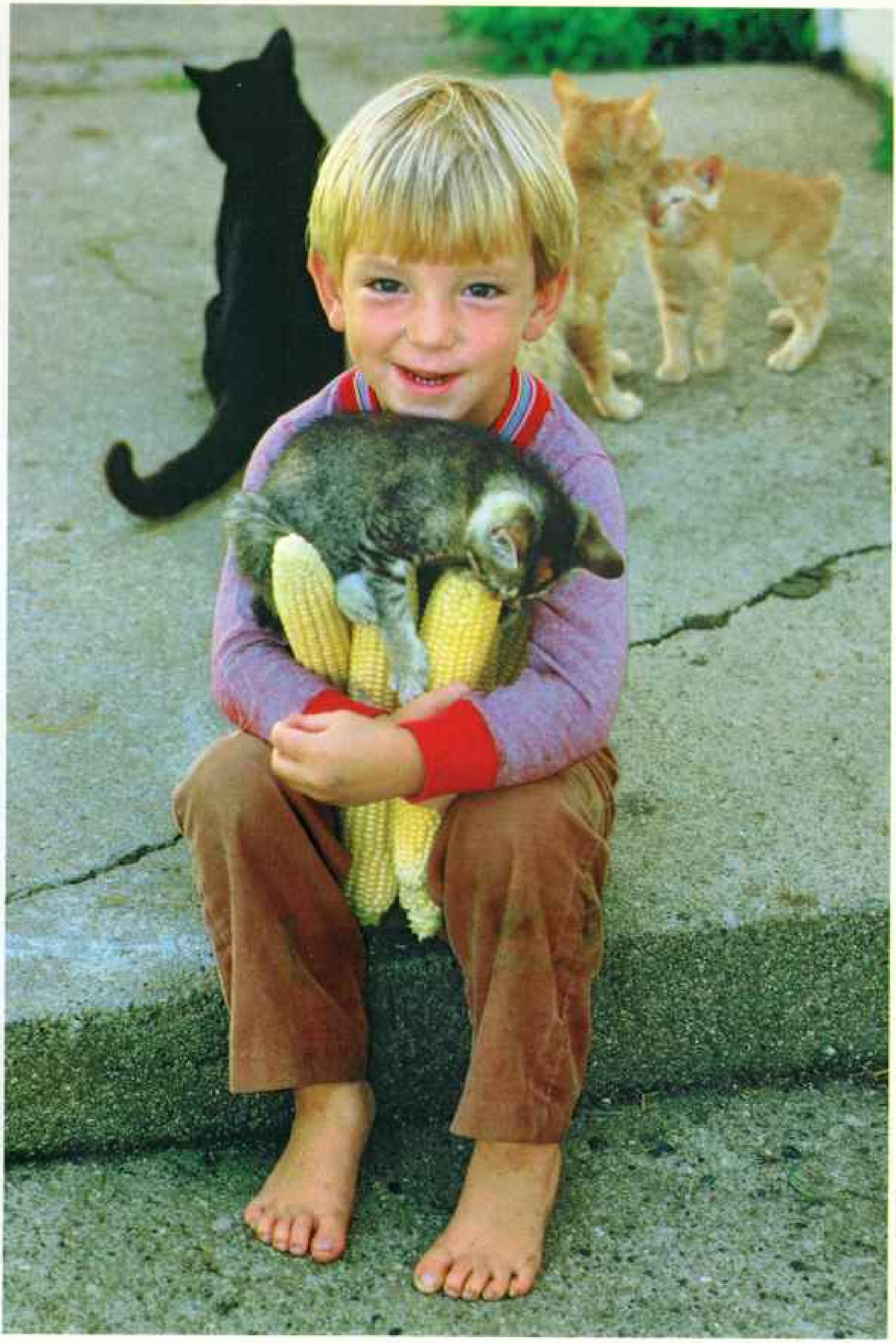
Curtis spent the next several hours trying to explain to Poles, accustomed to food shortages and ever rising prices, the problems of overproduction and low prices. Our conversation was interrupted by the arrival of Curtis's parents. Raymond and Ida, both in their 80s, spent most of their lives on the farm, where they settled in 1937.

"This farm was very poor then," Ida reminisced, "and when we moved up here, they said we were going to starve to death. 'By gosh,' I told 'em, 'I'm going to raise a big garden and a lot of chickens.'"

"And we never missed a meal," her husband added.

A cat's cradle of corn tickles four-year-old Trent Petersen, playing between garden chores and dinner on his family's farm in Extra, Iowa.

New to Wilson, Kansas, Crystal (above, at left) became best friends with fellow four-year-old Teresa. They were off to play in the school park when we pulled up for gas.



A great symbol of America in Poland, Coca-Cola was first sold in our country in 1972. Some people drink it with Polish vodka. We can also buy Pepsi, Levi's,

and Marlboro cigarettes. Debbie Rhyne of Greensboro, North Carolina, began collecting Coca-Cola memorabilia six years ago and now has more than 700 items.

"I'm an optimist," said Ayres Haxton of his hopes for better race relations in Natchez, Mississippi. His family bought the plantation where he lives in 1808. "But I can't believe that a race of people who were owned by another race of people is ever going to completely forgive them for what they did."

The farm, with its dilapidated house, then consisted of 80 acres of neglected land. They had bought it from a bank, which had taken it over from its bankrupt owner. There was no electricity, no septic system, no equipment, no trees.

Raymond told us this story, sitting under a spreading elm, one of the many he planted 50 years ago. "In 1985 Curtis harvested three times as many bushels per acre as I did when I was starting out," he said with pride. "But not everything is better now than it used to be. There was more grass back then, and all the crops were rotated from corn to oats, and then from hay to corn again. Now when they plant corn and beans fence to fence, the land gets worn out faster. There is more trouble with insects too, and you need to spray more chemicals."

In the old days, during the harvest neighbors worked together in the fields and shelled corn together in the barns. The women prepared the meals, and when the work was over everybody celebrated. "Nowadays they say, 'You're on your own, and you've got to help yourself,'" Petersen senior told me. "The farms are bigger, everybody has a lot of machines, but they're lonelier."

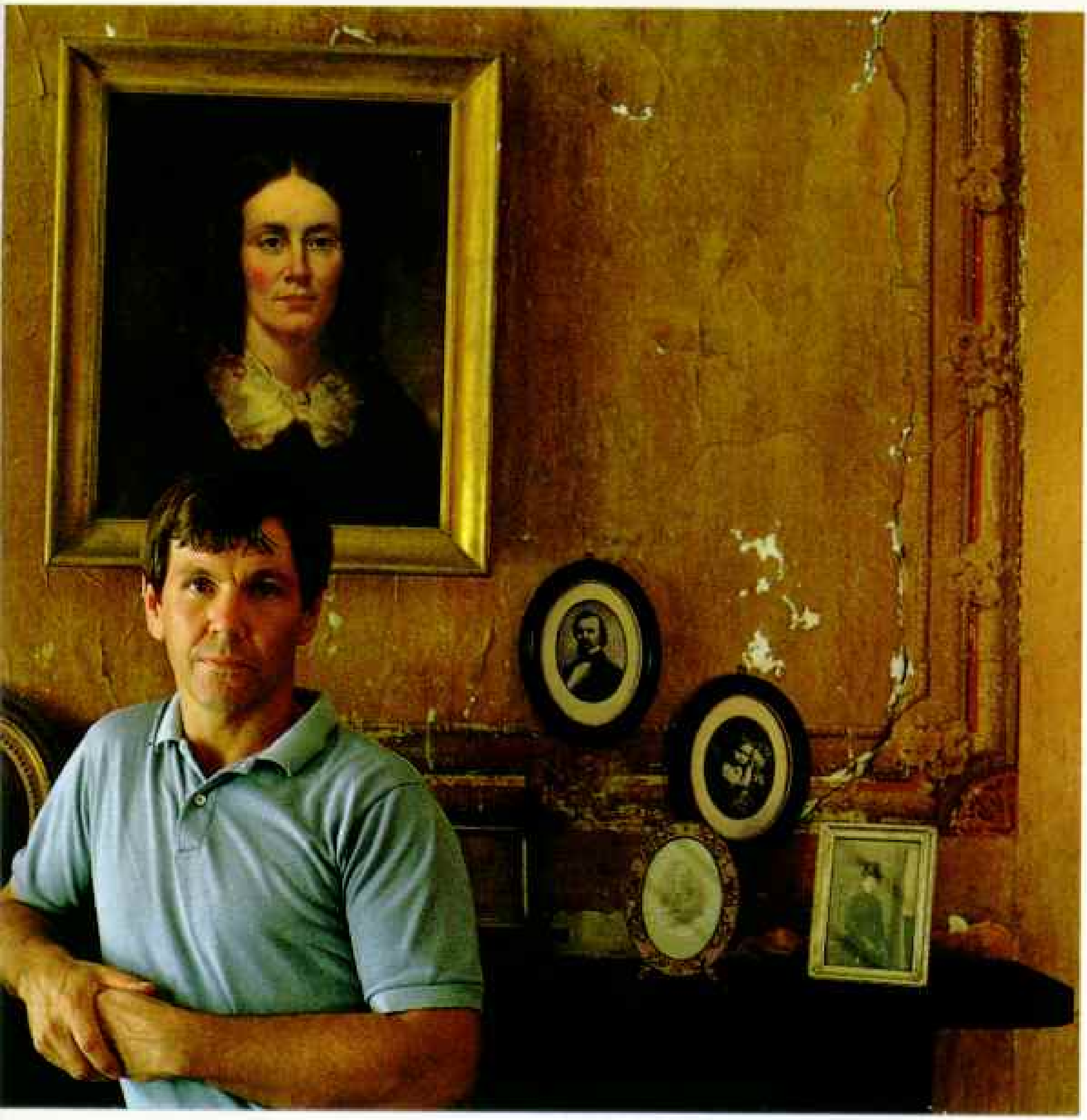
Curtis does not share the equanimity we sensed in his parents. When he took over the farm in 1973, he was full of hope, and for a while he prospered. But for the last few years things have been getting worse and worse. Not having large bank debts, he has managed to stay in business, while many of his neighbors have gone under. With his wife, Dixie, he works hard, in the summers from six in the morning till late at night. And yet it is difficult to make ends meet.

Curtis cannot imagine giving up this land, where he was born 43 years ago. What is even worse, he worries that none of his sons will be able to take over the farm, as he took it over from his father.

The Petersens have three sons: Trent, four; Justin, six; and Aaron, twelve. All

three help out on the farm. Aaron had been listening to our conversation. At one point he suddenly walked up to his father and gravely said, "I'll stay here, Dad. I'm not going to leave. I promise you."

IN SIDNEY, IOWA, we saw our first rodeo. Bronco busting had already made our daughter Maryna feel uneasy. But when a steer charged into the ring, and, after a dramatic chase, the cowboy tackled it by the horns, finally hurling himself on top of the felled animal, Maryna, lifting misty eyes, asked in plaintive voice: "The bull likes it; right, Mom?"



"The bull likes it," became the watchword of our journey across America.

WE SAW THEM from a distance in the French Quarter during Mardi Gras in New Orleans. They were walking slowly down the street, holding hands, young and handsome. He was dressed in black; she was in red, costumed as a devil.

After Tomek photographed them, the man, pointing at his girlfriend, said, "Actually we should exchange costumes. Many people think I'm the devil."

"Are you?" I asked.

He laughed.

"I'm just famous."

"Better say infamous," the girl said.

"So, who are you?" I was curious now.

"My name is David Duke."

Seeing that that meant nothing to us, the girl added, "He is the former national president of the Knights of the Ku Klux Klan."

Three months later we visited David Duke at home. He lives alone in the suburbs of New Orleans in a big, modestly furnished house. The first thing you see when you enter is a large portrait of the Confederate general Nathan Bedford Forrest, founder and first leader of the Klan.

A few days earlier Duke had declared his

"They call me the junkman," said Andrew Guest of Elberton, Georgia. "People come here hunting car parts, hubcaps, heaters, antique stuff." His pet chicken "trained

pretty easy; she'll come to you like a dog." The watchdog, Jack, sitting by Andrew's son, Bronson, doesn't bother the bird. "But he'll bite people if you tell him to."

Ku Klux Klan founder Nathan Bedford Forrest's portrait hangs in the New Orleans home of David Duke, former Klan president.

candidacy for the Presidency of the United States, and I now ask him about his platform. David Duke talks, grows excited, opens up. What makes this easier for him, as he explained, is the immediate sympathy he felt toward us. In his eyes our blond, blue-eyed daughter is "a perfect representative of the white race." He reproaches us for not having more such children.

For the next three hours I listen to his views—views I knew existed but never believed could be uttered in all seriousness. Yet here they were being propounded not only seriously but with unwavering conviction, and, what is more, by someone who is obviously intelligent and well educated.

Duke's obsessive racism appalls me. But to hear that the Holocaust never happened is truly traumatic for someone like me, who was born and raised in a country that during World War II lost six million of its citizens, most of them to concentration and death camps and mass executions.

Let him talk, let him talk . . . , I calm myself.

"The white race is endangered," he warns. "In a few decades we will be a minority, even here in the U.S.A. We have to defend ourselves while there is still time."

When he left the Klan eight years ago, David Duke founded the National Association for the Advancement of White People and has been its leader ever since.

After our conversation David leads us to the basement, which serves as the national headquarters of his organization. It looks like a well-equipped office: computers, tape recorders, videos. The large set of book-lined shelves catches my eye. There are multiple copies of each title, obviously for sale or free distribution.

"This is absolutely off the record," Duke says. "Don't write anything down." He leads us away.

I close my notebook. But some of the titles I don't need to record in order to remember: *The Testament of Hitler; Hermann Goering: The Man and His Work*; Hitler's *Mein Kampf*.

"How do you see your chances of becoming President?" I ask Duke as we part.

"I have no doubt that I will become President. I'm only 37. I have time. Americans will wake up."

THE SOUTH was always for me a mythical place, the most fascinating in all America because of Scarlett O'Hara and Faulkner's heroes, because of the blues and gospel singers. Those were the companions of my youth, and they remain a part of my life even today. "Go to Natchez," Southerners told us. "That's the place to go if you want to learn about the South."

The population of Natchez, Mississippi, is composed of almost exactly equal numbers of whites and blacks. The latter, however, are outnumbered in the city and county governments by ten to one. The highest position occupied by a black is that of county supervisor. He is Phillip West. And Phillip became the first target of my curiosity.

Gradually, as Phillip and I talked, I begin to see the South as it was only a quarter of a century ago through the eyes of a black youngster who "didn't even think he was supposed to speak to a white person." His parents could barely read and write. Phillip was a gifted student who stood at the top of his class and was president of the student council. But instead of going to college, he moved to Chicago to find work, because neither his parents nor any other adults were able to tell him how to get money to continue his studies.

In Chicago more experienced people helped him fill out the application for a student loan. Phillip returned to Mississippi and began to study at Alcorn State College, where his talent for baseball was soon discovered. He became a star athlete and obtained a scholarship that eased his financial problems. But soon he had other problems to contend with.

In Chicago he had seen blacks and whites sitting together for the first time in his life. It was a shock and—as he puts it—"I started to think." At Alcorn, Phillip joined the students who were organizing protests and then himself became one of their leaders.

He dropped out of college, went home to Natchez, began working in a factory. He was fired, and because he could not find another job, he supported his family by working nightclubs as a disc jockey. As an activist, however, he flourished, and in 1974 he was elected president of the local chapter of the National Association for the Advancement of Colored People.

In 1979 Phillip defeated six other black and white candidates for the office of county supervisor. In the next election he was reelected unopposed. Today in Natchez, Phillip West is everybody's symbol of success. "I'm a failure," Phillip says. In his own eyes Phillip is the man who tried to change Natchez and failed.

Twenty years ago he returned to Natchez despite the iron rule that all the more talented or educated blacks should leave town to seek their fortunes elsewhere. Phillip returned because he believed that a new era had begun. "In my naïveté," as he says today, "I was convinced that once you show people what is evil or unjust, they will immediately be changed themselves and thereby work for change."

But as it turned out, many whites did not acknowledge the arrival of a new era and were altogether uninterested in progress. And many blacks, although deeply disenchanted, were unable or unwilling to fight for change.

"While there have been a lot of changes," Phillip tells me, "they didn't go deep enough, and now the momentum for change is gone. Although we have more prosperous, well-educated blacks, we also have more who live in poverty or live in prison."

Truck drivers, we think, are the modern American cowboys. West Virginian Larry King was getting a boot shine when we met him at a truck stop in Fremont, Indiana.

"The cause? Is it the whites? Is it always their fault?"

"Some of the causes appear more objective, such as the economic conditions, the poor schools, and the flawed welfare system. But when you really analyze it, the deepest and most fundamental cause still is that whites consider blacks inferior, never equal to them. In the end, it boils down to racism."

"Aren't you exaggerating a little, looking for some excuse, perhaps?"

"It's true that losers always seek excuses, but not in this case."

"So how do you see the future?"

"I don't have big hopes for the future in Natchez, although whites, even here, finally understand that blacks ought to have jobs and a chance to earn more money. When we are poor, we don't have the money to support their businesses."

"You sound so bitter. Do you resent whites, as many black people with whom I spoke do?"

"No. I had the good luck that I was taught to love, not to hate, but I'm pretty sad, and I want my children to leave Natchez."

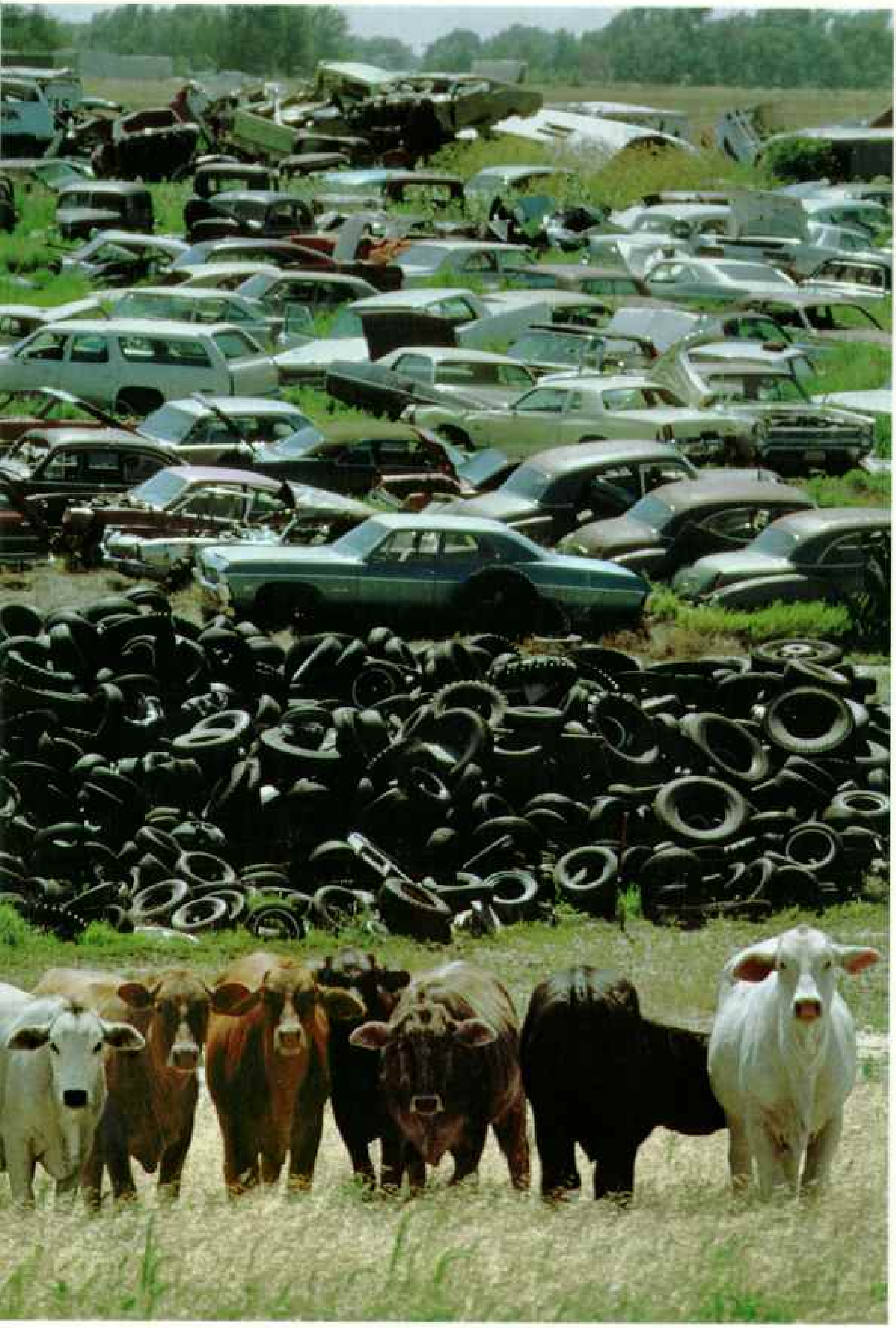
"Is there nothing that in realistic terms can be done here?"

