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Our Real China Problem

The price of China's surging economy is a vast degradation of the environment, with planetary implications. Although the Chinese government knows the environment needs protection, writes the author, who spent six weeks inside China investigating the growing environmental crisis, it fears that doing the right thing could be political suicide

by [Mark Hertsgaard](#)

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CHONGQING, the Yangtze River city that Americans may know as Chungking, is a naturally foggy place. It also suffers some of the worst pollution in all China, which puts it among the strong candidates for most polluted city in the world. When the fog and the pollution are both at their thickest, locals say, "if you stretch your hand out in front of your face, you cannot see your fingers."

Visibility was somewhat better than that when I visited Chongqing one morning recently. Perched high above the Jialin River, which also flows through the city, I peered into the dank grayness before me. I

could dimly make out a black-and-white tugboat hugging the far shore of the river and, beyond that, the outlines of what might be office buildings. This was the view from the back of the Chongqing Paper Factory, a massive state-owned facility that local environmental officials had singled out as evidence of how well they were cleaning up Chongqing. Built in the 1940s, the factory had been for a long time a terrible polluter, discharging enough chlorine and other toxic chemicals into the Jialin "to cover the entire river with white foam," according to a top official of the Chongqing Environmental Protection Bureau who must remain nameless. Now, however, the official bragged in an interview, the factory had been all but shut down. "Our strategy has been to press them to death!" he said.

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From the archives:

- **"China's Gilded Age," (March, 1997)**
Xiao-huang Yin, a professor at Occidental College, describes the changes in China's society

At the factory, though, it didn't look that way. The official discouraged me from trying to visit ("I myself would have to seek permission to enter," he said scoldingly), but Zhenbing, my interpreter, and I found the front gate open when we arrived, and since no one stopped us, we simply walked in. At the back of the plant a set of concrete steps led down to the Jialin River, perhaps eighty yards below. Halfway down Zhenbing and I cut left across the exposed riverbank, our shoes leaving clear prints on the dark, sandy soil.

Within seconds we saw a broad stream of bubbling water cascading out the back of the plant and down the hillside. The astringent odor of chlorine attacked our

wrought by Deng's drive toward a free-market economy.

• **"China's Andrei Sakharov,"** by **Orville Schell** (May, 1988)

"A profile of astrophysicist Fang Lizhi, whose outspoken criticisms of socialism and the Communist party had spurred student protest movements, planted seeds of doubt in the minds of party members, and frequently landed him in trouble with party leadership."

• **"In a Chinese Orphanage,"** by **Anne F. Thurston** (April, 1996)

"The plight of many Chinese orphans is horrific and much publicized, but behind it lie

nostrils, and once we reached the stream's edge, the smell was so powerful that we immediately backed away. Below us, where the discharge emptied into the Jialin, a frothy white plume was spreading across the slow-moving river.

Fifty yards farther on we encountered a second stream, this one a mere foot wide but clogged with pineapple-sized clumps of dried orange foam. Beyond was a third creek. Its stench identified it as household sewage (workers in China's state-owned factories generally live on site or nearby), but its most extraordinary feature was its color -- as black as used motor oil. Not ten yards away a grizzled peasant in a dark-blue Mao jacket and trousers (an outfit still worn in China by the poor) bent over a tiny vegetable patch to pick some greens for his midday meal.

All this was dwarfed by what lay ahead. The vapor was what we saw first -- wispy white, it hung low in the air, like tear gas. Stepping closer, we heard the sound of gushing water. Not until we were merely footsteps away, however, could we see the source of the commotion: a vast, roaring torrent of white, easily thirty yards wide, splashing down the hillside like a waterfall of boiling milk.

Again the scent of chlorine was unmistakable, but this waterfall was much whiter than the first. Decades of unhindered discharge had left the rocks coated with a

public-policy concerns peculiar to China and rarely acknowledged parallels in the West."

- **"Flashback: One China?" (March, 1996)** U.S.-Chinese relations have been characterized at times by collaboration and mutual goodwill and at other times by betrayal and hostility. Contributions to *The Atlantic* through the years have documented this evolving relationship.

creamlike residue, creating a perversely beautiful white-on-white effect. Above us the waterfall had bent trees sideways; below, it split into five channels before pouring into the unfortunate Jialin. All this and yet the factory, as one worker had informed us, was operating at about 25 percent of capacity.