"Something always can be done. But now the situation is that as black leader of this community, no matter how right I am, I can go out and say this all day and all night, and if not enough people agree and join me, nothing will happen, and I will be hitting my head against a wall."

AT A SOFTBALL GAME in Greensboro, North Carolina, we met Roy Beal, who spent all his 74 years in this very spot, a small triangle of streets between Cone Cotton Mill and his own house. His father began to work in a factory here in 1904 and after 50 years received a gold watch. Roy started work when he was 14 and retired 54 years later, receiving $61.22 as his monthly pension.

I thought I had misunderstood, but finally

Car graveyards like this one in Colby, Kansas, shocked us at first. To own a car in Poland, even an old one, is a dream fulfilled. Cars are maintained with care, and parts are recycled again and again. But this is America; even the cows are bigger.



His 90-pound cross had more than a thousand miles on it when preacher Kevin Kinchen rolled into New Orleans to carry the Gospel to Mardi Gras revelers.

"I had one without a wheel," he said, "but it got shorter and shorter." The Texas evangelist travels the country on a mission he calls A-Cross America.

he wrote this sum down in my notebook, adding his $618 in Social Security benefits. Sometime later, without removing the fat cigar from his mouth, Roy smiled broadly and said without a trace of irony: "See, I had a really good life."

ON INTERSTATE 80 in Nevada we found a covered wagon. It was traveling along the shoulder of the road, and all the trucks honked in salute as they went by. The wagon's owner, Ernest Bessette, a welder from Fort Edward, New York, had invested almost his entire life savings in the journey, as he felt compelled to see "how our pioneers made their way across America." Now, five months later and 3,000 miles farther on, he tells me, "The farther I go, the less I understand how those folks did it. It's absolutely incredible!"

IN SHARON SPRINGS, New York, we saw a fragment of Poland that no longer exists. This once failing health resort is taken over each summer by vacationing Orthodox Jews from New York City. We had already encountered Jews in their traditional garb in the streets of Manhattan and Brooklyn. But here for the first time in our lives we saw a town, as if it had been transported through time from prewar Poland. Everything was just as the old Polish Jews had described.

On wooden porches, around tables lit by bare bulbs, sat bearded men in hats studying the sacred texts, heatedly discussing verses from the Talmud. Beside them, their wives in chestnut-colored wigs were sewing while immersed in quiet conversation.

We wandered about for hours, enchanted, until finally Tomek said, "I know that they dislike it, but I have to take a picture; otherwise tomorrow I'll think this was just a dream."

WE MET CLIFFORD JAMES, one of only a handful of river mailmen in the U. S., in Magnolia Springs, Alabama. During a fierce tropical storm Tomek accompanied him on his daily 24-mile route along the Magnolia and Fish Rivers and across Weeks Bay. In the course of three hours Jamie stopped 116 times, often performing acrobatic feats in order to sail up to the mailboxes placed on platforms along the banks of the surging and dangerous waters.

In eight years Jamie has never had an accident, although he has witnessed many, helped people, rescued animals, and had many funny adventures, which he tells with

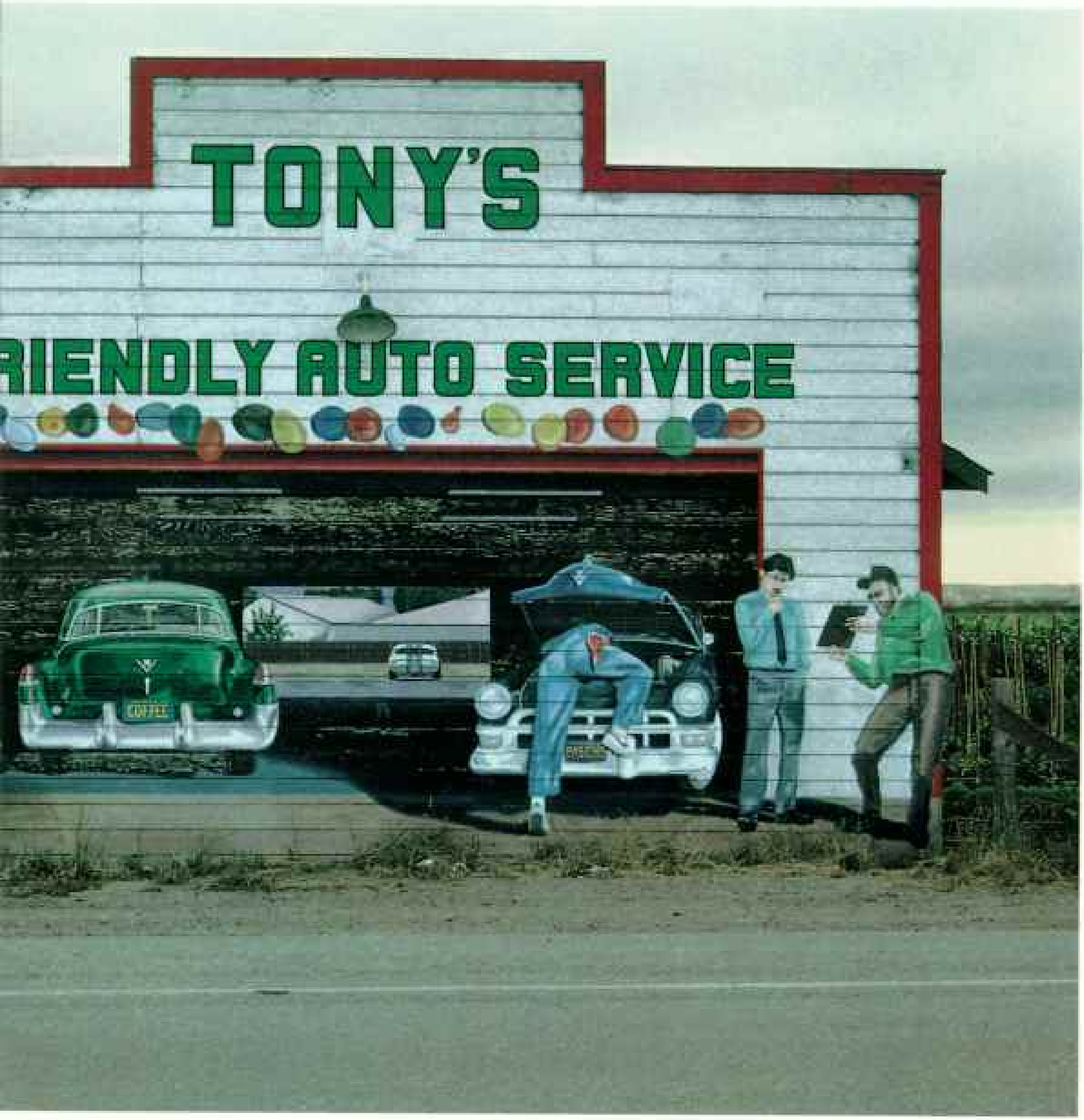
Only the weeds are real in this mural outside Salinas, California. "There's a little sarcasm in the title," said the artist, John Cerney. We thought Americans would be great drivers, because they grow up with cars. Often we found this was not true. We ourselves were twice stopped for speeding. Of course we promptly forgot our English.

great zest. We were laughing about one of them, when he suddenly grew serious: "After all these experiences I can swear to you that it's not only dogs that don't like the mailman, but also the alligators." The rivers are full of them.

IN THE VERY CENTER of crazy and tumultuous California we found an oasis of peace and tranquillity at the San Miguel mission, located in a town of the same name. Few tourists come here, and none ever gets beyond the monastery gates.

Behind them a shady cloister surrounds a patio with a goldfish fountain, lush plants, and tame doves. Seven old Franciscans live here. The cook, Brother Paschal, who has spent the last 46 years of his life in the kitchen, confessed that he does not like to cook.

I talked to him for a bit about human predilections. Paschal recalled one Franciscan who loved photography and spent nights developing pictures in his cell, another who passionately cultivated cactuses, and a third whose hobby was major league baseball. Asked about his favorite pastime, Paschal's face lit up: "Oh, I like the real thing," was his reply. "I like to think about Heaven."



The Grand Canyon has been spoiled by commercialism, many Americans told us. We had admired it in countless photos, and we weren't disappointed. We concentrated

on the quieter North Rim, where guests rock on the balcony of a lodge. But the crowds in beautiful Yellowstone dismayed us—it was like the streets of Manhattan.

"We're Rednecks, We'll Keep Our Guns." That's the bumper sticker Jesse Anderson, left, displays on his truck in Independence, California. He and his son, Don, and wife, Pat, own more than 20 shotguns and rifles. Free access to guns is a disturbing symbol of America to us. In Poland, ownership of guns is strictly controlled.

WE DECIDED to spend Independence Day in Independence, California. We had passed through this town earlier, and we returned to it, hoping that here July 4 would have a special flavor. We were not disappointed.

The celebration began early in the morning with a community breakfast in the park and lasted late into the night, ending with fireworks. What interested us most was the parade. Its theme was the Constitution, and the participants were the residents themselves. They marched in accordance with their fantasy and ability, boisterously applauded by the audience, which consisted mostly of their families and neighbors.

Uncle Sam popped out of a cake with the inscription "Happy Birthday to the Great Beginning." A little girl on a bicycle trailed a wagon carrying dolls dressed as the Founding Fathers, who were signing a long yellow scroll. A three-year-old boy rode a tricycle adorned with slogans from the Bill of Rights—"freedom of speech," "freedom of religion," "freedom of press"—and a flag whimsically painted by one of his older sisters. The long parade was rounded off by fire trucks filled with children.

All this took place on the busy main street under blue California skies. The town of Independence along with 700 inhabitants seemed to us the embodiment of the American dream fulfilled. But in the course of a day spent in conversation, one phrase recurred in a jarring refrain: "The City of Los Angeles did. . . ." Los Angeles lies 230 miles away, and I could not understand its power over the inhabitants of Independence.

In the next few days I learned about the town's history and about the Owens Valley, where it is situated. The story has all the drama of a film script but no happy ending, for here, unlike in movies, those in power appear to have triumphed over those in the right.

The Owens Valley, thanks to its abundance of water, was to become a farmers' paradise. But the water attracted the attention of the thirsty giant to the south. During the first 30 years of this century Los Angeles bought up the water rights, later the land, and finally even houses and businesses in

the nearly hundred-mile-long valley. Most of the wild country around its edges—the lowlands at the foot of the Sierra Nevada and the Inyo Mountains—was transformed into a national forest.

Meanwhile enormous Owens Lake, cut off from the river, evaporated. The river gave most of its water to the aqueduct leading to the San Fernando Valley in the suburbs of Los Angeles. The Owens Valley, having gradually lost its farms and water, began to dry up. All this was accompanied by much deception, land speculation, and such dramatic events

"We exercise the First Amendment every day," said Jimmy Atwood's mother during the Fourth of July parade in Independence, California. "We don't have to worry about what we say. We don't even think about it, because we are free."

as the dynamiting of the aqueduct, its occupation by farmers in protest, and the bankruptcy of the valley's only bank, whose local owners stood at the forefront of the rebellion against the city.

Today in conversation with the inhabitants one hears echoes of the old conflicts and passions. L.A. is the largest employer in the valley and also a source of income for Inyo County, whose seat is Independence. But "the spirit of independence is not dead," as Kathleen White, a high-school teacher, assured me. Individual citizens of Independence still fight the city. "We scream, argue, discuss, and sometimes we win."

Hattie Schaefer is one of the oldest residents of Independence. Half Native American and half white, she gracefully combines two disparate traditions. Eighty-four-year-old Hattie recounts how her father taught her the history of Scotland, the country from which he had emigrated with his family, and how her Indian mother, a simple and dignified woman, conveyed to her a deep sense of gratitude for the blessings of life.

She taught Hattie that in her native Paiute language there is no expression equivalent to "thank you," but instead the phrase *toki-wah*, which means "good in your heart," is used. "When I don't ask or tell you, but you do something for me because you yourself want to, then that's toki-wah," Hattie explains in her mother's words.

After graduating from high school, Hattie married a man from Ohio and with her husband bought a small hotel. Today, 60 years later, Hattie is one of the town's most beloved and respected citizens.

"What do you think about your country?" I ask her.

"I love my country and I appreciate modern civilization, but I feel we should not abuse what we have, what was given us in trust. I think the freedom of choice is the essence of America. We have the right to exercise it in whatever direction we choose —good or bad. For this freedom that was given to me without asking, I'm truly grateful. I can only say, as my mother taught me, toki-wah."

WE MET A LOT OF PEOPLE and heard many stories. All of them compose that extraordinary mosaic called America, but now as I get ready for my trip back to Poland, one memory keeps returning particularly often. One night during a sudden storm we stopped over in a small town in Nebraska. The motel was the only one in town, and we were the only guests. In the morning we discovered that the town had one paved street and about 300 inhabitants. It was called Lewellen.

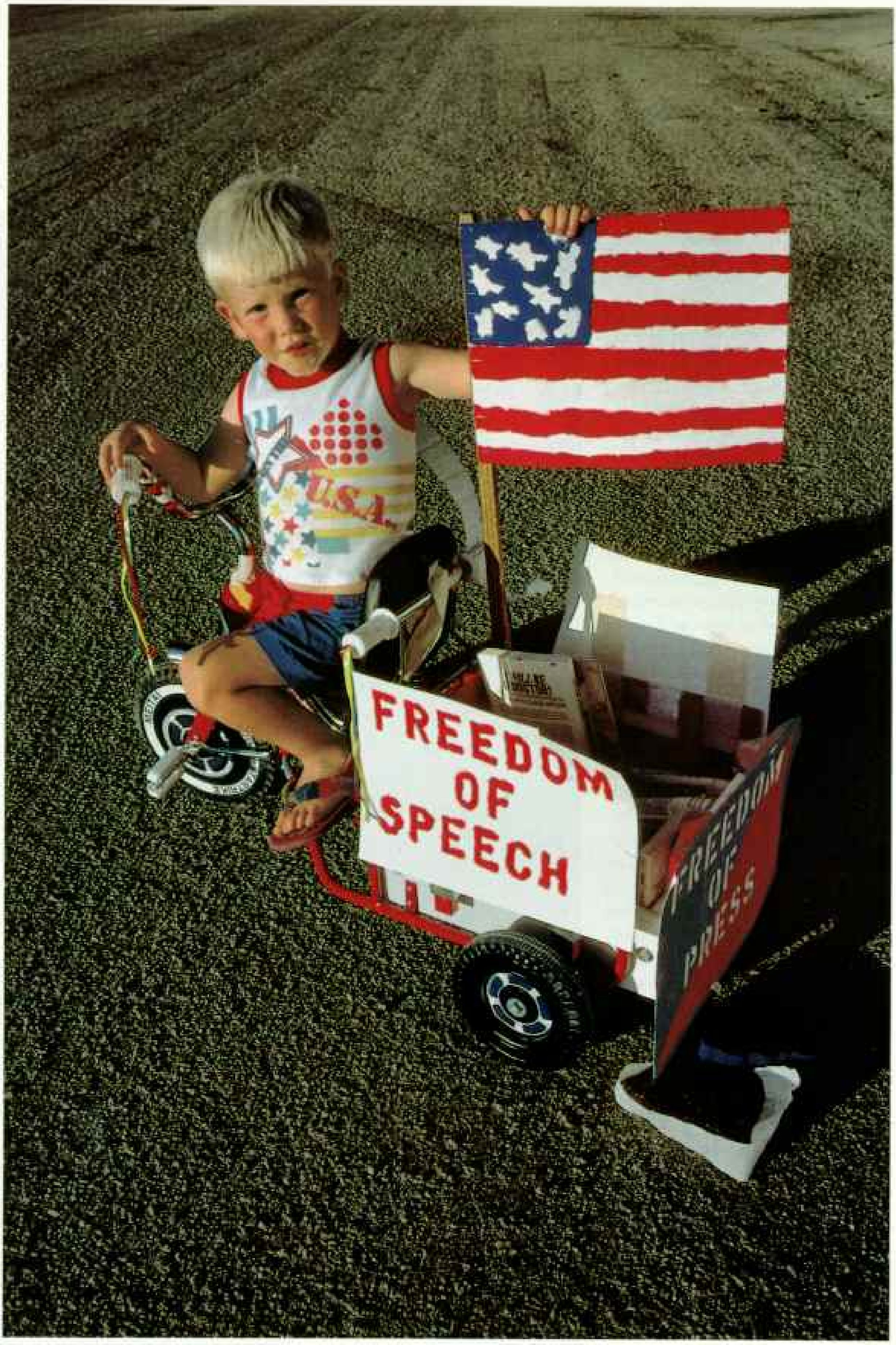
For breakfast we went to the only café in town. The manager, three days' growth on his face, stood behind the counter. The customers, all men, were seated around the tables. In the middle stood a round, large, and empty table. And that was where we sat to have our cinnamon rolls. Our entrance caused a sensation. All conversations died down, and everybody stared at us in silence. Finally a tall, red-bearded man brought over the coffeepot from the counter and offered to refill our cups, which were still full.

In a moment our table was teeming with people, all of them asking us questions and talking about themselves. It turned out that among these 15 or so Lewellen citizens there were a Greek, an Italian, an Irishman, a Hungarian, a German, and a Pole—if not in the first, then in the second or third generation. They teased each other good-humoredly about the supposed foibles of different nationalities, and we quickly joined in the fun.

Obviously life in Lewellen is no idyll, and everybody isn't always joking. Yet the image of this big table and the people gathered around it, whose ancestors came to a lost-in-the-prairie town from different parts of the world, has for me great charm and importance.

We could not stay in Lewellen, despite numerous invitations. On our way back to Iowa to see the rodeo, we could not afford another delay.

When we were leaving, everyone turned up in the street, waving good-bye and shouting, "Come back, you have to come back." Tomek, Maryna, and I promised ourselves that we would. □


U.S.A.
FREEDOM
OF
SPEECH
FREEDOM
OF
PRESS

THE HOPE THAT NEVER DIES

By TAD SZULC

Photographs by
JAMES L. STANFIELD
NATIONAL GEOGRAPHIC PHOTOGRAPHER

A symbolic call to national vigilance sounds from a fireman's trumpet in St. Mary's Church in Kraków, Poland's old royal capital. From the same tower seven centuries ago, according to legend, another trumpeter raised the alarm as Mongol hordes stormed the city, his clarion cut short by an arrow in the neck. Echoing that event, a watchman now re-creates the call every hour, day and night, always halting in mid-note. Today, six years after the fall of the free trade union Solidarity, the nation seeks to rescue its virtually paralyzed economy while allowing greater political pluralism. Unlike the recent past, Poland's reforms are no longer at odds with its powerful neighbor: Soviet leader Mikhail Gorbachev is now Poland's principal ally in economic change. American journalist Tad Szulc returned to his native Poland to assess the political climate. Author of several studies of politics and international affairs, Szulc won an Overseas Press Club award for his 1986 biography of Cuba's Fidel Castro.

POLAND

CORPUS CHRISTI is the great Roman Catholic festival held after Whitsunday in mid-June, and in Communist-ruled but overwhelmingly Catholic Poland it is an official national holiday. The permanently fatigued Polish people—for daily life there is relentlessly hard—are given a day off, and joyous, colorful processions fill the streets. This is a stubborn land where history and ancient traditions have always battled foreign occupations and regimes imposed by force and where the citizens have been wedded to nonconformity for a thousand years.

A voyage in Poland, then, is an emotional journey through history and tragedy, a sojourn among old and new memories that never die, a glance at hope and despair, and—always—the discovery of extraordinary human beings. It is a pilgrimage along Polish stations of the cross. I undertook it not long ago, a somewhat aged American reporter returning to the place of his birth at a time when history is again being written there—seven years after the rise and fall of the Solidarity free trade union movement, with Poland possibly approaching still another turning in its history.

That a church feast is observed as a high

holiday in a Communist country may strike an outsider as paradoxical. But as I quickly realized, it seemed perfectly natural to all the proud Poles as well as to their head of state, Gen. Wojciech Jaruzelski, who also serves as First Secretary of the Communist Party.

In fact the 64-year-old general had chosen Corpus Christi to receive me at his Warsaw offices overlooking the lovely royal Łazienki Park. It was a relaxed late spring morning with lilacs in bloom round the sunlit statue of a brooding, romantic Frédéric Chopin. Jaruzelski greeted me with the remark that he was delighted to have a midweek holiday to afford

SIGNPOST FOR THE FAITHFUL, a rude cross becomes the site of a roadside prayer meeting outside the village of Zab in Poland's mountainous south. The nearby town of Wadowice is the birthplace of Karol Wojtyła, the Archbishop of Kraków, who became John Paul II, the first Polish Pope. Despite the official atheism of the Communist Party, the Catholic Church remains a powerful force in Poland.

SYMBOL OF UNITY, the Sandomierz Crown, displayed at Kraków's Wawel Cathedral Museum, recalls the 14th-century reign of King Casimir the Great, who worked to strengthen a nation forged from a group of small principalities.

him time for a quiet, uninterrupted chat, and said immediately that I had come to a "much changed Poland, changed for the better."

Jaruzelski, a ramrod-straight officer with a receding hairline whose military bearing was softened by an easy, comfortable demeanor and an informal light-gray suit and blue necktie, offered me tea, and we spent the next two hours together. In his elegantly classical Polish—rich in historical and literary allusions—he summarized the endless contradictions and paradoxes, many verging on the surreal, that form the phenomenon of today's Poland and the lives of its 37 million inhabitants.

It was the most candid private conversation I have ever had with any Communist leader. The general told me bluntly that his country faced immense economic and social problems that could be solved only by his program of radical reform of the economy. (Such a daring program, including austerity, decentralization, and a turn toward a free-market economy, was formally launched in October 1987.) He said that he welcomed the cooperation of the "moderate opposition" and the Roman Catholic Church to help shape and implement these reforms. But he said he would not deal with opposition financed from abroad, noting with anger that the U. S. Congress had just voted one million dollars to assist what was left of Solidarity. The union said the funds would go for ambulances and medical equipment.

THE PRINCIPAL PARADOX in this land of paradoxes is that the Jaruzelski who seeks to introduce far-reaching reforms in Poland—and allows a degree of political pluralism and relaxation unique in Communism (though Communist rule itself is not open to question)—is the same man who declared martial law on December 13, 1981, and used the army and the secret police to intern 10,000 Solidarity activists and smash the organization's entire framework. This was undoubtedly the worst blow to Polish aspirations since the end of World War II, and the nation has not quite recovered from it.

In 1982, when last we talked, the general hinted that destruction of Solidarity was the only alternative to a Soviet invasion because the Russians thought the union's demands for democracy, along with reforms, placed the whole Communist system in danger.

But now, Jaruzelski emphasized, the mentality of the people in general, including those in power, had changed. He told me that he felt that the Solidarity workers' protests about their conditions and the economy were correct and justified—and many of the ideas emerging from the great ferment of the early 1980s were an inspiration and would be implemented.

Back in those days, the general said, the problems were Solidarity's "nonsensical" political demands, such as the appeal to workers elsewhere in Eastern Europe to rise up in their own Solidarity movements, and the wave of strikes that paralyzed the country.

The months that I spent in Poland in the preparation of this article, driving thousands of miles from the southern Tatra Mountains to the Baltic seashore and from the wooded Soviet border to the farmlands of the East German frontier, confirmed to a significant extent General Jaruzelski's assertion that the "New Poland" he heads *(Continued on page 94)*

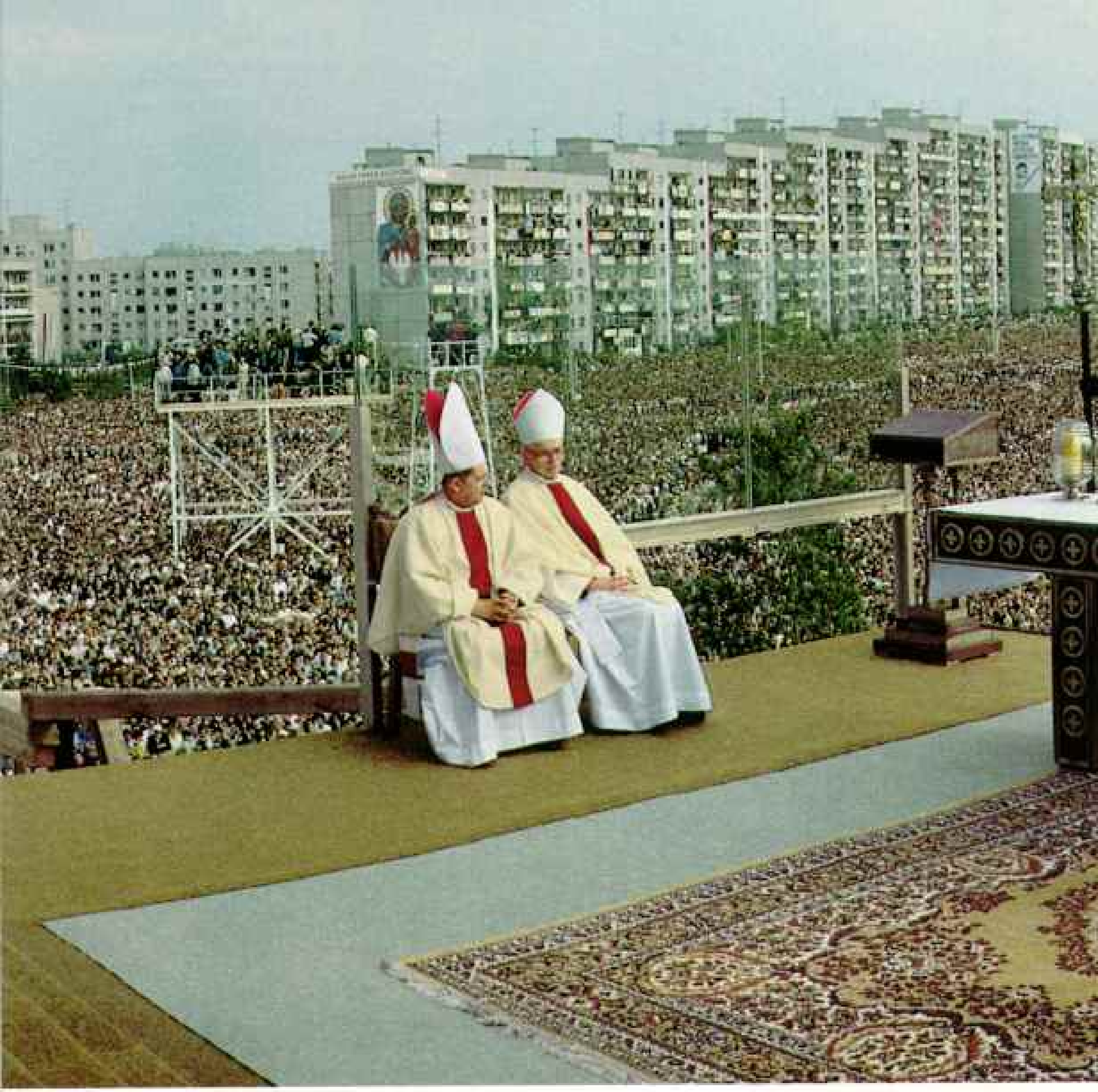
POLAND

AREA: 120,725 sq mi (312,677 sq km).
POPULATION: 37.3 million.
CAPITAL: Warsaw, pop. 1,659,400.
ECONOMY: Industries: iron and steel, shipbuilding, textiles, mining of coal, copper, zinc, and lead. Agriculture: potatoes, sugar beets, rye.

POLAND DERIVES its name from the Polanie, or "plains people," a Slavic group that settled in northern Europe before the birth of Christ. With few natural obstacles to invasion from east or west, Poland has often suffered from the ambitions of neighboring countries. The 1795 partition of Poland among Russia, Prussia, and Austria wiped the nation from the map. It reappeared as a sovereign state only in 1918, at the end of World War I.

The German invasion of Poland in 1939 sparked the beginning of World War II, during which Poland was overrun again, first by Germans, then by the Soviets. Following the war, Stalin moved Poland westward by placing more than 50,000 square miles of eastern German territory under Polish rule and annexing 100,000 square miles of eastern Poland to the U.S.S.R.

The movement of millions of people to Poland from the provinces swallowed by the Soviets and the displacement of German populations from their homes into occupied Germany constituted one of the most disruptive migrations in postwar Europe.



A SEA OF ADULATION greets Pope John Paul II as he celebrates Mass before a crowd of more than 750,000 worshipers in Gdańsk in June 1987. Wherever he traveled during his third visit to his homeland since becoming Pope, John Paul encountered welcomes, such as this window in Lublin (left) decorated with a Polish flag and pictures of the Pope and the Black Madonna of Częstochowa, the most revered icon of Polish Catholicism. During the Pope's appearance in Gdynia, a man proclaimed his unwavering faith by holding up a crucifix during the entire service (right).

The Pope delighted his audiences and angered government authorities by repeatedly voicing support for the Solidarity union, driven underground since being outlawed in 1981. "I pray for my motherland and for you workers," the Pope told the crowd in Gdańsk, the Baltic seaport city where the union was organized. "I pray for the special heritage of Polish Solidarity." Following the Mass, some 10,000 persons marched beneath Solidarity banners through the streets of Gdańsk until police broke up the demonstration.

In a further act of support John Paul met with Solidarity leader Lech Wałęsa and visited the gravesite of the Reverend Jerzy Popiełuszko, a pro-Solidarity priest killed by Polish secret police in 1984. The Pope also said that if Poland instituted reforms leading to more freedoms, the Vatican might establish diplomatic ties with the country, a first among Eastern-bloc nations.

HORRIBLE LEGACY of the Holocaust is preserved as a memorial to the dead and a warning against forgetfulness at a museum in Oświęcim-Brzezinka (Auschwitz-Birkenau). Rabbi Pinchas Goldberg (left), a Hasidic Jew from Brooklyn, New York, views a mountain of footwear taken from those imprisoned at the Nazi death camp in southern Poland.

Of the more than 20 German concentration camps, Oświęcim is the most notorious because of the number of prisoners exterminated there and because of the hideous human medical experiments carried out by Dr. Josef Mengele. During the German occupation of Poland in World War II, as many as four million persons were killed at Oświęcim in less than five years. Declared a national monument in 1947, the camp retains over the main entrance gate an arch carrying the German slogan "Arbeit Macht Frei—Work Sets You Free."

Upon arrival at the death camp, prisoners deemed unfit for productive labor, women and children included, were often summarily executed. A separate exhibit called "The Fate of Mothers and Children" (below) memorializes them with pictures and articles of clothing.

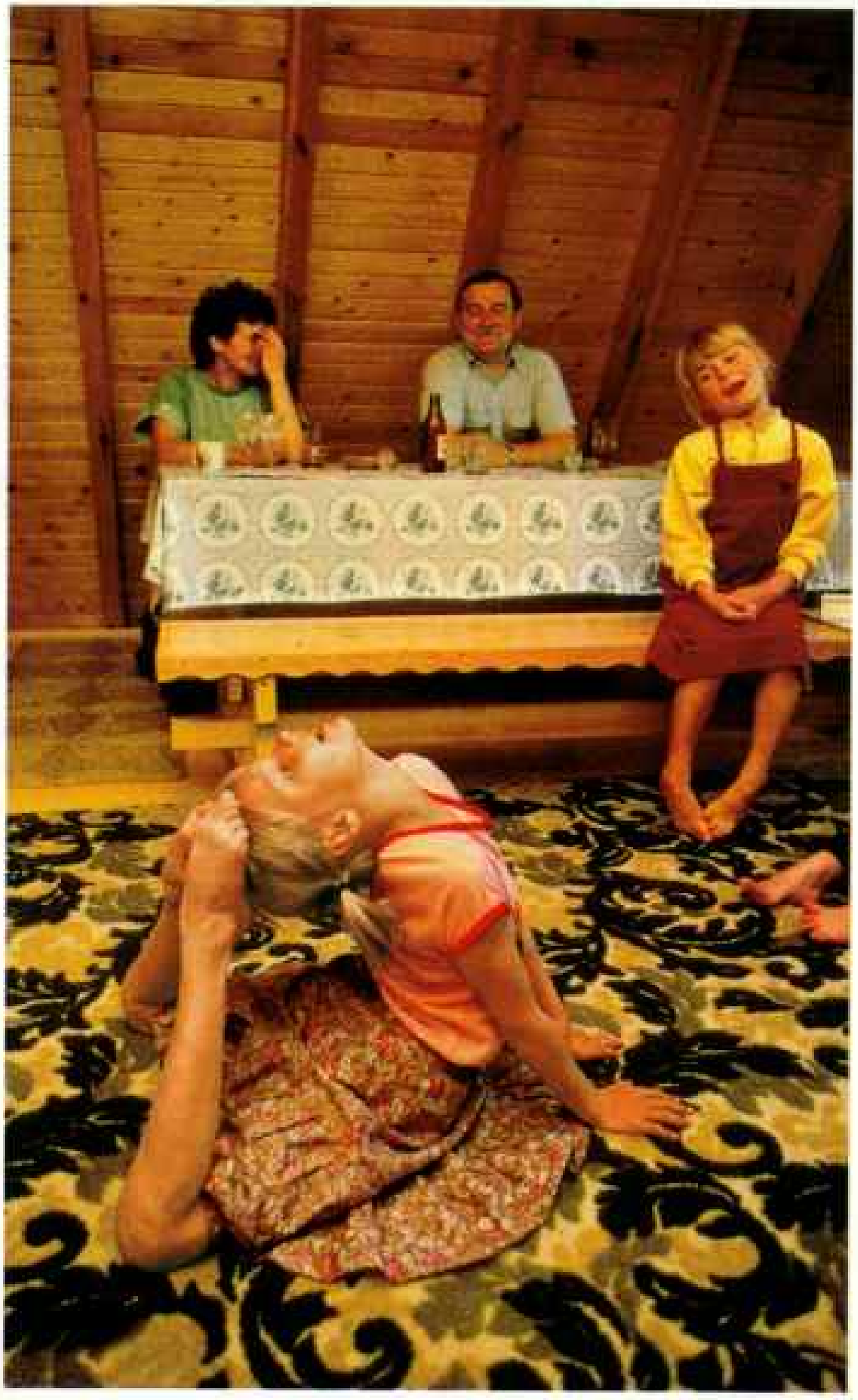
Architect Stefan Jasienski carved this crucifix (above) in cell 21, where he died on January 1, 1945. It stands as a reminder that, although the Holocaust was aimed primarily at Jews, more than a million of those killed at Oświęcim were not Jewish.

< OPPOSITE PAGE FOLDS OUT

MAN IN THE SPOTLIGHT during the trade union movement's brief taste of freedom, Lech Wałęsa remains a popular public figure. In the village of Sulęczyno, a crowd presses forth as Wałęsa hands out photographs of his family and John Paul II taken at a private meeting during the Pope's visit.

Near the village, Wałęsa returns (below) from an unsuccessful fishing outing to his family's lakefront cottage. As heavy rains keep the family indoors, nine-year-old Magdalena Wałęsa entertains her parents and younger sister Anna with a display of gymnastic ability (below right).

Wałęsa became the focus of worldwide attention in 1980 when depressed wages and food-price increases sparked protests across the country. From a strike at the Lenin Shipyard in Gdańsk, where Wałęsa works as an electrician, the independent union Solidarity was born. With Wałęsa as its spokesman, Solidarity won freedom from Communist Party control. But that freedom ended in December 1981; the government declared martial law and interned Solidarity leaders, including Wałęsa.



STEPPING OUT on May Day, the international socialist holiday, head of state Gen. Wojciech Jaruzelski waves to onlookers (right) as he leads a parade through Warsaw. In that city's Palace of Culture (below) Jaruzelski addresses members of the Patriotic Front of National Rebirth, a group that was created to counter the Solidarity movement.

(Continued from page 84)

is becoming "a very open country."

To be sure, Poland is still far from being a Western democracy. Truly free elections even for the Sejm—the Polish parliament—are not yet in the cards. The Communist Party's weekly journal, *Polityka*, is subject to censorship because the regime itself isn't certain from day to day what it wants and what people should be told it wants. There are tensions within the party between factions advocating greater freedom and flexibility and those opposing it, and there are enough cases of harassment of various oppositionists, as dissidents are called in Polish Communist parlance, to suggest strongly that the powerful secret police apparatus, still enjoying considerable autonomy, sides with the hard-liners. And, as every Pole knows, the state still possesses the power of capricious arrest and extended detention without trial.

Nevertheless, loud and active opposition movements do exist. Shortly after I left the country, police broke up a demonstration of 4,000 Solidarity supporters in Gdańsk by driving trucks into their line of march.

I DID NOT HAVE the slightest difficulty in meeting openly with former Solidarity chief Lech Wałęsa, the Nobel Peace Prize laureate—or with the opposition's most brilliant intellectual figures, such as the philosopher Adam Michnik and the medieval historian Bronisław Geremek. I found these leaders, to say nothing of countless private citizens with whom I talked (frequently all night, as is the Polish habit), absolutely outspoken on every imaginable topic—especially whenever it came to criticizing the government and the Communist system.

But both Wałęsa and Józef Cardinal Glemp, Primate of Poland, told me in separate conversations that some form of Polish unity should be built around the government's reform program. Each left me with the impression that they may favor a degree of oppositionist cooperation with the regime under the right conditions. The general told me that "no doors are closed," although he prefers his critics to work through the "consultative council," an advisory body he has created to attract prominent but independent-minded Poles.

Cardinal Glemp told me that in his opinion "General Jaruzelski is a Pole and an intelligent man who has a large sensitivity to moral questions."

"He is a Communist," the cardinal said, "but he is a positive man."

Glemp's stance of compromise is backed by many, but not all, Polish bishops. His judgment runs counter to the view held in more radical opposition circles that Jaruzelski is a Soviet agent because he served in wartime Polish units with the Soviet Army and rose through the ranks of the military and party hierarchies to become defense minister and a Politburo member long before Solidarity.

Michnik, the philosopher who has spent four years behind bars since 1981, does not believe in cooperation with Jaruzelski because, he says, "a Communist regime cannot really reform itself from within." It has to be pressed and pushed, he told me.

Amazingly, many senior government and party officials tend to be stunningly frank.

The general himself admits that Poland's economy remains a veritable nightmare of managerial and production chaos, characterized by inexplicable shortages of the most elementary items, shoddiness of most goods, and a continuously falling living standard for most of the population.

He must know that his country is turning into an environmental disaster whose magnitude I could observe in my travels. The great river Vistula is polluted by salinity and other industrial waste. Hundred-year-old trees in the forest of Białowieża in the east are threatened by poisonous runoff from a chemical plant. (The forest also happens to be the home of the largest surviving herd of European bison, some 460 animals.) The Polish water table is dropping dangerously because of unregulated deforestation throughout the country. And the air in the cities of Kraków and Katowice is thick with the soot from smoke-belching stacks of their huge steel mills.

The Kraków mill complex, called Nowa Huta, was designed by Soviet planners and ideologues in the early 1950s as "a socialist city" where workers' families would live happily in new high rises—and their minds would not be poisoned by religion.

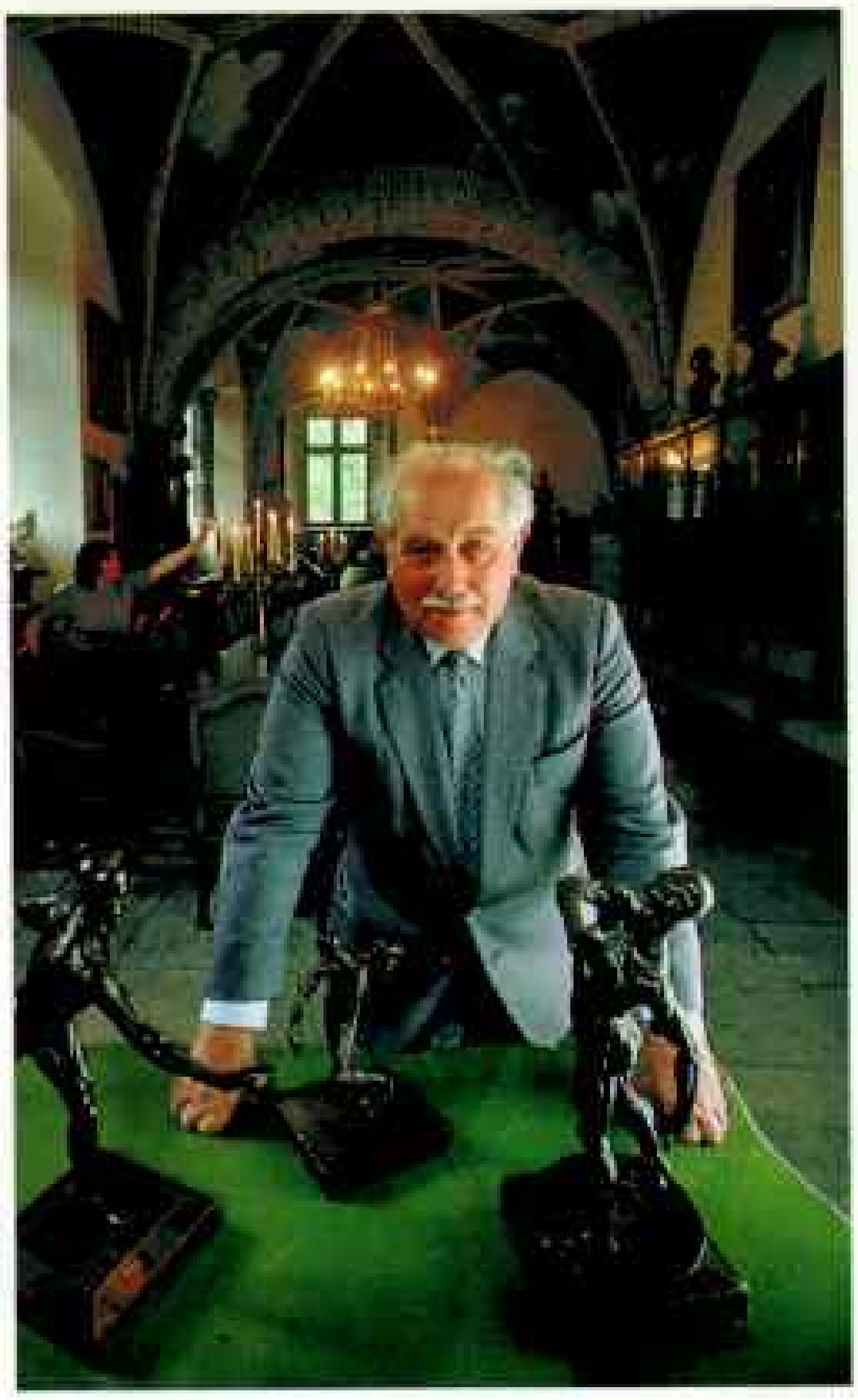
"But they were wrong on all scores," a former Solidarity newspaper editor told me as we toured the forbidding scene of ugly, grimy apartment buildings and industrial installations. "Instead of a socialist city, they've created a monstrosity. And, finally, they had to capitulate to the pressure of the people and let us have new churches."