Hoping to leave the factory grounds by another exit, Zhenbing and I were trudging up a service road when a man wearing the olive-green greatcoat of the Chinese military came running directly at us. It seemed that our unauthorized factory tour might end badly after all. But no. Military greatcoats turn out to be a bit like Mao jackets in China these days: lots of people wear them, because they are cheap and functional. In any case, this man had different worries. Liquid was spilling from two large, loosely connected hoses by the side of the road, one leading back up to the factory and the other stretching down to the river. The man barked orders at two workers straddling the hoses, and they stepped back. Then, without a word of warning to Zhenbing and me -- though we were standing only five feet away -- he knelt and tightened the connection between the hoses.

Instantly he was engulfed in an explosion of gas. But he was ready for it, and in one fluid motion he straightened and started sprinting back along the road, vanishing behind the billowing cloud of chlorine after two steps.

Zhenbing and I were not ready for it, but forward was the only way out, so we held our breath and plunged after him. Six running strides brought us past the worst of it, but even then we were surrounded by huge puffs of gas, which started us coughing fiercely.

Thirty yards up the road we were still sputtering when we passed three dump trucks parked against the factory wall. A dozen workers were lounging in the backs of the trucks. The man in the greatcoat, who had run all the way here, was bending down to tie his shoe. Chlorine is the chemical that was used to kill soldiers in the poison-gas attacks of the First World War, but the men in the trucks showed no concern about the vapors floating past their heads. They only elbowed one another and stared at the foreigner trudging past their factory -- evidently a far more unusual sight.

Zhenbing and I walked in silence to the plant's side exit and left. We were in the middle of a six-week trip through China to investigate the environmental crisis, and it was not a cheering assignment. In Beijing, Xi'an, and other cities of the north Zhenbing and I had walked in air so thick with coal dust and car fumes that even sunny days looked overcast and foggy. In the bone-dry province of Shanxi, a day's journey west of Beijing, we had ridden by train for hours without seeing anything that resembled woods -- there were only a few scattered, spindly trees, which looked ready to expire

any minute. Everywhere, it seemed, the land had been scalped, the water poisoned, the air made toxic and dark.

Despite witnessing all this, Zhenbing was not exactly a militant environmentalist. Born into a very poor rural family thirty years ago, he, like most Chinese I had met, was quite willing to put up with filthy air and polluted water if it meant more jobs, better pay, a chance to get ahead. But today's experience had shaken my new friend. Outside the factory we were waiting for the bus back downtown. I was scribbling in my notebook when, behind me, I heard Zhenbing murmuring, as if in a dream, "My poor country. My poor country."

The "Soft-Law" Syndrome

HUMAN rights, China's possible admission to the World Trade Organization, its alleged Washington influence-buying -- these are the issues that have made international headlines in the months leading up to this fall's Sino-U.S. summit. But soon China's environmental crisis is bound to command equal attention. China claims that its population is 1.22 billion people (as of the end of 1996). The true number is certainly higher than that. But even the official figure means that nearly one out of every four human beings on earth lives in China. The Chinese economy is ranked anywhere from the third to the seventh largest in the world, and is expected to be No. 1 by 2010. Incomes have

doubled since Deng Xiaoping initiated his marketplace reforms in 1979, and the environmental side effects have been devastating.

At least five of the cities with the worst air pollution in the world are in China. Sixty to 90 percent of the rainfall in Guangdong, the southern province that is the center of China's economic boom, is acid rain. Since nearly all the gasoline in China is leaded (Beijing switched to unleaded gas in June), and 80 percent of the coal isn't "washed" before being burned, people's lungs and nervous systems are bombarded by an extraordinary volume and variety of deadly poisons. One of every four deaths in China is caused by lung disease, brought about by the air pollution and the increasingly fashionable habit of cigarette smoking. Suburban sprawl and soil erosion gobbled up more than 86 million acres of farmland from 1950 to 1990 -- as much as all the farmland in Germany, France, and the United Kingdom. Farmland losses have continued in the 1990s, raising questions about China's ability to feed itself in years to come, especially as rising incomes lead to more meat-intensive diets.

Even the government's official policy pronouncements, which invariably overaccentuate the positive, admit that environmental degradation in China will get worse before it gets better. For China's newfound wealth has only whetted its citizens' appetite for more. China's huge

population wants to join the global middle class, with everything that entails: cars, air-conditioners, closets full of clothes, jet travel. Rising consumer demand has already resulted in chronic widespread electricity shortages. Thus China plans to build more than a hundred new power stations over the next decade, adding 18,000 megawatts of capacity every year -- roughly the equivalent of Louisiana's entire power grid. By 2020 its coal consumption will have doubled, if not tripled. All this will not only worsen the country's acid-rain and air-pollution problems; it will endanger the entire planet, by accelerating the global warming that scientists say is already under way.