AFTER 40 YEARS of Soviet-enforced Marxism-Leninism, the steadily deteriorating quality of life in Poland is a grim daily drama.

"You know, in the end you lose your will to live," said a woman of my acquaintance in Warsaw who works in a government office and tries to be a housekeeper and a mother as well—as best she can.

"I get up at dawn in that tiny apartment of ours—you can forget about getting a larger apartment even if you live to be a hundred—and I prepare breakfast for my husband and the two kids, send the children off to school, then I rush to catch this horribly crowded red

streetcar to get downtown to my office. I quit work around two o'clock, and I go shopping for food and various things we need. Sometimes I stand in a queue at the butcher shop to buy meat with my ration card, but often they run out of meat before my turn comes, so I race elsewhere to get into another line to buy something else we can eat. When I get home, chances are I probably have to walk up the stairs to our apartment on the sixth floor because the elevator is usually out of order. Then I cook dinner, serve it, wash the dishes. And then it's another day tomorrow, just like today. Some life!"



DR. MAGDALENA SOKOŁOWSKA, a leading Polish sociologist and physician, says that women are the greatest victims of the system because the burden of life with its daily responsibilities falls most heavily on them. "Feminism, or women's liberation, does not exist in Poland," says Dr. Sokołowska. "Polish women think simply in terms of survival." They also worry about finding seemingly nonexistent plumbers or electricians as well as about illness in the family, because the public health system in Poland is collapsing from bureaucratic inefficiency. (Polish medicine has high traditions, however, and even today pioneering surgery is performed by such renowned physicians as heart specialist Dr. Zbigniew Religa [pages 106-107]).

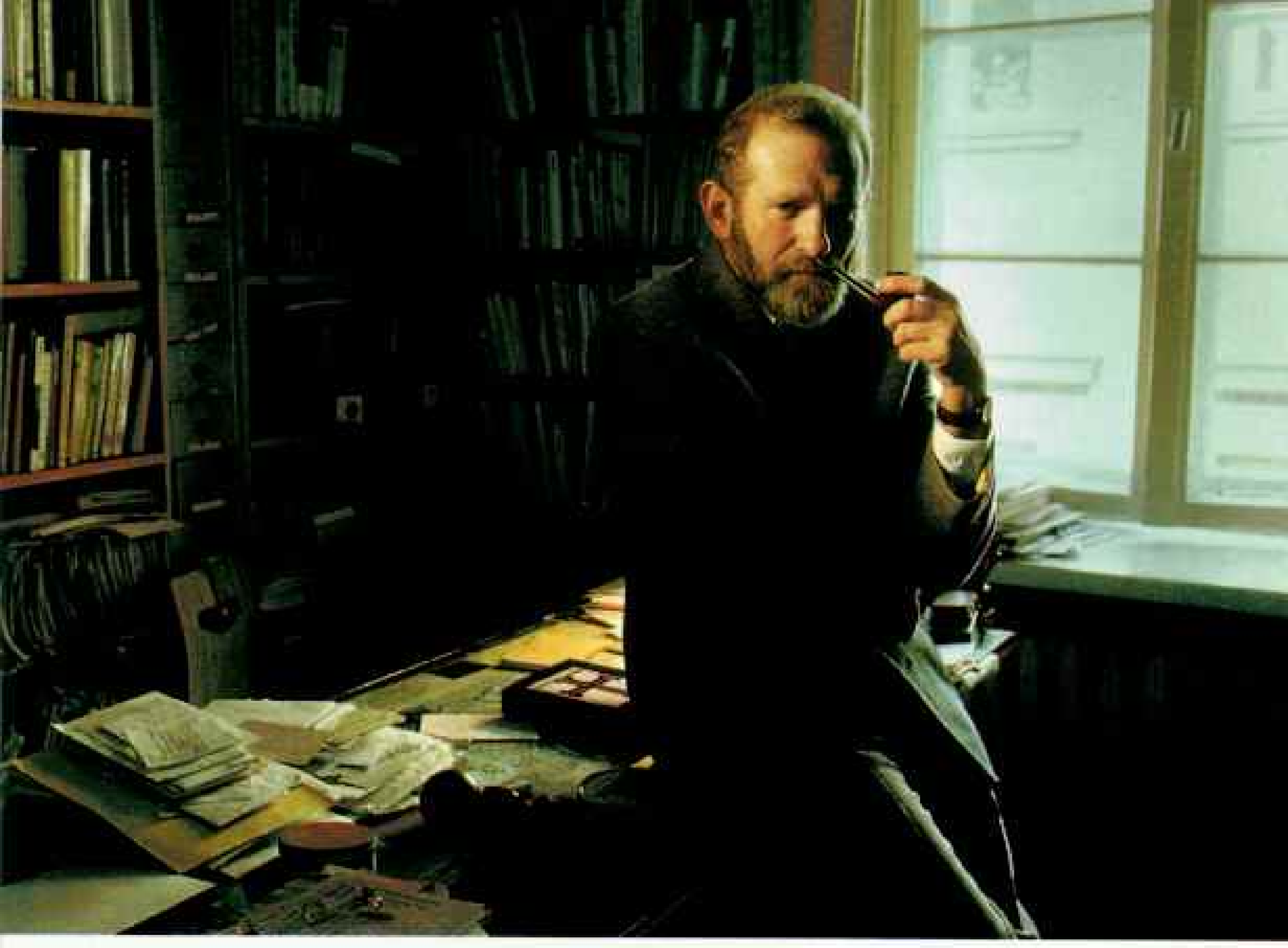
Men concentrate on going to work their factory or office shifts, says Dr. Sokolowska, but morale is so low that in the view of a government economist "we have a situation where people *come* to work—rather than actually work. It's a marvelous society in which you don't have to work to get paid by the state." Another economist observes that "if you have access to U. S. dollars, then you can buy anything you want in the Pewex—the dollar stores—but, of course, this creates new frustrations and divisions between Poles with dollars and Poles without them."

It was Alfred Miodowicz, a former steelworker and now the head of the government-sanctioned trade union organization and a member of the Politburo, who summed up the situation best in a conversation we had at his Warsaw office: "Our tragedy is that we are a socialist state without social justice."

Among the sad sights in Poland are not only grown-ups but even teenagers wandering, blind from drink, along sidewalks in broad daylight. Jaruzelski, who is a teetotaler, has tried to combat alcoholism by raising the price of vodka (a bottle containing less than an eighth of a gallon costs the equivalent of a day's salary of a skilled industrial worker). The results are not noticeable: Queues form in front of liquor stores awaiting the 1 p.m. opening, just as they do at food stores.

This rampant alcoholism accounts for low productivity and high absenteeism from work. Statistically, every Pole consumes eight quarts of pure alcohol annually (the equivalent of 16 quarts of 100-proof whiskey), and drunken driving, according to the authorities, was responsible for 1,500 deaths and 10,000 injuries in 1986.

Sociologists attribute the worsening alcohol problem to the immense strains, psychological pressures, and everyday frustrations of life in Poland's postwar industrial society. For four decades Poles have lived from crisis to crisis and from one broken promise to another in cycles of hope and disenchantment. Stress, pollution, diet, and industry-related degenerative diseases are blamed for the alarming drop in



OFTEN AT ODDS with the government, some of Poland's brightest minds strive to increase intellectual freedom. Elected chancellor of Kraków's Jagiellonian University during Solidarity's days of official acceptance, historian Józef Andrzej Gierowski (facing page) fought for the school's independence from government strictures until his term ended in September 1987. Medieval scholar Bronisław Geremek (above) paid for his role as advisor to Solidarity with time in prison. In the past novelist Tadeusz Konwicki (left) has found it difficult to get his books published in his native country. He and other writers have attracted a growing readership in the West.

A CITY'S NOCTURNAL GLOW, accentuated by this photograph's long exposure, illuminates the old section of Gdańsk, splendidly restored after being nearly destroyed during World War II. In the thousand years since its founding, the Baltic port city of 469,000

has been ruled at varying times by the Teutonic Knights, Prussians, Germans, and Poles. In 1939, when Adolf Hitler's demand that Poland give up Gdańsk was refused, Germany invaded the country, touching off World War II.

life expectancy in Poland; the central statistical office reports that whereas a 30-year-old man in 1965 could have anticipated another 41.7 years of life, today he can look forward to only 39.7 years.

In sum, this is a bitter nation, and General Jaruzelski told me that his overwhelming priority is to create greater trust among his compatriots. It will not be an easy job. In Warsaw I read a front-page article in the Communist Party's daily newspaper, *Trybuna Ludu*, acknowledging that the fundamental Polish problem is that "nobody here has any trust in anybody else." This mistrust embraces everything from government policies to personal relationships.

The Center of Public Opinion Research, created by Jaruzelski in 1982 to assess the national mood, has reported that most Poles feared further deterioration in their quality of life and that a vast majority of high-school graduates felt so hopeless about the future that they wanted to go abroad to earn dollars (51 percent) or as tourists (32 percent, though some "tourists" do not return home).

"There's no country in the world in a state of crisis, with the economy as bad as here, where the society would have trust in the government," Deputy Premier Zdzisław Sadowski told me. "Trust must be created." Sadowski, an internationally known economist who is not a party member, was brought into the government last year and put in charge of reform.

"I am fully aware of the tremendous difficulties that face us," General Jaruzelski himself told me.

That is an astonishing thing for a Communist leader to say. But Communism in this Western-oriented and Catholic land has always been a contradiction in terms. Poles were spared the worst of the show trials and murderous repressions of the Stalin era and experimented as early as 1956 with liberalizing reforms. Land collectivization could not be imposed in Poland, and today some 70 percent of arable land is in private hands, cultivated

by small farmers who are the framework of the increasingly important market economy. Farming nevertheless is hard work, and young people are fleeing the land en masse.

In my travels I did meet a large number of "rich peasants" and even rural millionaires who own sumptuous houses (at least one with an indoor pool and a sauna), foreign luxury automobiles, and Arabian show horses worth hundreds of thousands of dollars—all perfectly legal.

Interestingly, much of this farm wealth stems from the age-old Polish tradition of presenting flowers on every imaginable occasion. A case in point is Czesław Witczak (below right), a 49-year-old graduate of the agrarian academy at Poznań. Over a lunch of smoked eel, turkey, and venison in his marble-floored mansion with swimming pool in the village of Łankowice, near Bydgoszcz in northwestern Poland, Witczak told me that he made his fortune selling about 200,000 roses annually from the long row of glass-covered hothouses he built several years ago.

OLD POLISH CUSTOMS are reviving with unprecedented vigor these days, presumably as a reaction to Communist egalitarianism of the past era. I had heard that these days Communist men kiss women's hands with an alacrity unmatched by prewar aristocrats, but I was startled and enchanted when I saw a uniformed militia captain bowing to kiss the hand of a uniformed lady militia lieutenant as a morning greeting under a Vistula River bridge in the city of Toruń.

Revivals of Old World gallantry notwithstanding, Poland's heart and mind and tastes are completely in the West. It desperately wants Western technology and is hopelessly drawn to Western culture. A Warsaw weekly was serializing capitalist Lee Iacocca's autobiography last spring, and James Clavell was on the best-seller list along with A. A. Milne. On Polish television *Grease* with John Travolta was seen in March by 20 million viewers.

But censorship hobbles Polish writing and undermines the famous Polish cinema. However, if they have time and energy (and the connections needed to obtain tickets), Poles can see superb performances at Warsaw's Grand Opera and Ballet Theater, attend extraordinary concerts, and even watch good TV since pro-Solidarity actors have ended their boycott of state television and are willing to perform again.

On another level there is political humor, an ancient Polish tradition. Pod Egidą is a political cabaret run by a bespectacled middle-aged humorist named Jan Pietrzak in a small Warsaw theater. Over a brandy before the performance, Pietrzak told me that he still had to submit his material to government censors, but added delightedly that on one occasion a friendly censor had confided that the censorship office had used a videotape of his show to teach a class in political humor to aspiring ideological watchdogs.

Though Pietrzak is given much latitude in anti-regime humor, he can also be bitter toward his admiring audience: When they rose in applause one evening, he remarked, "Ah, but I remember when you applauded pro-Stalinist jokes too!"

Tadeusz Konwicki, Poland's foremost living novelist, wrote in a recent book, *Moonrise, Moonset* (published in the United States in

A BOUNTIFUL STOCK of baked goods attracts shoppers in a state-run Warsaw market (facing page), although many consumer items are often in short supply. Making the most of a limited private economy, Czesław Witczak amassed a fortune selling roses grown in his hothouses in the village of Łankowice.

1987): "For two hundred years now, every generation of Poles has had the commandment to save the fatherland encoded in its genes." This was true of the Poles who rose against Russian occupation on two occasions in the 19th century; of the cavalrymen who charged Nazi tanks with lances and sabres in 1939; of the men, women, and children who fought in the great anti-German Warsaw uprisings in 1943 and 1944; and of those who battled against Hitler in the British, American, and Soviet Armies from Italy and France to Ukraine and Berlin.

Patriotic history was relived too in March 1968 when a banned performance of the classic play *Forefathers' Eve* by 19th-century poet Adam Mickiewicz, rich in anti-Russian overtones, triggered student riots and a violent wave of repression by the Gomułka regime. There followed a demented anti-Semitic campaign, showing the darkest side of Polish Communist practices and appealing to the lowest human instincts; at that time there were no more than 40,000 Jews in Poland from the prewar population of three and a half million. Today there are five or six thousand, the rest having fled the country.*

The common denominator among most of

ABSORBED IN CREATION, Witold Lutosławski (left), an internationally acclaimed composer, ponders a passage in a new piano concerto. Renown came to author Edmund Jan Osmańczyk, at home with his wife, Jolanta, for his monumental Encyclopedia of the United Nations and International Agreements.

the leading figures of contemporary Polish culture—and they are world-class figures—is opposition to the Communist system in written works (including novels and poetry) that appear in the extensive underground press, in public statements and in private conversations, and even in music. Ironically, many of them belonged to the Communist Party in their youth—as idealists.

The government finds it useful to let the opposition print and distribute underground publications on the theory that this will not undermine its rule. Instead, underground publishing helps defuse political pressures.

I found Andrzej Wajda, famous for his movies *Man of Marble* and *Man of Iron* (a film about Solidarity that was awarded the top prize at the 1981 Cannes International Film Festival), on location near Warsaw where he was filming Dostoevsky's novel *The Possessed*. His hope, he said, was to make a picture telling the truth about the uprising in the Warsaw ghetto in 1943; this great Jewish epic has never been properly told on film, he said.

But he was depressed about the state of

*See "Remnants: The Last Jews of Poland," by Malgorzata Niezabitowska and Tomasz Tomaszewski, in the September 1986 GEOGRAPHIC.

Poland and about the state of Polish movie-making: "There is no money in this bankrupt country of ours to make good pictures, even inexpensively. And there's still the censorship problem facing us."

The scene he was shooting that day was the burning of a Russian village, and the director patiently rehearsed young actors in their performances. "Maestro," the crew and actors called him. His cap jauntily at an angle, his high boots giving him a cavalier air, Wajda was very much the genius at work.

Epics in Poland, of course, are part of the political geography. As I traveled across the country, history was ever present. There were the Oświęcim-Brzezinka (Auschwitz-Birkenau) and Majdanek death camps, the one near Kraków and the other outside Lublin, where millions were murdered by the Nazis. (At Oświęcim I was deeply moved by a group of American Lutheran women who softly sang spirituals in front of the death ovens and passed out tiny paper peace doves.)

THE POLISH *VIA CRUCIS* led me to the streets of Poznań in the west, where workers first rose against the regime in 1956, opening the way to the first reformist wave; the neighborhoods in the port city of Gdańsk, where security forces

killed 45 workers protesting price increases and working conditions in December 1970; and the Lenin Shipyard, where Solidarity came into being ten years later.

At Powązki Communal Cemetery in Warsaw, candles are lit by hidden hands in memory of the more than 4,000 Polish officers executed in Katyń Forest in Byelorussia—and in memory of the 1944 Warsaw uprising victims who died when Soviet forces, massed on the far side of the Vistula River, would not come to their assistance. Poles believe that Stalin wanted the Warsaw underground massacred because the underground Home Army was anti-Communist and would have stood in the way of postwar Communist rule.

Katyń and Warsaw are bitter memories for Poles, and Jaruzelski and his like-minded friend Mikhail S. Gorbachev of the Soviet Union seemed to understand this when they announced last April that a historical commission was being formed to discover the truth about "gray areas" in Soviet-Polish relations. The assumption is that these areas include Katyń as well as the deportation of perhaps as many as one and a half million Poles to the Soviet Union in 1939, after Soviet forces invaded Poland from the east while Hitler was invading from the west.

IT WAS JOSEPH STALIN who literally pushed Poland even farther westward through the Soviet annexation of eastern Polish provinces—including the cities of Lwów (now Lvov) and Wilno (now Vilnius), to which Poles had great patriotic and sentimental attachment. Stalin compensated Poland by awarding it German lands where Poles had lived for centuries.

It is one thing to redraw borders or grab territory, but it is another to slide an entire nation as a child slides building blocks. As many as ten million human beings were moved to the west: Polish populations from the provinces swallowed by the Soviets were transported to the former German regions, while Germans were expelled from their homes to make room for them.

Even though Poland's economy was greatly helped by the acquisition of these rich lands, the migration was one of the most massive and dramatic in postwar Europe. It involved terrible emotional and cultural shocks, and the social consequences persist today.

Among those deported was the entire Jaruzelski family, including 16-year-old Wojciech, whose father died in Central Asian exile. Jaruzelski thus spent his youth in what amounted to a Soviet labor camp where prisoners felled trees in surrounding forests. He says Russian *(Continued on page 110)*

HORSEPOWERED WHEELS carry coal to customers in the village of Ratułów near the Czechoslovakian border. Horses and carts remain a common sight in the rural areas of Poland, a nation of 37 million residents that counts about four million privately owned motor vehicles, up from half a million in 1970.

ANXIOUS EYES of Dr. Zbigniew Religa keep watch on a monitor tracking the vital signs of a heart-transplant patient at the Cardiology Clinic in Zabrze. An exhausted colleague who helped Religa perform two transplants in one all-night session rests

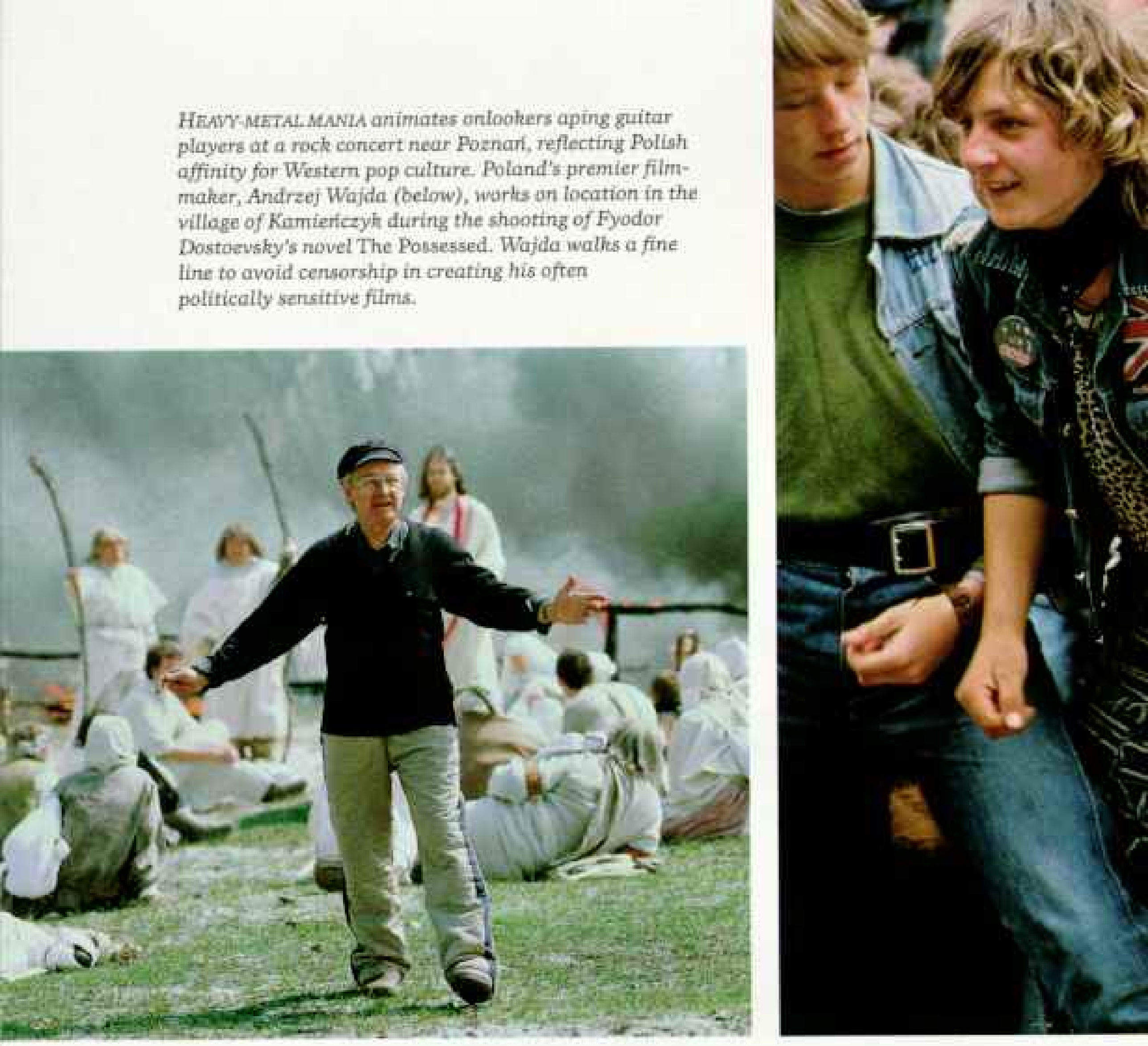
in a corner. Despite such advanced capabilities, Poland's free national health-care system suffers from a critical lack of hospital beds, long waiting lists for surgery, and frequent shortages of even the most basic supplies.