China's huge population and grand economic ambitions make it the most important environmental actor in the world today, with the single exception of the United States. Like the United States, China could all but single-handedly make climate change, ozone depletion, and a host of other hazards a reality for people all over the world. What happens in China is therefore central to one of the great questions of our time: Will human civilization survive the many environmental pressures crowding in on it at the end of the twentieth century?

Like governments the world over, China's leaders have learned to say the right things about the environment. In 1992 China was an enthusiastic participant in the United Nations Earth Summit. In July of last year

President Jiang Zemin and Premier Li Peng began to speak out against environmental destruction and to urge a shift toward "sustainable development." China has also adopted comprehensive environmental laws and regulations that on paper compare favorably with -- indeed, were often modeled on -- their Western equivalents.

But the future is shaped less by official rhetoric than by what actually happens on the ground, and as the Chongqing Paper Factory illustrates, environmental laws are often simply not implemented in China. This is no state secret; most of the dozens of government officials I interviewed acknowledged the pervasiveness of the problem, often without prompting. Sometimes the culprit is corruption: factory owners use *guanxi* -- personal connections - - or bribery to get local regulators to look the other way. Beijing either can't or won't stop them. As the ancient Chinese adage says, "The mountains are high, and the Emperor is far away."

Even more common, and intractable, is the so-called soft-law syndrome. Under soft law the government excuses state-owned companies from full compliance with environmental laws and standards; the law is "softened" in order to spare the companies (and the state banks supporting them) from bankruptcy and to shield their workers from unemployment. In contrast to corruption, soft law is not something Chinese officials like to talk about.

Right after the explosion at the paper factory I had lunch with Hu Jiquan, a top government economist in Chongqing. Keen to encourage foreign investment, Hu was pledging that the local environment would improve in years to come, thanks to tougher law enforcement. "We will close factories if we have to," Hu said. "We've already closed more than two hundred of them." Having just returned from the chlorine waterfall, I couldn't help challenging this rosy vision, and Hu was honest enough to concede that short-term economic considerations often do override environmental goals in China. "The trouble is, if we close that factory, many workers will lose their jobs, and our government would rather support the workers than protect the water," he said with a shrug.

Hu then extended his explanation, though he first told Zhenbing not to translate this part for the foreigner. The government of Chongqing knew perfectly well that the paper plant should be closed immediately. In fact, it had tried to shut the plant months earlier (just as the unnamed official quoted earlier had bragged), "but the local people and leaders complained a lot, so the government backed off. It was afraid of social unrest."

This is the crux of the Chinese environmental problem. The government knows the environment needs protecting, but it fears the social consequences. Bluntly

put, it worries that doing the right thing environmentally could be political suicide.

A Long Nightmare of Deprivation

THE government would like to protect the environment for a very simple reason: senior officials have come to realize that environmental degradation costs money -- indeed, it threatens to derail China's entire economic-modernization program. Li Yining, a grand old man of market economics, who was one of the masterminds of China's transition to private enterprise, told me in an interview that "inadequate ecological protection" was one of the few things that could prevent China's economy from growing at 10 percent a year "for a very long time." Acid rain, for example, causes \$2.8 billion worth of damage to forests, agriculture, and industry in China every year. Air pollution raises health-care costs and lowers workers' productivity. Deforestation worsens the floods that already kill thousands of Chinese every year. The list goes on. The official *China Daily* estimates that the annual cost of China's environmental degradation is seven percent of the gross domestic product. Vaclav Smil, a geographer at the University of Manitoba and a leading expert on China's environment, calculates the cost at no less than 10 to 15 percent of GDP. If Smil is correct, then the much-celebrated growth of China's economy is, in effect, being canceled out by associated environmental

degradation. In short, the economy is running hard but poisoning its own future. The problem, of course, is that faithfully implementing environmental laws would require closing hundreds of thousands of factories and throwing tens of millions of people out of work.

The Chinese people have long and bitter experience with scarcity and are understandably eager to leave it behind. As recently as 1949 life expectancy was only thirty-nine years, a level not seen in Europe since the Industrial Revolution. All Chinese over forty have firsthand memories of the greatest man-made disaster of the twentieth century, the famine caused by Mao Zedong's Great Leap Forward campaign. As Jasper Becker, the Beijing bureau chief of the *South China Morning Post*, documents in *Hungry Ghosts* (1997), the famine killed some 30 million people from 1959 to 1961 and brought starvation, misery, and even cannibalism to rural China.

Today the average Chinese life-span is about seventy years, yet scores of millions still live in desperate poverty. In one village I visited in Sichuan province, on a very cold day when my feet were only just comfortable inside heavily insulated hiking boots, I watched a grim-faced peasant woman washing her family's clothes in the river, her bare feet dangling in the frigid water. On the other side of the village a man, also barefoot, stamped around on a pile of loose, moist coal, looking like an

eighteenth-century European peasant crushing grapes for wine. In fact he was manufacturing the briquettes of fuel whose carcinogenic combustion would provide what little heat he and his neighbors enjoyed in their windowless mud huts.

Now that China is at last awakening from its long nightmare of deprivation, the Communist Party's tattered legitimacy depends on keeping the economic expansion going, and extending it to the many regions that still lag behind. Yet the marketplace reforms that have sparked double-digit economic growth in China have also brought pain to vast portions of the population. As a result, there has been much more social unrest in China in recent years than most outsiders realize. The mass occupation of Beijing's Tiananmen Square in 1989 and the army's subsequent massacre of unarmed demonstrators are well known. But similarly militant protests took place at the same time in cities and towns throughout China; that news did not reach the outside world because there were no foreign journalists on hand to report it. Recently, as the transition from state-organized economy to private-market free-for-all has touched the lives of more and more Chinese, thousands of wildcat strikes and street demonstrations have occurred across the country, especially in Manchuria, a bastion of heavy industry, where unemployment rates now exceed 30 percent. WE DON'T WANT DEMOCRACY, WE WANT TO

SURVIVE, declared one protest banner in the city of Shenyang.

All this has left Party leaders determined to keep the economy growing no matter what. They believe that Tiananmen Square was not primarily about politics -- about the issues of democracy and human rights that dominated Western news reports -- but about economics. There is truth to this. Hundreds of thousands of average Chinese followed the students into the streets not only because they yearned to breathe free but also because they were angry about hyperinflation, corruption, and their own uncertain economic prospects. The Party saw its life flash before its eyes in 1989, and it got a second warning in 1991, when its erstwhile "big brother," the Communist Party in the Soviet Union, fell from power. The Chinese Communists are determined not to suffer the same fate. As Deng Xiaoping warned his fellow Party leaders after Tiananmen Square, if the Party cannot improve the welfare of the people, the people will go into the streets.

Enviromental Revolts

BUT there is a Catch-22. The people, it seems, will also go into the streets if their local environment becomes intolerably polluted -- if, for example, they are deprived of safe drinking water.

"There were social revolts along the Huai River, so the State Council [China's

Cabinet] *had* to react," one retired senior government official told me, recalling the most dramatic government crackdown on pollution to date. The Huai region, located about 200 miles northwest of Shanghai, is the most densely populated of China's seven major river basins: 110 million inhabitants share 108,000 square miles of land. The river had been severely polluted for years, but it got drastically worse in July of 1994, when a sudden flood of toxins turned the river black and deadly for weeks. Hundreds of thousands of people were left without drinking water, several thousand were treated for dysentery, diarrhea, and vomiting, and 26 million pounds of fish were killed.

Popular outrage took many forms, including pelting local officials with eggs when they blocked foreign journalists from filming the river. The most extraordinary moment came when a top leader from Beijing, Song Jian, the elderly chairman of the State Council's environment committee, arrived to inspect the site. Somehow one brave and resourceful peasant managed to give Song a glass of river water to drink. Song took a sip of the putrid brew; then he turned to the local and provincial officials flanking him and shrewdly invited them to drain the glass. These officials had ignored earlier pleas to close the paper, leather, and dyeing factories whose waste fouled the Huai. Song told them they would be sacked if the offending factories were not shut promptly. Last summer the government closed 999

paper mills and untold numbers of other factories.