Such favors reflect the importance of the industry in Poland, which ranks fourth worldwide in coal production and trails only the United States in exports.

Smoke spews from the coke-production section of the huge Lenin Steel Mill (left) at Nowa Huta east of Krakow. Inside the plant Zbigniew Pawelek takes a break from testing molten steel for quality as it emerges from a blast furnace (right). Poland's largest—and most polluting—industrial facility, the steelworks and the town of Nowa Huta were both built in the early 1950s as part of the postwar Stalinist industrialization program.

HEADING FOR THE SHOWER, Bogdan Pakoca (below) ends his shift at the Borynia coal mine in the rich Silesia fields of southwestern Poland. Coal miners are the elite of the Polish working class. Recognizing the hazardous conditions, the government sets miners' wages at more than twice the average for other workers, gives them priority on waiting lists for housing and cars, and provides them with the use of holiday resorts and sanatoriums.

HEAVY-METAL MANIA animates onlookers aping guitar players at a rock concert near Poznań, reflecting Polish affinity for Western pop culture. Poland's premier filmmaker, Andrzej Wajda (below), works on location in the village of Kamieńczyk during the shooting of Fyodor Dostoevsky's novel The Possessed. *Wajda walks a fine line to avoid censorship in creating his often politically sensitive films.*



families who were as poor as the prisoners were kind to him, and "that's when I learned to like the Russian people." Jaruzelski's great-grandfather died in Siberia after being imprisoned for his part in the anti-tsarist uprising in 1863. History in Poland casts a long shadow.

In fact, General Jaruzelski was able in July 1987 to write—for a Soviet ideological journal—that the 1939 Soviet invasion of Poland, and the deportations, were "contradictory to Poland's right of independence."

NINETY-THREE PERCENT of Poland's people are Roman Catholics, most of them fervent believers, and the church is the most powerful non-Communist force in Poland. The dialogue between bishops and high government officials touches on all aspects of national life, and acquired even greater significance in 1978 when Karol Cardinal Wojtyła of Kraków was elected Pope to become John Paul II, the first Polish pontiff in history.

Freedom of worship is absolute in Poland, and in our travels around the country, GEOGRAPHIC photographer Jim Stanfield and I often felt we were enveloped by ritual. Urban cathedrals and rural churches overflowed at almost every Mass year-round. Easter brought moving acts of faith everywhere in the country: At Kalwaria Zebrzydowska, a Bernardine Fathers monastery in the hills southwest of Kraków, 30,000 believers slogged through mud in a cold rain to follow a two-day Passion play procession with the fathers and village actors in the roles of the martyred Christ, Pilate, and Roman soldiers. In the past, we were told, the crowds have become

hysterical, believing they were seeing the real Christ, and attacked the "soldiers."

Each year millions of Poles undertake pilgrimages to the holiest place in the country, Jasna Góra (Luminous Mountain) Monastery, in Częstochowa to pray at the medieval shrine of the Black Madonna, acclaimed as the Queen of Poland.

The church in Poland is patriotic in the deepest sense and has always been intensely nationalist-minded, in the forefront of defending the Polish identity. It emerged with the advent of Christianity in Poland over a thousand years ago under the Piasts, the first Polish royal dynasty, and has remained ever since an organic part of national life. When the throne was temporarily unoccupied because of a royal absence or death, the Primate of Poland served as *interrex*, the "king between kings."

During the 120 years when Poland ceased to exist, divided late in the 18th century between Russia, Prussia, and Austria, the church was the bastion of Polish nationality, the protector of the language and the culture. A mural in a sitting room at the Primate's Residence on Miodowa Street, where Cardinal Glemp received me, depicts the tradition: King Jan III Sobieski, who stemmed the Turkish tide rolling over Europe in the 17th century with a series of great battlefield victories; Marshal Józef Piłsudski, who led Poland into independence after World War I; a wounded Polish soldier at the battle of the Vistula River near Warsaw, when a Soviet invasion was halted in 1920; and a dying Polish Army chaplain blessing the troops.

There has long been a theory in the West that Poles display their faith principally as

WRESTING A LIVING FROM THE LAND, Zofia Łas pitches hay onto a wagon tended by her father-in-law, Tadeusz Łas, before the soaring backdrop of the Tatra Mountains. Despite extensive industrialization in the decades since World War II, a fifth of

the Polish population still lives on farms. More than 70 percent of Poland's arable land remains in private hands, the highest percentage among Eastern-bloc nations, in which state farms and collectives predominate.

an anti-regime gesture. But Cardinal Glemp denied this when I raised the point in a private conversation with him at his Warsaw residence. "There is a vast range of attitudes toward religion," he told me, "but I think that there are fewer and fewer Catholics practicing their religion as a form of opposition, to be against the regime. This is because there is a certain deepening of authentic faith, which runs against superficiality, and churchgoing for opposition reasons would be artificial."

Today Cardinal Glemp plays a crucial if subtle political game with the general's regime. He said that, of course, the church would always be opposed to Communist ideology but recognized that Jaruzelski has taken "little steps" that are "signs of a certain democratization." Glemp and Jaruzelski have met privately more than a dozen times. As both men tell it, there is no reason for continued antagonism between the church and the Communist state, though neither cedes an inch ideologically. And last July the Polish regime reversed itself to authorize a ten-million-dollar, U. S.-funded church foundation to aid small farmers.

AMONG STARTLING CONTRASTS in Poland is the symbolism of the cross and the television antenna in the countryside, where over 40 percent of the population still lives. Along rural roads, particularly in the less developed areas east of Warsaw (known cruelly as "Poland B"—"Poland A" being the more affluent west), one sees a cross or a shrine with a figure of Christ or the Madonna every few miles, with fresh-cut flowers always at the foot.

The vast majority of rural houses, some of them mere huts, proudly display TV antennas (sometimes side by side with a rooftop stork nest). In 1986 nearly ten million TV sets were registered in Poland, roughly one for every four inhabitants, which is astonishing when one considers that a black-and-white set costs the equivalent of the monthly salary of a skilled worker (and 50 percent more than the average wage), and a color set sells for about six times the higher salary.

On the other hand, there are fewer than five million telephones in Poland—one for roughly every seven inhabitants—and much of the countryside has no phone service at all. In the cities one may wait 15 years for a home phone.

Moreover, Poland has been seized with "videomania," and it is estimated that there are some one million videocassette recorders in this enormously indebted and impoverished nation. A VCR costs the average industrial worker the equivalent of 20 monthly paychecks. A Polish-built Polonez automobile requires the proceeds of seven or eight years of such salaries—but the number of privately owned cars surged from half a million in 1970 to nearly four million in 1986.

This hunger for consumer goods—and the prestige that their ownership brings—reflects a reaction to the material denials during the postwar decades as well as the immense frustration of the people in the cities, where families may wait as long as 20 years for an apartment barely large enough for a couple and two children. Young families, like it or not, tend to live with in-laws. A young engineer in Łódź, the second largest city, told me that "if we can't have our own home, we can at least have our own TV in our room, and a small car just to get away once a week."

No matter how crowded the home may be, a visitor is instantly offered tea, coffee, an alcoholic drink, or a cake that the hosts probably can ill afford; yet in Poland it is rude to decline hospitality. There is no rational explanation for Polish economics in terms of what people can afford—VCRs or cars, for instance—and it is therefore accepted that such purchasing power is made possible through the "Polish way"—multiple jobs, moonlighting on government time during working hours, bartering goods and services, bribery, and the colossal black market in foreign currencies and imported or smuggled merchandise.

Perhaps as much as half a billion dollars enters Poland annually in gifts from families living in the United States and elsewhere. And this finances some of the purchases (the current black-market dollar rate is about four times the official rate in złotys).

Poland thrives on contrast. In Warsaw on the eve of the Pope's visit in June 1987, I

GRACEFUL FORM AND NIMBLE GAIT characterize Parys, a purebred Arabian sire raised at the Janów Podlaski stud farm. Poles captured Arabian horses from Ottoman invaders, but the first stock may have arrived even earlier with knights returning from the Crusades. Polish-bred stallions have commanded as much as a million dollars.

OUT OF HARM'S WAY, newly constructed houses huddle in the village of Maniowy (above). Government planners rebuilt the town to accommodate people moved from the adjacent lowlands that will be flooded upon completion of a dam on the nearby Dunajec River, which flows from the Tatra Mountains near the Czechoslovakian border.

Planned as the third hydroelectric project on the 128-mile river, the dam (left) is being constructed across a dramatic five-mile-long gorge. Flanked by peaks rising as much as 900 feet above the water, the gorge—called the Dunajec Breach—has long been a favorite spot for rafting.

Commanding the hill overlooking the dam, Niedzica Castle was begun in the early 14th century and rebuilt during the Renaissance. Once a stronghold of a powerful Hungarian family, the castle later became one of Poland's strongest frontier fortresses. In the distance sit the ruins of Czorsztyn Castle, inhabited by Casimir the Great in the 14th century.

watched work crews replacing the Chinese flag on the lampposts (Premier Zhao Ziyang had just completed an official visit) along the main thoroughfares with the yellow-and-white standard of the Vatican. For a week Jaruzelski played proud host to his fellow Pole—"Two Great Poles Together," said the caption under their photograph on the front page of the Communist Party's official newspaper.

Meeting with opposition intellectuals at a Warsaw church, John Paul II walked slowly down the church aisle, and old friends stepped forward to greet him by his diminutive, Lolek.

Later the Pope visited St. Stanisław Kostka Church in Warsaw to pray silently in the flower-filled courtyard at the grave of the Reverend Jerzy Popieluszko, the popular pro-Solidarity priest who was murdered by Polish secret police in 1984.

Jaruzelski did not comment on that episode but indicated to me that he was not wholly enchanted by the Pontiff's approving public references to Solidarity, though on the whole the papal visit was very "positive." He did not seem disturbed by the Pope's preplanned encounter with Lech Wałęsa in Gdańsk. (When the Pope came to Poland in 1983, after martial law was suspended, Wałęsa was flown in a government helicopter to meet him more discreetly in a village in the Tatra Mountains.)

SIX YEARS after the destruction of Solidarity, Poles remain locked in controversies and arguments. Naturally much of the debate revolves around Jaruzelski and his motives, real or suspected. While he proclaimed a general amnesty in September 1986—thus making Poland the only Communist country without known political prisoners—and permits reasonably free debate in the Sejm and the newspapers, radio, and television, the resentments against him have not altogether vanished.

Therefore I was astonished when Lech Wałęsa told me during an afternoon we spent together at the residence of the parish priest at St. Brygida's Church in Gdańsk that, sooner or later, "we shall meet [with Jaruzelski] on the way to reform." Wałęsa also surprised me by indicating he shared Jaruzelski's high regard for Gorbachev and his Soviet reform policies, and by saying that Solidarity should change its name to "Reform" to emphasize the need for evolutionary change in Poland.

"Solidarity is immortal as a symbol," he said with his characteristic gesticulation, "and Solidarity will be fulfilled through reform."

At its peak Solidarity's membership reached ten million, more than one-fourth of the total population—including one million Communist Party members.

Wałęsa receives daily streams of political and foreign media visitors at the church residence, which is virtually his Solidarity office, after completing his 6 a.m. to 2 p.m. shift as an electrician at the Lenin Shipyard. His freedom to act so openly is another Polish paradox, though plainclothesmen in unmarked cars keep track of visitors.

Seeing Wałęsa for the first time since the euphoria of 1981, I found him much more mature and sophisticated politically, but as enthusiastic and optimistic as ever. His mustache bristling, his voice rising to make a point, he still acts the leader. His views are more moderate, and he recognizes (as he did in his autobiography published in French in Paris in 1987) that he lost control of Solidarity to "radicals" in the months preceding martial law. His conclusion, therefore, is that the next move by democratic groups in Poland should be more thoughtfully prepared.

One of the most fascinating new Polish institutions is the Center of Public Opinion Research that feeds Jaruzelski detailed data (mostly unpleasant) on what people think. Headed by an intense but good-humored army colonel named Stanisław Kwiatkowski, who also is a Ph.D. in philosophy, the center was urgently asked for public relations advice by the Soviet Union after the Chernobyl

FLAMES OF MEMORY burn bright in Warsaw's Powązki Cemetery on August 1, the anniversary of that city's ill-fated uprising against German occupation in 1944. A stone cross memorializes the more than 4,000 Polish officers found buried in a mass grave in 1943 near the village of Katyń in the Soviet Union.


OBWIESZCZENIE

nuclear plant disaster. Colonel Kwiatkowski urged the Soviets to tell the truth—rapidly.

At home, the center informed Jaruzelski in 1986—and the assessment was published in the official press—that in the public view the church is the institution serving the nation best, with only the army and parliament approaching it. The poll omitted any reference to Poland's Communist Party or the government; the omission spoke for itself.

VOICES OF DISSENT find expression through a network of underground printing presses such as this operation (facing page) near Warsaw. Often imprisoned for his antigovernment statements, philosopher Adam Michnik (below) asserts that in Poland today "civil disobedience is the only attitude worthy of respect."

AS I THINK BACK ON my Polish sojourn, I am reminded that detail often helps one understand the whole picture. And the tableau of Poland is full of tiny brushstrokes.

At the great Arabian horse farm at Janów Podlaski, first established by the tsars of Russia 170 years ago, government permission was quietly granted a few years ago to restore the royal crown over the letter J (for Janów) on the brand on the animals' rumps. Auctioned off once a year, the beautiful Polish Arabians are sold for the most part to buyers from the U. S.—and the royal crown symbol goes with them across the Atlantic from the farm on the River Bug along the Polish-Soviet frontier.

At the famous film school in Łódź, I overheard an exasperated director shout at a student actress who was reading her lines woodenly: "For God's sake, put some emotion in this! It was Sartre who wrote the play, not Karl Marx!"

It was also in Łódź that I came upon a two-story building on busy Piotrkowska Street downtown, and a plaque next to the main entrance proudly proclaiming that Artur Rubinstein was born there in 1887, a century ago. The great pianist was the textile city's greatest pride, and I was staring so hard at the inscription that an elderly lady stopped and asked me in Polish: "So maybe you knew Mister Rubinstein?"

I replied that I had known him since I was a child, and then I realized I was standing four houses away from where my grandparents had lived during World War I; I had the address scribbled in my notebook. It was nice to know that a tiny niche of our family history had been preserved, just down the street from the Rubinsteins.

Yet the most significant evocation of the recent Polish past that I encountered was the vivid memory of Antoni Słonimski, a great poet, a man of charm, honor, and humor, a man respected by Stalinists and liberals, the guru of Poland's postwar intellectuals, and the nearest thing to a Polish national conscience. I had the privilege of knowing him before he was killed in a car crash at the age of 81, a dozen years ago, and I knew that he had become a legendary figure.

His most famous remark was a simple one: "When you are in doubt how to act, act decently." I like to think that Antoni Słonimski's injunction will define the behavior of his fellow countrymen as they live through the latest Polish drama. □

A Century After Darwin's Death

Galápagos Wildlife

Wheeling, hovering, mastering the evening breeze, a trio of great
learned in the Galápagos archipelago, an extraordinary laboratory

FRIGATA MINOR, WINGSPAN 6.5 M (7.5 FT)

Photo essay by DIETER and MARY PLAGE

Under Pressure

frigatebirds feeds near Floreana Island. For three years we lived and of evolution with ecosystems vulnerable to the excesses of man.

Vapor-snorting demons—such were early visitors' impressions of

adapted to a seaweed diet. It processes absorbed seawater with salt

marine iguanas. Once a land dweller, the world's only seagoing lizard glands, showering accumulated brine sneeze-like from its nostrils.

Deep hissing sighs float through the misty highlands of Santa Cruz

"They seemed newly crawled forth from beneath the foundations of the

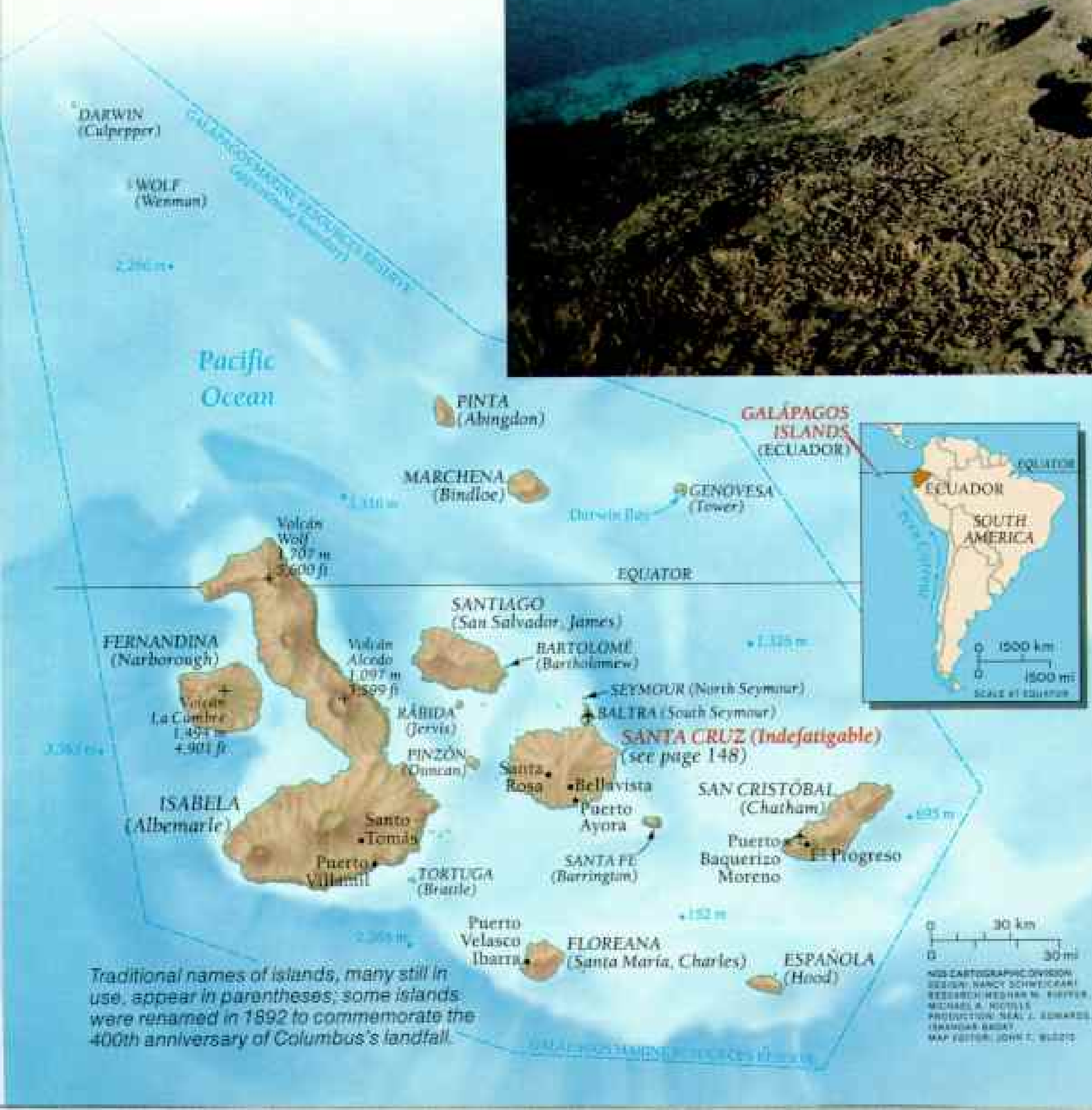
GROSCHELUKE ELEPHANTOPUS PORTOR, L. S. W. (S. F.)

Island, where giant tortoises seek out a rain-filled pool.

world," wrote Herman Melville, who went whaling here in 1841.

"Both in space and time, we seem to be brought somewhat near to that great fact—that mystery of mysteries—the first appearance of new beings on this earth."

—CHARLES DARWIN,
The Voyage of the Beagle, 1860



Traditional names of islands, many still in use, appear in parentheses; some islands were renamed in 1892 to commemorate the 400th anniversary of Columbus's landfall.

NGS CARTOGRAPHIC DIVISION
DESIGN: NANCY SCHWEICKART
RESEARCH: MEDORA W. PORTER, MICHAEL R. NICOLLS
PRODUCTION: NEAL J. EDWARDS, (RANGAR BASE)
MAP EDITOR: JOHN T. WHITE

CHARLES DARWIN fixed the Galápagos on the map of the human imagination with his 1835 voyage aboard the *Beagle*. That expedition eventually resulted in his theory of evolution. The islands were discovered by the Bishop of Panama, Tomás de Berlanga, in 1535, when his becalmed ship anchored in search of water. "It seems as though . . . God had showered stones," said the bishop of desolate landscapes such as Bartolomé Island, foreground, and Santiago Island, beyond, seen from our ultralight aircraft, *Busby*.

The profusion of wildlife often seems masked by such stark volcanism. Beginning their rise from the sea about five million years ago, the islands lie near the junction of three of earth's tectonic plates. The archipelago is moving southeast over a hot spot, which feeds fiery magma to volcanoes on the western islands of Fernandina and Isabela. The eastern islands are older and colder, and for the most part inactive.

Although the islands straddle the Equator with its warm waters, they are also washed by cold currents, which sweep north and westward loaded with nutrients. Riding such ocean rivers aboard rafts of vegetation, ancestors of many of the Galápagos' uniquely adapted species probably arrived from mainland South America.

Buccaneers, whalers, and sealers anchored here from the 17th to 19th centuries, filling their holds and decks with more than 150,000 giant tortoises in all, tasty provisions that could live a year or more without food or water. The tortoises—*galápagos* in Spanish—gave their name to the islands. The archipelago was annexed by Ecuador in 1832, and small settlements had taken root by 1900. Including 13 large and six smaller islands plus scores of islets, the land totals about 8,000 square kilometers (3,000 square miles). Ecuador declared most of it a national park in 1959.

CLEANING SERVICE is free on Fernandina Island, where a Galápagos mockingbird picks parasites and dead skin from a marine iguana.

Living solar panels, some of these reptiles bask until their body temperature reaches about 36°C (97°F) before they enter the water to feed. All iguanas forage for seaweed at the shoreline during low tide, but only

MOCKINGBIRD, *MIMUS PARVULUS*, 20 CM (8 IN)

the adults swim offshore to graze the bottom, diving as deep as 12 meters (40 feet) for as long as 30 minutes. As an experiment, a sailor on the *Beagle* sank an iguana with a heavy weight, and it was still alive an hour later. Darwin repeatedly threw one recalcitrant iguana into the sea and was puzzled when it quickly returned to shore, since he had been vividly impressed by its diving and swimming abilities. He must have picked a cold iguana; during their dives they can lose about 20°C (30°F) of body temperature.

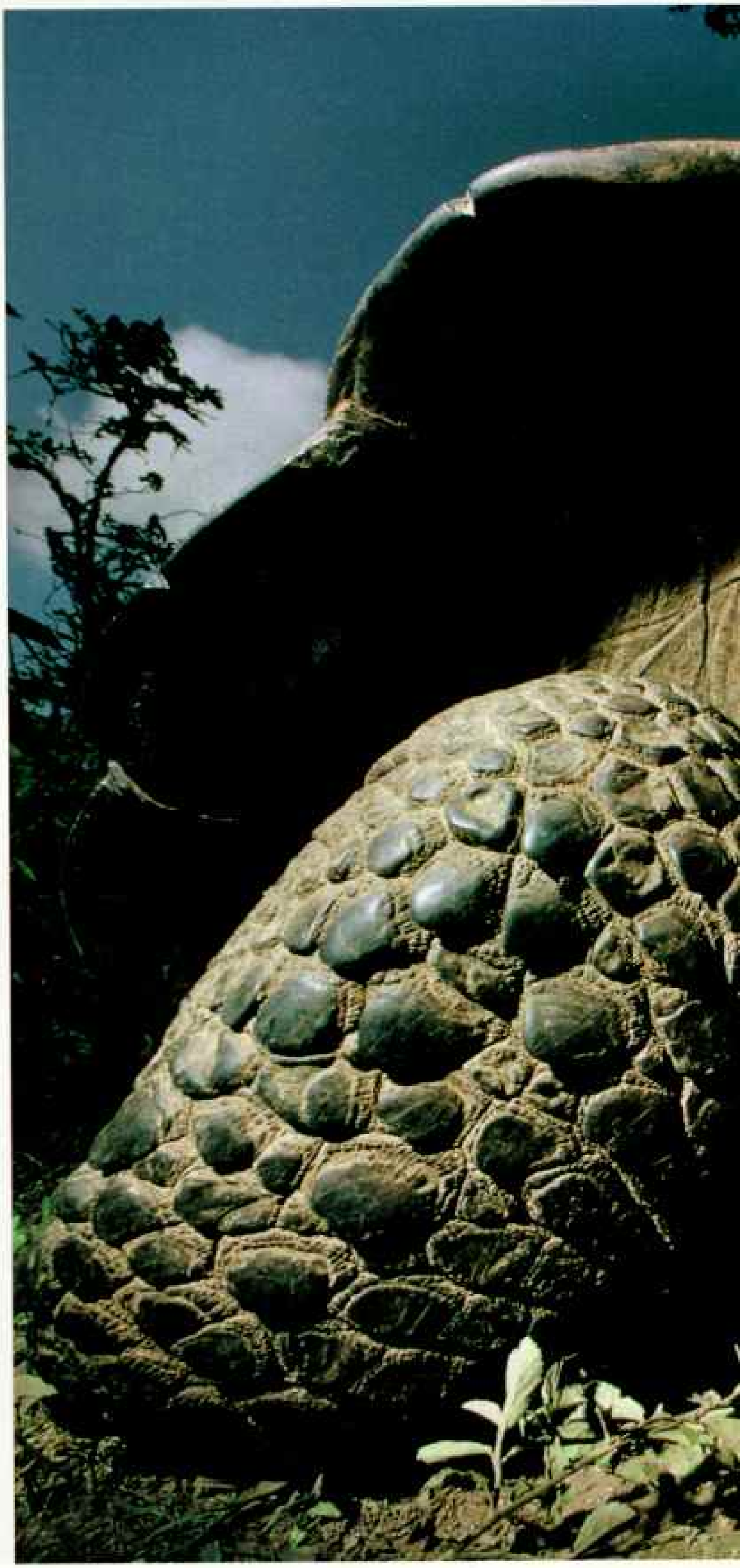
SEABIRD'S-EYE VIEW of Genovesa Island (below) takes in mile-wide Darwin Bay, a volcanic caldera eroded by the sea; inland, a smaller crater awaits the sculpting waves.

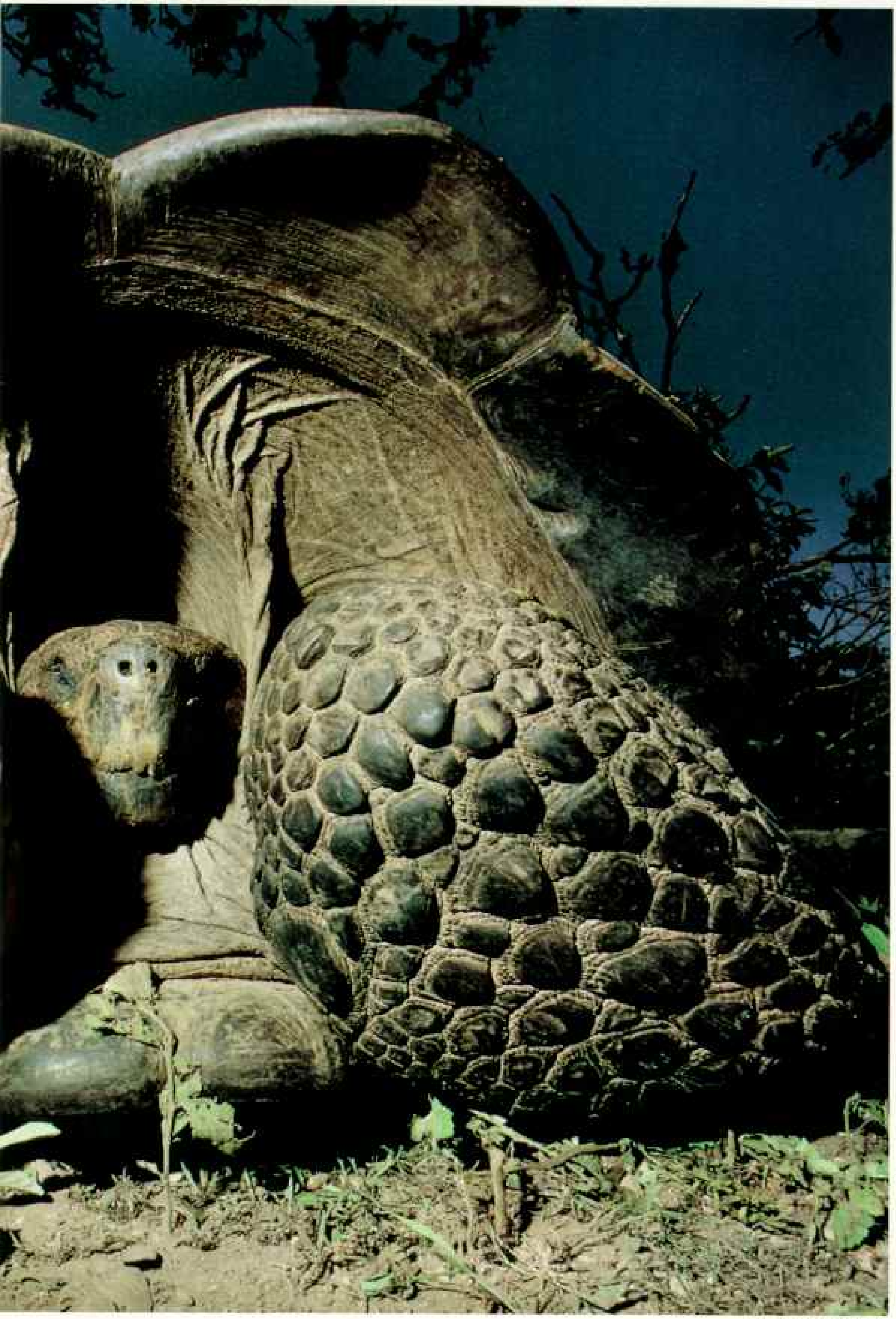
On the bay a pretty coral beach is a popular stop for cruise-ship visitors, especially during the first six months of the year when frigatebirds put on madcap courtship displays in their colony. Males perch amid intended nesting sites in shrubs and inflate stoplight red gular sacs to catch the eyes of females cruising overhead. When a potential mate is in sight, the male raises and quivers his wings, shakes head and pouch, and wails for all he is worth. With his heart in his throat, one suitor wins (left).

The pair then builds a haphazard nest, often filching twigs from the nests of neighboring red-footed boobies or from other frigatebirds. The female lays a single egg, incubated for seven to eight weeks by both parents. Deprived of food during week-long shifts, each may lose 20 percent of its weight. After hatching, the chick must initially be guarded by one adult against marauding frigatebirds or short-eared owls, while the other parent forages at sea. This dependency lasts five long months, until the fledgling takes wing, and helps explain why frigatebirds practice air piracy. They often waylay inbound boobies and harass them until they drop their catch in mid-flight, and the food goes instead into the bottomless pit of the frigatebird chick. The adults' hunting is limited to catching sea-surface prey from the air—they do not dive. But the frigatebird's maneuverability is incredible, and no booby with a full dinner pail stands a chance.

LIVING TANK met head-on, a giant tortoise looms from the rim of Volcán Alcedo atop Isabela Island. Weighing as much as 270 kilograms (600 pounds), these seemingly immovable objects have been battered by the irresistible forces of man and his introduced predators. The original Galápagos tortoise population, estimated at 250,000, has been reduced to about 15,000. Of 14 subspecies that evolved on different islands, three are extinct. One of the remaining races consists of a single male from Pinta Island, dubbed "Lonesome George," who has long resided at the Charles Darwin Research Station while scientists have scoured zoos fruitlessly for a Pinta female.

The station maintains a captive-breeding facility for other tortoise subspecies, whose eggs and young are endangered by feral dogs, rats, and pigs on their native islands. More than 1,200 tortoises from eight subspecies have been hatched, and nearly 900 have been repatriated after maturing enough to defend themselves.





GEOCHELONE ELEPHANTOPUS

BROWN PELICAN, *PELECANUS OCCIDENTALIS*, WINGSPAN 2 M (6.5 FT)

AN EMPTY BELLY can produce three minds with a single thought in a trio of immature brown pelicans (above). They await the catch of the day from the adult sea shuttle on Fernandina.

On the same island we noticed a bill-to-bill confrontation between a Galápagos penguin (opposite, at right) nesting beneath a shoreline lava slab and a flightless cormorant homesteading on top. An immature cormorant, still black, will eventually turn brown like its parents.

After flying in from the mainland, these cormorants' ancestors found plentiful prey such as octopuses available in the coastal shallows. Gradually they traded their ability to fly for stronger feet and a more streamlined body for swimming. About 800 pairs, the world's total population, nest on Fernandina and Isabela.

A cool, nutrient-rich upwelling near those islands also benefits the diminutive Galápagos penguins, the only ones of their kind that range to the Equator and nest within the tropics.

GALÁPAGOS PENGUIN, *SPHENISCUS MENDICULUS*, HEIGHT 38 CM (14 IN); FLIGHTLESS CORMORANT, *NANNOPTERUM HARRISI*, LENGTH 93 CM (35 IN)

THE DROP OF A WAVE is excuse enough for play, and Galápagos sea lions do so with relish and balletic grace as they bodysurf for hours on end in a favorite bay of Española Island. On land or sea they always seem to need a toy such as a crab, a piece of seaweed, or a penguin. They especially delight in seizing marine iguanas' tails and watching the

ZALOPHUS CALIFORNIANUS WOLLEBAEKI

lizards swim furiously, going nowhere.

A smaller subspecies of the California sea lion, about 50,000 of the Galápagos variety live in groups composed of a bull, weighing as much as 250 kilograms (550 pounds), and perhaps 30 cows. Such groups are called harems, although cows often change territories. Only five other mammal species are native to the islands—fur seals, two bats, and two rodents—probably because others could not survive a long trip on a mat of debris from the mainland.

HALIDEMANN KÖSTER (ABOVE); MASKED BOOBY, SULA DACTYLATRA. ADULT LENGTH 84 CM (33 IN); FINCH, GEOSPIZA DIFFICILIS. LENGTH 13 CM (5 IN)

HOOD MOCKINGBIRD, NESOMIMUS MACDONALDI, LENGTH 28 CM (11 IN.)

ON THE PITILESS SIDE of evolution the fittest survive by going to extremes. Water is at a premium on Española, a parched island that has its own species of mockingbird with a sickle-like bill. These extremely aggressive characters don't miss a trick. They pestered us so much that Dieter finally declared himself chairman of the local anti-mockingbird committee.

A vicious trio of them makes a fatal attack on a young masked booby (above) to drink its blood. Such situations often begin when an adult booby, unable to find a female, attempts to mate with a chick instead. The adult grabs the young bird's neck in its powerful bill, inflicting cuts. The mockingbirds go straight for the wounds. It was difficult for us to watch; we had to turn away.

Friedemann Köster, former director of the Darwin station and partner in the films we made for Survival Anglia, Ltd., documented an amazing bird, the sharp-beaked ground finch. It has found only a slightly less aggressive means of obtaining liquid on a lonely, barren volcanic rock called Wolf Island. Riding on the tail of a masked booby (left), a finch pecks at the base of its host's feathers, breaking quills and drawing blood, which the finch sips as if through a straw. The finch may have learned the technique as an outgrowth of feeding on flies and lice that parasitize the boobies.

The seabirds pay their tormentors surprisingly little heed, occasionally shaking their wings or taking flight to dislodge them. One in a group of 13 species of birds sometimes called Darwin's finches, this bird occurs throughout much of the archipelago. But only on Wolf and a small island nearby has this extraordinary behavior been observed, earning these birds the sanguine sobriquet of "vampire finches."

WOODPECKER FINCH, *CAMARHYNCHUS PALLIDUS*, 15 CM (6 IN)

TRICKSTER: The sharp-beaked ground finch (below left) adds to a booby's woes on Wolf Island by stealing its eggs. The moment the booby leaves its nest unattended, the finch moves in. Too weak to crack the shell, the bird uses its beak as a lever to brace its body so it can deliver a powerful kick to knock the egg into a rock. Repeated attempts open the prize (below).

Another enterprising bird common on several islands, a woodpecker finch (left), maneuvers a twig to pry a grub or insect out of its hole in a limb. These tool-users' talents are impressive, but only about one out of five we observed seemed to have mastered the knack.

Those that do also use cactus spines and can modify the device or find a substitute until it gets the job done. A bird may keep a particularly good tool and carry it from tree to tree.

As part of a ritual to maintain the bond with its mate, a waved albatross sky-points over its egg (right). Virtually the entire world population of this species, some 12,000 pairs, nest here on Española from April through December.

FRIEDEMANN KÜSTER (ABOVE AND ABOVE RIGHT)

WAVED ALBATROSS, DIOMEDEA IRRORATA, WINGSPAN 2.3 M (7.5 FT)

TURSIOPS TRUNCATUS, 3.5 M (12 FT)

"A mighty school of dolphins . . . came up, curved and dived with a single magnificent motion . . . two hundred leaps came as one. . . . They passed just ahead, still leaping skyward, flippers spread, slapping back with cracks like rifle shots."

—WILLIAM BEEBE,
1923 Galápagos expedition

WONDERFUL THINGS can happen in the pristine waters of the Galápagos. The sea can be so utterly calm that a bottlenose dolphin, seemingly frozen in flight, actually presents a transparent portrait just beneath the surface (left).

When sea lions mate, we were told, males normally take the initiative. Yet there was nothing shy about this female that mounted a male (below left), behavior that we also witnessed between three other pairs. On Española we recorded an extraordinary event—the first known birth of twins (far left) among Galápagos sea lions.

To protect this wealth of sea life against abuses by man, the Galápagos Marine Resources Reserve, with waters totaling 70,000 square kilometers (27,000 square miles), was signed into law by President León Febres Cordero in the spring of 1986. Now we hope that the total environment of this remarkable archipelago can be safeguarded for what it is—the pride of Ecuador and an international treasure.

* * *

Managing Another Galápagos Species – Man

By JERRY EMORY Photographs by DIETER and MARY PLAGE

In a gentle confrontation, sea lions and visitors led by a licensed guide inspect one another on Santa Fe Island. Tourism and immigration are increasing, pressuring planners to control human impact.

It is 6 A.M. In the distance a child's cries give way to rhythmic salsa music pulsing from a tape player. Outside the window, roosters greet the day while a pack of dogs wrestles on the dusty road. Groups of finches chatter away incessantly.

An hour passes. People begin leaving for work. With much commotion a bus rattles by just as the milk truck arrives from the highlands.

For another important Galápagos species—man—a typical day has begun.

Puerto Ayora, a town of some 4,000 people, is the economic center of the islands. That it exists at all comes as a surprise to visitors armed with voluminous information about giant tortoises, marine iguanas, and flightless cormorants.

Before my wife, Jeannie, and I arrived in 1985, I tried to find a picture or background information on Puerto Ayora. I had no success. During the year we spent there, I gave lectures on Puerto Ayora and other aspects of the islands to more than 10,000 tourists. Not a day went by without someone exclaiming in wonder after discovering towns in the Galápagos.

Like all visitors I was excited at the chance to explore what fascinates me most, the islands' fabled wildlife. Yet as a geographer I became more and more preoccupied with human-related questions.

What about the people who live around this renowned Ecuadorian national park? I discovered tremendous pressures to increase tourism and develop support services, as well as formidable management challenges facing scientists at the Charles Darwin Research Station, the Galápagos National Park Service, and other government agencies.

SAM ABELL

The islands' landmass is 8,000 square kilometers (3,000 square miles), consisting mostly of 19 islands straddling the Equator. Ninety-seven percent of the area constitutes the Galápagos National Park. The remaining 3 percent is zoned for urban, agricultural, military, and other uses. (One entire island, Baltra, is a military base.) Within that 3 percent are eight towns on four islands with a population of some 10,000 inhabitants. About half the size of the Hawaiian Islands, the Galápagos support a population less than one percent of Hawaii's.

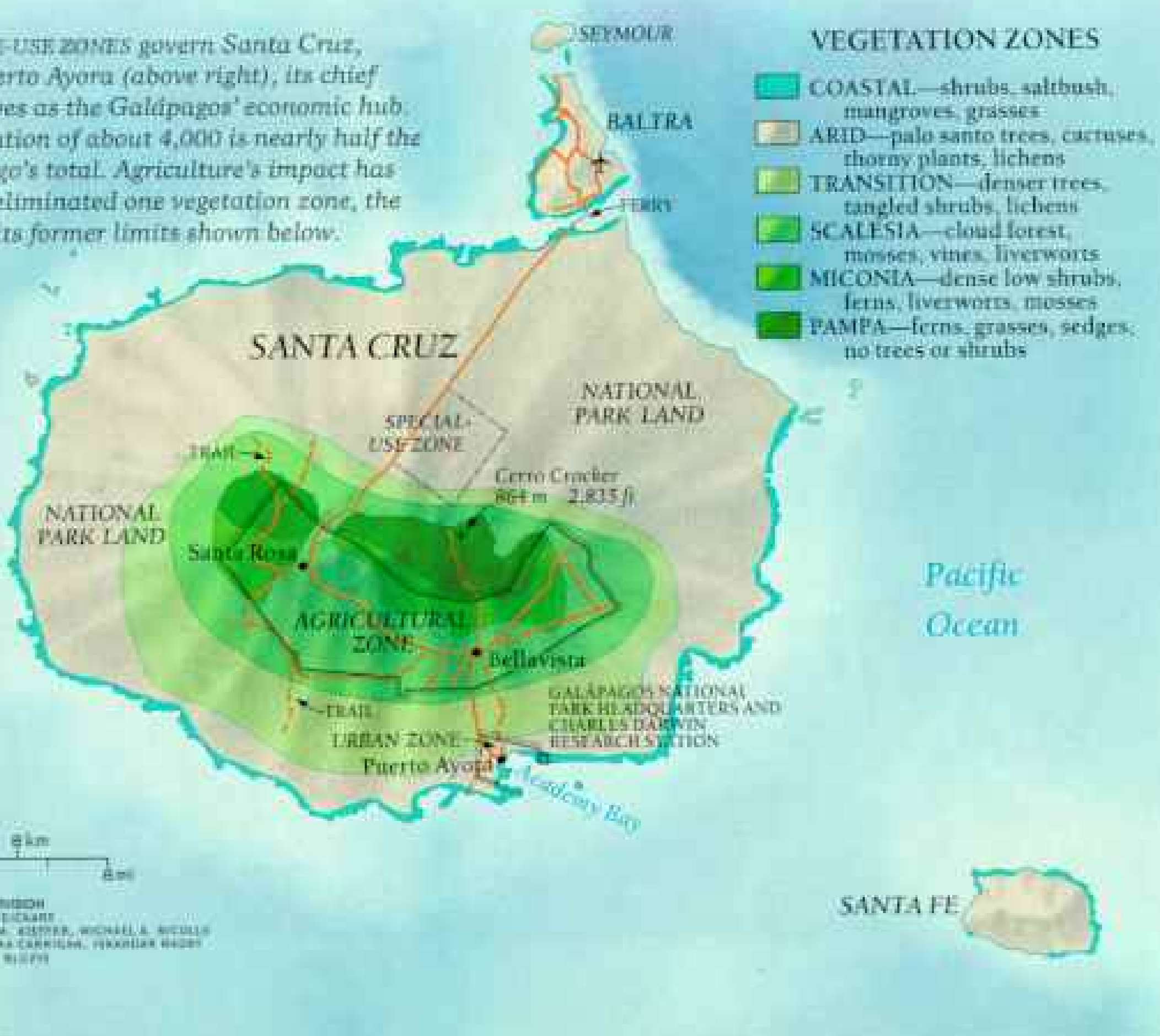
Since the first unscheduled visit by a drifting Spanish caravel in 1535, the history of humans and the islands has been well documented. Pirates, whalers, and fur seal hunters intermittently cruised the islands, taking on fresh water, when possible, and loading more than 150,000 giant tortoises into the hulls of their ships for use as fresh meat.

Permanent settlement by Ecuador began in the early 19th century with the establishment of a penal colony on the island of Floreana. By the time of Charles Darwin's arrival in 1835, some 250 people were scratching out a living on the island. He described their way of life:

"The inhabitants, although complaining of poverty, obtain, without much trouble, the means of subsistence. In the woods there are many wild pigs and goats; but the staple article of animal food is supplied by the tortoises. Their numbers have of course been greatly reduced in this island, but the people yet count on two days' hunting giving them food for the rest of the week."

Darwin learned that the tortoises differed from island to island. And, much later, that the species of Galápagos finches—now called Darwin's

MULTIPLE-USE ZONES govern Santa Cruz, where Puerto Ayora (above right), its chief town, serves as the Galápagos' economic hub. Its population of about 4,000 is nearly half the archipelago's total. Agriculture's impact has virtually eliminated one vegetation zone, the miconia, its former limits shown below.



NGS CARTOGRAPHIC DIVISION
DESIGN: NANCY SCHWEICKART
RESEARCH: MEGAN M. KEEFER, MICHAEL A. NICOLS
PRODUCTION: SARAHA CARRIGAN, HEATHER WARD
MAP EDITOR: JOHN T. BLOZIS

finches—were similar but possessed varied bill shapes and feeding habits, suggesting adaptation to different environmental niches. These and other clues helped lead him, after years of rumination, to the revolutionary *On the Origin of Species*, published in 1859.

By the 1930s the human population of the Galápagos exceeded 800. More important, an estimated 3,000 horses, 15,000 cattle, 16,000 pigs, 19,000 burros, 21,000 goats, and an untold number of dogs, cats, rats, and mice roamed over at least four islands. All these introduced animals form a domestic and feral army that to this day kills and competes with native or endemic plants and animals.

In 1959 most of the islands were declared a national park. The work of the Galápagos National Park Service and the new Charles Darwin Research Station, an international organization, got under way in the 1960s.

Although occasional visitors and scientific expeditions had passed through the islands for years, organized tourism began in earnest in 1970 with a cruise ship and its 60 passengers. That year 4,500 tourists came. By 1986, 150 years after Darwin's visit, 26,000 tourists enjoyed the islands annually.

TODAY a stroll through downtown Puerto Ayora at the peak of the tourist season is unforgettable. Coveys of tourists frequent gift shops, stop for drinks, work their way toward the public dock for a ride by *panga*, or dinghy, back to their tour boat.

Motorcycles, bicycles, and patchwork cars kick up dust on the main road as the ever present blue-footed boobies dive from incredible heights into Academy Bay. By midafternoon buses arrive from the Baltra Airport with more, somewhat bewildered tourists. Hotels, restaurants, and houses are under construction everywhere. It soon becomes apparent that big changes are afoot in this frontier-like town.

Nature photographers DIETER and MARY PLAGE have described wildlife in Sri Lanka and Java in the GEOGRAPHIC and are well known for their film photography. Geographer and writer JERRY EMORY worked at the Charles Darwin Research Station in 1985-86 under contract with the Nature Conservancy International. He now lives in Oakland, California.

Miguel Cifuentes, superintendent of the Galápagos National Park from 1976 until late 1986, reflected on recent changes in the islands.

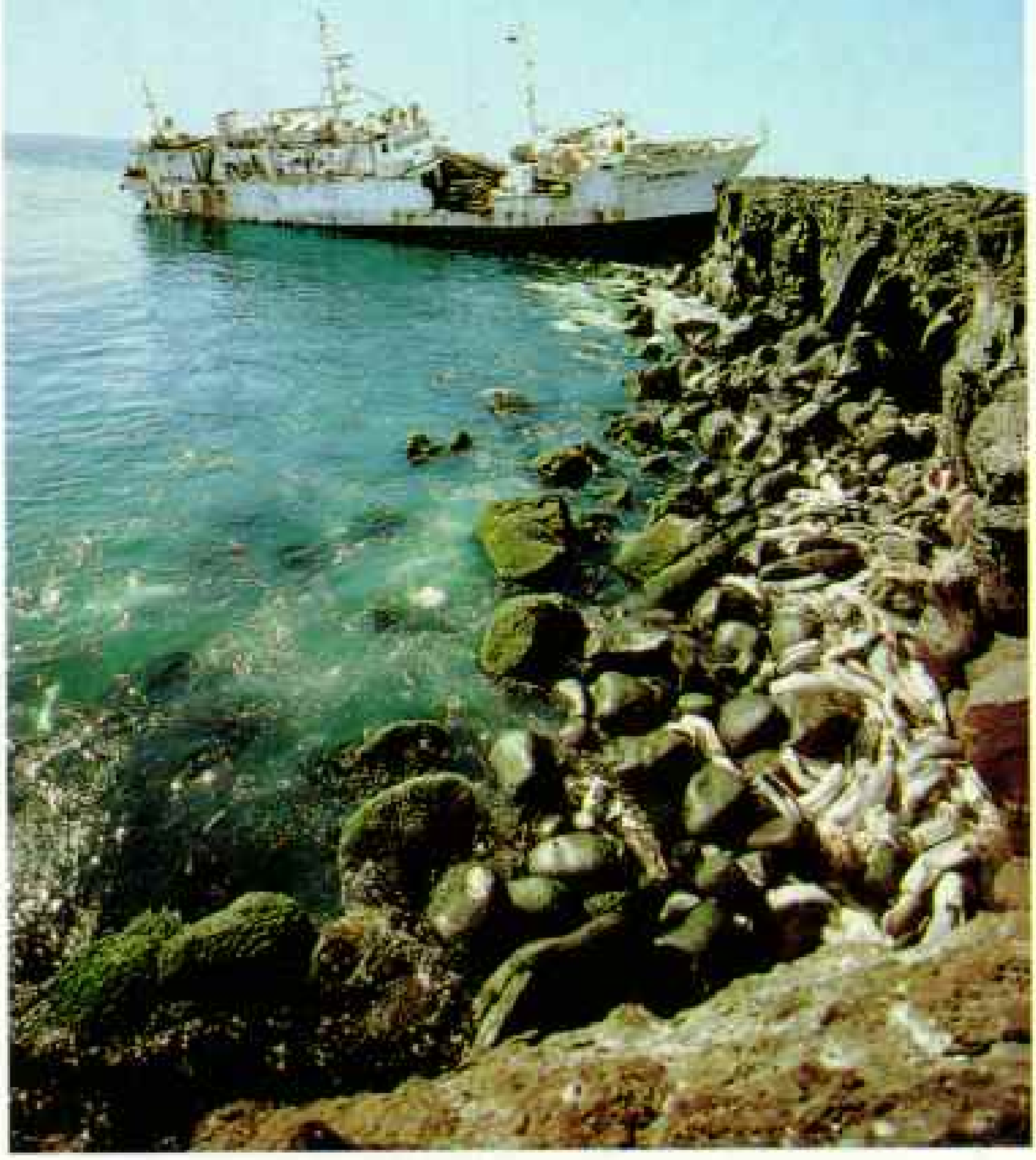
"Less than ten years ago people could walk down to the shoreline at low tide and pick up lobsters without even getting wet," he remembers. "Whenever I went to the continent, I never thought of locking my house. That has all changed."

Cifuentes arrived in 1973 as a scholarship student at the research station. He knows that expanding tourism is only part of the problem. "Mainland Ecuadorians are coming into Puerto Ayora on a daily basis, without jobs, without family, and without resources," he says. "I think we have already reached our population limit in this town, and still we have no immigration policy."

No official is ready yet to confront the political powder keg of setting an immigration quota for mainlanders wishing to settle in the Galápagos. And they do, by the hundreds each year, many fleeing poverty from the port of Guayaquil. While I was there on a visit, a cab driver asked where I had come from. "Galápagos!" he repeated, eyes shining, as if it were El Dorado.

Thus obsessed, some mainlanders sell all their worldly possessions for a $30 ticket to the islands. They dream of instant riches from the tourist trade, when in fact most revenue goes to off-island travel agencies. Or they dream of a good job on one of the small cattle ranches permitted in the agricultural zones located on several islands. What they find—if anything—is manual labor, meager pay.

Although Cifuentes laments such changes, his outlook remains positive. As former park superintendent, he estimates that the islands could support as many as 45,000 tourists a year. However, he is quick to point out that such numbers could be handled only by increased park facilities and a doubling of the park guards.



A SINISTER ALIEN, the black rat, was feared to have invaded Pinta Island from this Japanese wreck. Its haul of sharks, dumped to aid refloating efforts, lines the shore. No rats were found, relieving officials who by 1985 had exterminated some 30,000 goats here. Other islands are plagued not only by goats and rats but also by cats, dogs, pigs, and burros brought by settlers and seamen. Feral animals rob native species of food, destroy nests, and devour eggs, young, and adults.

A MANAGEMENT SYSTEM as unique as the fauna has also evolved in the Galápagos. The key is the link between scientists and administrators. Probably no other park has such a strong relationship as that between the Galápagos National Park Service and its neighbor on Santa Cruz's Academy Bay, the Charles Darwin Research Station.

Although the park service is in charge of day-to-day management, the two institutions work together on crucial projects such as environmental education,

maintenance of captive-breeding facilities, and eradication or control of introduced plants and animals.

The research station coordinates all scientific work in the islands. Data from the station are incorporated into management programs run by the park service.

Perhaps their proudest achievement has been the guide system. Tourists cannot go legally anywhere in the national park without a licensed guide. There are now about 70 of these, most speaking a second or third language. All have completed a one-month training course. Guides restrict their charges to marked trails, and no physical contact with wildlife is allowed. Visits by private yachts are tightly regulated.

At breeding facilities, joint park service and research station efforts have raised 320 land iguanas from three threatened populations. More than 1,200 giant tortoises have been hatched from eight different populations, and 900 have been repatriated to their home islands.

Joint efforts have also achieved limited success in a more daunting challenge—the eradication of introduced animals. Consider the large unpopulated island of Santiago. Before the 1982-83 El Niño climatic phenomenon* the island's native flora and fauna were ravaged by an estimated 100,000 goats and 10,000 pigs. Those populations were weakened by the protracted drought that followed, and park hunters took advantage with a campaign that reduced the goats to about 80,000 and the pigs to 5,000.

The invaders still pose a threat. Thousands of these

*See "El Niño's Ill Wind," by Thomas Y. Canby, NATIONAL GEOGRAPHIC, February 1984.

SEVERE NATURAL STRESS struck during 1982-83's El Niño global climatic dislocation, which raised sea temperatures as much as 10°C (18°F) above normal in the Galápagos. Fish vanished, a disaster for fur seals, sea lions, penguins, cormorants, and seabirds such as waved albatrosses, whose eggs were also drowned by torrential rains (bottom). The explosion of vegetation was a boon to land iguanas that survived the deluge. But when a drought followed, the lizards could only search desperately for a mouthful of desiccated cactus (below). After conditions stabilized, most wildlife seemed to rebound, and some showed increased fertility to regain lost ground.

feral animals roam the islands. But success is possible. Goats have been eliminated from five of the smaller islands. And with more than 200 known introduced plant species, joint efforts have also concentrated on eliminating exceptionally aggressive varieties such as guava and cinchona, both tree invaders.

But these two watchdogs, the park service and the research station, must now join forces with local government and tourist interests to control this other invader, well meaning though he may be—the visitor. His proliferation has begun to overrun the fragile system's capacity.

PLANNERS have long geared their strategy toward keeping the annual visitor total below 25,000. In 1986, for the first time, that ceiling was breached when 26,023 arrived.

Galápagos visitors seem only a trickle when compared to the 500,000 tourists who annually flood the Atlantic resort of Bermuda. That island, however, has countless hotels, restaurants, and an established infrastructure. The Galápagos are comparatively undeveloped—theirs is a laissez-faire, Wild West environment. More important, these are islands where the imprint of human activity stays visible for a long time. Being relatively pristine, there is more to be lost through unregulated use.

The islands' lack of communication, both among themselves and with the mainland, can be a major snag for visitors. Ninety percent of them arrive by air and spend their stay aboard one of two 90-passenger interisland cruise ships or smaller boats. But telephones do not exist in the Galápagos, and although one of the two radio systems can be patched through to the mainland, isolation is near total. Delays plague the two airlines, and travelers can be stranded for days. Those who fly from the mainland into one of the two Galápagos airports may find that their cruise ship's timetable has changed or, worse, that it has broken down. Advance warning is almost impossible.

Jorge García, provincial delegate for DITURIS, Ecuador's national tourism agency, acknowledges the system's shortcomings. "However, once people have reservations and a boat, they are guided properly," he points out.

García will never forget the nightmare invasion of August 1986—3,888 visitors, two and a half times the norm for that month. "Since tourism started in '69, every person leaving the Galápagos became a goodwill ambassador for the islands. August changed this. There were people without boats, people sleeping on the floors of private houses, even in the municipal park!" Every Galápagueño now realizes that that wild month may have signaled things to come.

The confusion and lack of coordination stem in part from the fact that although the hub of the Galápagos is Puerto Ayora on Santa Cruz, the political capital is the sleepy fishing community of Puerto Baquerizo Moreno on the island of San Cristóbal. In early 1986, after completion of an airport and the arrival of regular flights from the Ecuadorian mainland, Puerto Baquerizo Moreno awoke with a bang.

I visited the town in October 1985. It seemed quaint, tidy, expectant, waiting hungrily for the arrival of tourists. In September 1986 it stirred controversy in Puerto Ayora.

Dr. Günther Reck, director of the Charles Darwin Research Station, complained: "Last week while I was guiding the vice president of Ecuador on Santa Fe Island, a tourist boat arrived from San Cristóbal. It was overloaded. It had no guide. The people had no concept of the regulations. This can't continue!"

The incident was a classic example of too little planning, exacerbated by the fact that the research station and the park service operate on shoestring budgets. The park service plans to place a high-level employee on San Cristóbal and to develop an education program with the research station for the local population.

The recent tourist influx has also caused crowding at certain visitor sites, reports of illegal garbage dumping from boats, and a general degradation of the environment around the towns.

Noise, dust, pollution: These are the prices you pay when developing. And they are by-products that Galápagueños are willing to tolerate in order to enjoy such basic amenities as roads, potable drinking water, and other services provided by INGALA, the government development agency.

Yet officials and townspeople alike are refreshingly optimistic and are rallying together to address their problems.

"We don't need five-star

THUNDER OF AN ISLAND'S GROWING PAINS greeted naturalist guide David Day, who had camped near the rim of Fernandina's Volcán La Cumbre on April 12, 1984. The blast, though spectacular, fortunately was minor. More than 50 eruptions have been recorded from seven volcanoes in the Galápagos, one of earth's most volcanically active island groups.

DAVID DAY

DRAGONS COME TO LIFE, marine iguanas fascinate a lad and his grandfather, Blasco Peñaherrera Padilla, Ecuador's vice president and chairman of the National Development Council. Plans made by that powerful body will affect the islands' fate. He expressed deep feelings for the Galápagos on this, his first visit—an invaluable education for young and old alike.

hotels with 20 floors. All we need are comfortable, well-maintained accommodations," said DITURIS's Jorge García.

After his experience last August, García issued a series of toughened regulations that all tourist agencies operating in the islands must follow. And encouragingly, 15 people from San Cristóbal recently completed guide training on Santa Cruz and have begun work as licensed guides based on their home island. In addition, the waters surrounding the islands have been declared a marine resources reserve.

ON A CLEAR DAY I hiked to the top of Santa Cruz Island. Southeast there is a frigatebird's-eye view of the small town of Bellavista and, just beyond, of Puerto Ayora on the shoreline. The vista underscores an important element of the Galápagos—their human resources. Fishermen and lobstermen ply the interisland waters. Merchants, artists, and people involved in tourism abound in the urban areas. Beyond, cattle dot rolling ranches, a reminder that the Galápagos are a net exporter of beef.

Looming beyond the coast, the islands of Floreana and Santa Fe pierce the blue Pacific. It is an enchanting scene and helps put matters into perspective.

The vast majority of Galápagos conflicts take place within that 3 percent of the islands where people live. A visit to any part of the national park still offers the same unsullied natural adventure that old-timers remember from the past. Such a visit will reaffirm the spirit of these islands and make clear why their people are so dedicated to their protection. There is nothing else like them in the world.

Walking down from the summit of Santa Cruz, I passed through the agricultural zone and found myself engulfed by avocado and orange trees, fields of corn, and livestock, all introduced. The scene, which so shocked me upon my arrival, appeared very natural. I had learned that the people and wildlife of the Galápagos were not always at odds, and that the odds for the future are good. □

NATIONAL GEOGRAPHIC (ISSN 0027-9358) IS PUBLISHED MONTHLY BY THE NATIONAL GEOGRAPHIC SOCIETY, 17TH AND M STS. N.W., WASHINGTON, D. C. 20036. $18.00 A YEAR, $2.25 A COPY. SECOND-CLASS POSTAGE PAID AT WASHINGTON, D. C., AND ELSEWHERE. POSTMASTER: SEND ADDRESS CHANGES TO NATIONAL GEOGRAPHIC, P. O. BOX 2774, WASHINGTON, D. C. 20013.

"Accords have traditionally been some of the nicest cars to sit in. They are also satisfying on the move. The engine seems to hum sweetly. Cruising is hushed. The steering, deliciously accurate. And the shifter carves to perfection. The Honda Accord is world-class comfortable."

–Car and Driver

It's enough to make us blush.

The Accord LX HONDA

Sounding an alarm for geography education

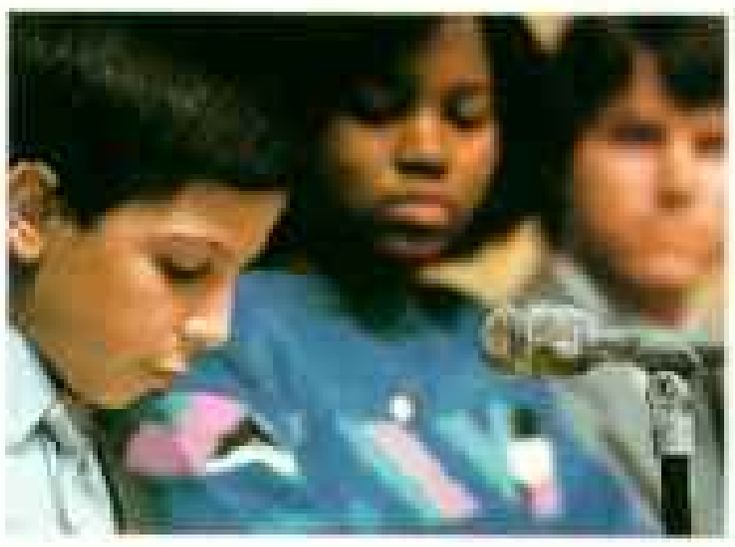
J. CARL SANTER (ABOVE AND CENTER) AND NATIONAL GEOGRAPHIC PHOTOGRAPHER JOSEPH H. BAILEY

THIS ISSUE looks back to a time when geography was in every school, explorers were heroes, and maps hung on every classroom wall. No fewer than eight geographers were among the Society's 33 founders a century ago.

At the end of October, as I was reading about the events of 1888, an event occurred that promises to help geography make a comeback in our classrooms and living rooms. The

Senate Subcommittee on Education, Arts, and Humanities came to Society headquarters for a hearing on the status of geography education in the U. S. Witnesses included former Chief Justice Warren E. Burger, retired Adm. Bobby Ray Inman, Senator Bill Bradley of New Jersey, and Secretary of Education William J. Bennett (above, holding an inflatable globe).

The hearing, conducted by Senators Robert T. Stafford of Vermont and Claiborne Pell of Rhode Island (top, at right) also included representatives of edu-



cation and business (top, left: geographer B. L. Turner II, communications executive Mylle H. Bell, publisher Andrew McNally III, and myself) as well as the program director for geography and regional science of the National Science Foundation, Dr. Ronald Abler. All stressed one central fact: The United States cannot successfully compete in world markets or conduct enlightened foreign policy if its people are ignorant of geography and its inseparable ally, history. And the sad fact is that most students today are ignorant of both. The senators heard this directly from sixth-grade pupil Jeremy Gruenwald of Turnersville, New Jersey (center), high-school student Magda Marshall of Edina, Minnesota, and geography teacher Steve Herman of Oroville, California.

The hearing, as did Geography Awareness Week in mid-November, proclaimed by Congress, helped sound an alarm at this state of affairs. On January 13, as a part of the celebration of our centennial year, the Geographic will announce a major commitment to geography education in the United States. Also in January, 22 scientists and humanists from around the world will gather here for a symposium, "Earth '88: Changing Geographic Perspectives," which promises to be one of the most important ever held under our auspices.

This year, 1988, promises to be one filled with remembrance and anticipation, an end and a new beginning—for us, for our members, for our teachers and students. I am delighted we will all share it.

Gilbert M. Grosvenor

PRESIDENT, NATIONAL GEOGRAPHIC SOCIETY

Members Forum

Iroquois

I knew of the Iroquois' warrior reputation and their league from the history books, but I often wondered what happened to them after the Revolutionary War. Harvey Arden's article (September 1987) answered those questions. The wisdom, patience, common sense, and sense of humor of the sachems made the article stand out. Too bad none of them are willing to run for office.

DANIEL W. PEAKE
Alameda, California

It is refreshing to see Indian people portrayed as human beings living in the 1980s and to see our Longhouse religion and traditional government described with respect and admiration. The photograph of Oren Lyons with his Haudenosaunee passport will shock a lot of people. But it makes the point crystal clear. We are a sovereign nation, centuries old, that happens to be located within the present boundaries of the U. S. and Canada.

LISA MITTEN, MOHAWK
Pittsburgh, Pennsylvania

Your article disturbed me very much. The author is advocating that the Iroquois are a separate nation. While they are free to have local laws and customs, as all Americans are, they are not an independent nation. They are citizens of New York and the United States of America. The fact that they allowed Dennis Banks, AIM leader, to hide there, and federal authorities did nothing, is outrageous. It is also a slap in the face that our so-called friends in South and Central America recognized their illegal passports.

THOMAS C. DUNN
North Haven, Connecticut

Members of tribes, and the tribes themselves, have inherent rights that predate the United States and are independent of it. The legality of Iroquois passports remains unsettled.

The Indians have again unmasked themselves. Their spiritual fire keeper said, "you white guys . . . . can't go on poisoning and destroying everything." Yet 15 out of 25 pictures depict their dependence on photoengraving, TV, steel, synthetic clothing, airplanes, etc.

ALLEN F. LAREAU
San Luis Obispo, California

Wake up, 12-year-olds, and inquire about your heritage! After 63 years I know so little of mine. Being Oneida, the article was very welcome. My parents died when my sister and I were quite small. I have looked in bookstores here for stories on the Iroquois nation, but most are on western Indians. My only regret is that I was never taught the Oneida language.

BEATRICE SCHRAA
Tucson, Arizona

Your author presents the early Iroquois as a very amiable people, anxious only to extend the blessing of their Great Peace to other tribes. In fact, they were aggressive empire builders, dreaded throughout northeastern America for their ferocity and their skill at both battle and torture.

JOHN R. ELTING
Cornwall-on-Hudson, New York

James Madison

Thanks for Alice Hall's excellent piece on James Madison (September 1987). With attacks on religious liberty increasing in intensity, more Americans need to relearn why Madison and Jefferson led the nation to adopt the constitutional principle of separation of church and state.

EDD DOERR
Americans for Religious Liberty
Washington, D. C.

An interesting fillip for me was reading the name Kitty Floyd. I did a little investigating and found she was the daughter of Gen. William Floyd, a signer of the Declaration of Independence and a distant relative. So one of my ancestors actually jilted a president! A somewhat dubious claim to fame, perhaps, but an interesting tidbit to round out a most fascinating article.

FRANCES M. VROOM
Asbury, New Jersey

Madison, though he lived most of his life in Orange County, Virginia, was born at his mother's paternal home, Belle Grove, at Port Conway on the Rappahannock River in present King George County on Virginia's Northern Neck.

RUSSELL G. BROWN
Warsaw, Virginia

I must point out the fundamental fallacy in Alice Hall's assertion that the U. S. Constitution is the "oldest blueprint for government in the world today." The home of modern constitutional democracy is Great Britain, not the U. S. Over centuries of sometimes slow, painful evolution, the British worked out their parliamentary model of government, which today is the system used by many democracies, including those of Canada, Australia, New Zealand, and India.

VIVEK H. DEHEJIA
Ottawa, Ontario

True, but Britain's system—subject to change by the legislature—is not summed up in a written constitution that is considered fundamental law.

Red Panda **Genus:** *Ailurus* **Species:** *fulgens* **Adult size:** Length of head and body, 51-66cm; tail, 28-51cm **Adult weight:** 3-6kg **Habitat:** Mountain forests from Nepal to northern Burma and into central China **Surviving number:** Unknown
Photographed by Rajesh Bedi

Wildlife as Canon sees it

One of the greatest roles of photography is to record and preserve images of the world around us worthy to be handed down as a heritage for all generations. A photograph of red pandas captures the fiery color as well as the quiet and gentle nature of this species native to high snow mountains stretching from Nepal to China.

Also known as the bear cat and fire fox, the nocturnal red panda is an excellent climber, spending most of its life in trees. Like the giant panda, it feeds primarily on bamboo, and is particularly vulnerable to ecological disturbances that may reduce its food supply. Though its habitat covers a wide range, the future of the red panda is threatened by extensive deforestation. Like all endangered species, its survival will depend on mankind's ability to live in harmony with the natural world.

An invaluable research tool assisting scientists in their efforts to learn more about the reclusive red panda in the wild, photography can contribute to a greater understanding and awareness of this delightful animal and how it lives within its mountain forest ecosystem.

And understanding is perhaps the single most important factor in saving the red panda and all of wildlife.

You neglect to relate how Madison's popularity was injured by the three American invasions of Canada during the War of 1812. Not only did Canadians defend their country, they also captured three U. S. forts, including Detroit. Canadians are as proud of these victories against a much larger army as Americans are of their naval victories.

JAY ADAMSSON
L'Ardoise, Nova Scotia

Madison and other founding fathers fought for our right to participate in our government. Yet as citizens many of us are abrogating that right by not being involved in the political process. As the 1988 presidential campaign begins, and as a token of gratitude for what the framers of our Constitution have given us, we all need to get involved. What greater way to honor them. Thank you James Madison, Thomas Jefferson, George Washington, Benjamin Franklin, George Mason. . . .

HELEN R. NELSON
Bellevue, Washington

Jade

Fred Ward's "Jade—Stone of Heaven" is the first study in 80 years to embrace the whole field (September 1987). The photography was superb. It had that reach-out-and-touch quality that requires expertise in lighting difficult surfaces.

ROBERT FREY
Wallington, Surrey

Mr. Ward failed to mention a distinguishing characteristic of jade known to collectors, the cool feel of the stone on the cheek. My geology professor, the late Paul H. Keating at the Colorado School of Mines, used to say that the last Empress of China could distinguish 200 varieties of jade by their fingertip feel underwater.

HALDON J. SMITH
Socorro, New Mexico

You slight the nephrite jade from Wyoming; it has been imported by China for the last 20 years. All shades of green, including the very dark, or black, and most other colors from white through pink and purple are found in Wyoming.

JACK M. DELONG
Lakewood, Colorado

El Mirador

When your fascinating account of the Maya city El Mirador arrived (September 1987), I was rereading *Incidents of Travel in Yucatan* by John L. Stephens (1843), one of two books by which he introduced the Maya civilization to the American public. Many extensive ruins mentioned seem never referred to today. The surprising finds at El Mirador make me wonder if other important centers are being overlooked.

ROBERT KEITH SHARP
Kennewick, Washington

In May 1984 I hiked three days through thick jungle from Carmelita to visit the ruins. The Guatemalan government has done a magnificent job in protecting the site. Hats off to them for not allowing El Mirador to succumb to looters.

MARK H. MILSTEIN
Otisville, New York

I am puzzled as to the Geographic's position on the environment. In March 1987 you decry the destruction of the rain forest in Brazil, yet in the current issue you tell about the felling of "more than 7,000 trees" in Guatemala to bring an airstrip to the site and save a three-day journey by mule train. Either you are for saving rain forest or destroying it if such suits your purposes.

ROBERT J. BUCHANAN
Dedham, Massachusetts

Trade-offs abound in this life. We feel the loss of a few acres of forest for the ability to study a major Maya city is not comparable to the estimated 25 to 50 acres lost per minute worldwide.

Cameroon's Killer Lakes

Your description of the cause of the disaster in Cameroon is open to question. I have operated plants for removing carbon dioxide from natural gas, and there was generally hydrogen sulfide present, which can be extremely hazardous. It has the smell of rotten eggs for three seconds.

JOSEPH G. WILSON
Riverside, Connecticut

There was no evidence of H_2S in the lake water analysis. Pathologists report that the smell of rotten eggs is a perception common among people who work with carbon dioxide.

With a personal computer, a team of Save the Children workers blanketed the areas and registered 2,000 children not with their parents to create a data bank to assist family reunification. It has proved harder to develop long-term strategies for the survivors. Thousands who fled are in limbo and agencies like ours in a quandary. Do we help them return to their original homes or help them resettle new areas? We encourage other relief agencies, the scientific community, and government officials to join in resolving the questions and bring thousands of families and children, literally, in from the cold.

WILLET WEEKS
Save the Children
Westport, Connecticut

Letters should be addressed to **Members Forum,** *National Geographic Magazine, Box 37448, Washington, D. C. 20013, and should include sender's address and telephone number. Not all letters can be used. Those that are will often be edited and excerpted.*

Illegal Merchandise

Every day scores of endangered creatures are bought and sold on the black market for large profits. **Tune in January 10** to *Animal Smugglers*, a series that takes an inside look at the five-billion-dollar industry of illegal wildlife trade. *First in a three-part series.*

January 3 — Captive dolphins are returned to the wild in *Back to the Sea.*
January 24 — *Animal Smugglers, Part II.* The capture of live cobras for export from Thailand.
January 31 — *Animal Smugglers, Part III.* The world's fashion centers create a demand for the skins of rare animals.

NATIONAL GEOGRAPHIC EXPLORER

EVERY SUNDAY 9:00 PM ET*

SuperStation TBS

*Also Mondays at midnight ET/9 p.m. PT and Saturdays at 9 a.m. ET

CITICORP.
BECAUSE AMERICANS WANT TO SUCCEED, NOT JUST SURVIVE.℠

The drive to succeed is deeply ingrained in the American character.

It means more than just wanting to get by. It means wanting to get ahead.

As Citicorp and Citibank, we understand this determination to succeed. For over 175 years we've helped people across the U.S. and around the world see their ideas of success become reality.

Today, we are already helping one in every five American families to build a better life. We make more home-mortgage loans and more student loans, and provide more MasterCard® and Visa cards than any other company. Facts that have made us America's largest financial services corporation.

We also do business with more businesses than any other financial services company. (At home and in over 90 countries around the world.)

Our corporate, government and financial institution customers constantly need to move information and money between countries and time zones. So we created the most advanced worldwide financial telecommunications network to help them do it quickly, efficiently.

That's typical of the innovation we consistently try to bring to our customers.

Next time you or your company have a financial need—any size, any place, any time—let us put our energy, our resources, and above all our people to work on it.

We'd like you to get to know us better.

CITICORP

NATIONAL GEOGRAPHIC MAGAZINE

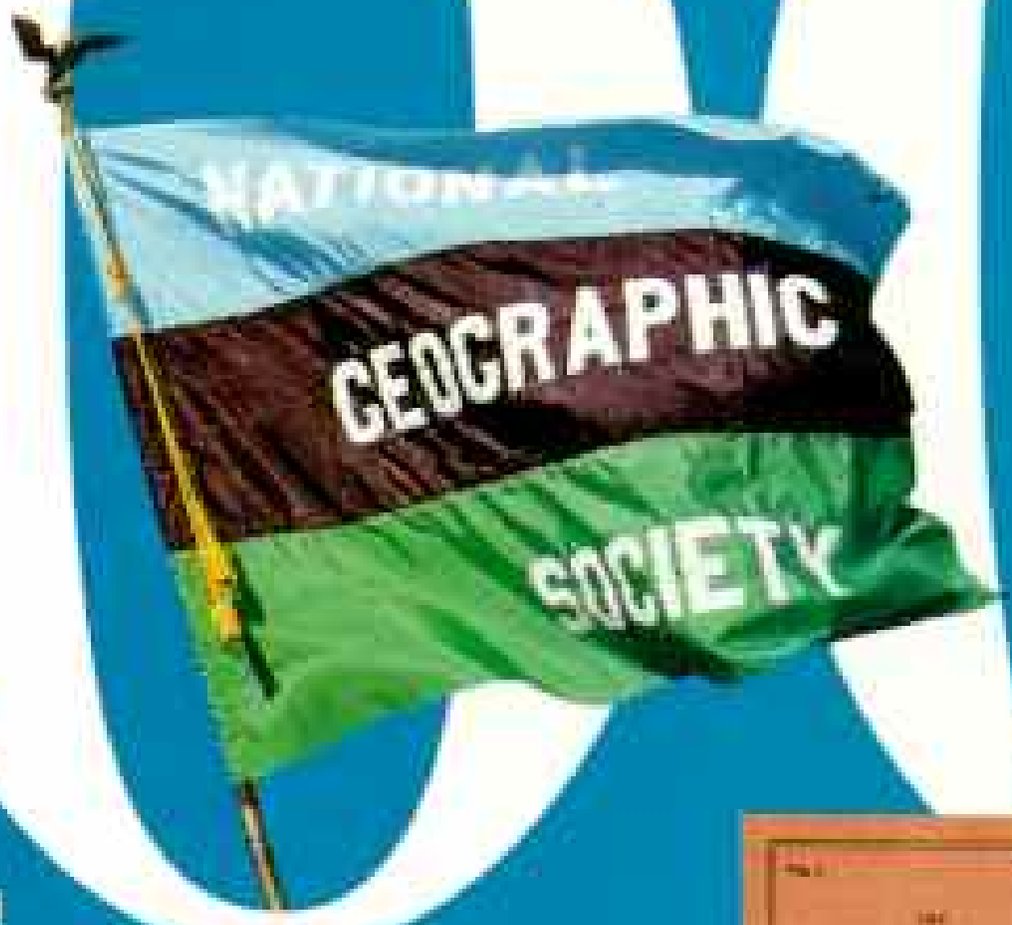
NATIONAL GEOGRAPHIC SOCIETY

"For the increase and diffusion of geographic knowledge"

THE NATIONAL GEOGRAPHIC SOCIETY is chartered in Washington, D.C., as a nonprofit scientific and educational organization. Since 1890 the Society has supported more than 3,300 explorations and research projects, adding immeasurably to man's knowledge of earth, sea, and sky.

CELEBRATE

100



YEARS

Give the magazine of adventure & discovery... a tradition since 1888.

Enlarge the world of someone you know with a gift membership in the National Geographic Society.

A full year of dazzling photography, intriguing articles, and unrivaled maps is only $18.* No other gift is as rich in long-lasting pleasure, yet so inexpensive! Order your memberships today with the attached yellow form.

*U. S. rate. For other areas, see attached form.

1888 1988 NATIONAL GEOGRAPHIC SOCIETY

Washington, D. C. 20036

AS IT MOVES THROUGH THE AIR
IT CLINGS TO THE GROUND.

MERCURY COUGAR'S *shape serves a very useful purpose: It controls the air passing over it to help keep the car pressed to the road–giving you greater control. Cougar XR-7's inside is shaped to help you even more. Controls are within your natural reach.*

And the XR-7 accelerator connects you directly to a powerful 5.0-liter V-8. Yet thanks to Cougar's shape, as it's moving swiftly through the air, the wind helps it stay firmly on the ground. For more Cougar information, call toll-free ***1 800 822-9292.***

The Shape You Want To Be In.

MERCURY

Buckle up–together we can save lives.

LINCOLN-MERCURY DIVISION

On Assignment

THREE YEARS in the making, an article and movie about the Galápagos Islands required patience and ingenuity by DIETER and MARY PLAGE. With an underwater camera Dieter filmed the intriguing behavior of flightless cormorants (right), endemic to the islands. For bird's-eye views of the archipelago, the nature photographers flew a 48-horsepower ultralight floatplane weighing just 324 pounds. They earlier had recorded wildlife in Asia and Africa and are now filming the natural history of the Colorado River.

DIETER AND MARY PLAGE

MAŁGORZATA NIEZABITOWSKA

SUSIE BRIMBERG

HOWARD E. PAINE, NGS STAFF

IMMERSED IN AMERICANA, Polish photographer TOMASZ TOMASZEWSKI (above) dressed as Uncle Sam in New York City, and in Jackson, Wyoming, his wife, writer MAŁGORZATA NIEZABITOWSKA, and daughter, Maryna (right), portrayed frontier belles. Editor Wilbur Garrett had given them free rein—and three months—to explore America for this issue. Sensitive listeners, the couple elicited frank opinions from a range of citizens and created an extraordinary people-portrait of the nation. At home in Warsaw, the family hopes to combine the best of the two cultures.

TOMASZ TOMASZEWSKI

PULITZER PRIZE-WINNING WILLIAM H. GOETZMANN (center) had a different assignment: Discover America in the 1880s, when the Society was born. The University of Texas professor drew on his own research in books, diaries, and newspapers for telling anecdotes. He shared his collection of explorer cards, onetime giveaways with cigarettes, with artist FRED OTNES (above), who created the accompanying collages. Otnes used everything from old photographs to the cultural ephemera stashed in drawers in his Connecticut home. His work has appeared in leading magazines for 20 years.