If Beijing fears social unrest so much, why did it shut all those factories? One reason, said the retired senior government official, was that "for years no boy from [certain villages in] the Huai River area has been healthy enough to pass the physical examination required to enter the army." Even more important, said other observers, these factories were "township and village enterprises," or TVEs -- small, privately owned plants that employed no more than a few dozen workers each. TVEs employed at most tens of thousands of moonlighting peasants who had never stopped working in their fields. Against that fact the government had to weigh the anger of the many hundreds of thousands of people who relied on the Huai for their drinking water -- people who had already demonstrated a capacity for protest. There was no question which group should be placated.

Beijing went national with the campaign against TVEs in August of last year, when the State Council ordered some 60,000 heavily polluting factories to close. "That sounds like a big number, but in a country as large as China it amounts to only one percent of the total number of enterprises and workers," Ye Requi, a deputy administrator of the National Environmental Protection Agency, told me. Ye nevertheless argued that the closings "show the seriousness of the government in this

area." Unfortunately, TVEs account for only a fraction of China's pollution -- estimates range from five to 30 percent. To make a real dent in the problem, state-owned enterprises like the Chongqing Paper Factory would have to be closed. But fear of social unrest makes that problematic, as it does the recent pledge by Party leaders to end state ownership of 10,000 of China's 13,000 largest industrial enterprises.

Thus China's leaders find themselves in a box. They can, in the name of economic growth, leave the big factories and other environmental hazards essentially undisturbed and hope that the resulting pollution and ecological destruction do not trigger either unmanageable popular protest or long-run economic stagnation. Or they can clamp down, clean up, and face the double short-term risk of a stalled economy and a wrathful proletariat. Not an enviable choice, but for Chinese leaders not a difficult one either. As Chen Qi, the top environmental official in Liaoning, a region of bitter winter cold and 30 percent unemployment, explained to me, "Heavy pollution may kill you in a hundred days, but without enough heat and food you die in three."

The Collapse of the One-Child Policy

THE most pervasive environment-related myth about China is that couples are allowed to have only one child.

But in truth the one-child policy has long been "more slogan than reality," in the words of a top Chinese demographer. The Party was forced by popular resistance to back off from the policy -- another example of social unrest driving government decisions. Enraged peasants were actually attacking and killing local Party leaders and their families.

When one Party boss in southern China forced a woman to abort in her seventh month of pregnancy, he lived to regret it. The woman and her husband already had a daughter, but like all Chinese peasants, they wanted a son -- the only old-age insurance available in China. During the abortion it was discovered that the woman had been carrying two sons -- twins. When the father heard this news, Steven W. Mosher reports in *Broken Earth* (1983), he exploded in a murderous rage and ran through the village to the house of the Party leader. There the father grabbed the leader's two sons, aged eight and ten, and hurled them down the courtyard well. He then leaped in after them, closing the circle of death with suicide.

Such attacks apparently convinced Beijing that the one-child policy posed a threat to Party authority. In 1984, five years after the policy was inaugurated, it was relaxed, though in rural areas only.

Today the one-child family is all but unheard of in rural China, where nearly

three out of four Chinese live. In my six weeks of travel, which took me from Liaoning and Hebei provinces in the north through Shanxi and Sichuan in the middle west to Hunan and Guangdong in the south, I talked with scores of peasant families. I was the first foreigner that some of these peasants, especially the children, had ever seen. Every family I met had at least two children; many had three or four, and some had five or more. In a village near the Pearl River I shot baskets with a boy of ten who shyly told me that he was the youngest of seven. It seems that the only Chinese who do adhere to the one-child target are urban dwellers -- especially those who work directly for the government and thus can be easily monitored, and penalized through the withholding of salaries, promotions, and the like.

All of which casts strong doubt on official claims regarding China's population: that Chinese women average only two births each; that the population will not reach 1.5 billion until 2030; that it will peak at 1.6 billion in 2046. Although some newly affluent families are, in the familiar demographic pattern, having fewer children, the gross numbers are almost certainly greater. The truth is that no one knows exactly how big China's population is, or how fast it is growing.

"Ten years ago China had a reputation for having the best population statistics in the world, because there was no way for its

people to hide what they were doing from the government," Gu Baochang, the associate director of the official China Population Information and Research Center, told me. "But today Chinese figures have become very questionable. The problem is, the local Party leaders compete with one another to post the lowest birth rate, just as they compete to have the highest economic growth rate.... So at each level of authority the targets get tightened. If the central government sets a target of eighteen births per thousand people this year, the provincial leaders tell county officials no, they must achieve sixteen, and the county leaders tell village officials no, it must be fourteen." The regrettable results, Gu added, include a renewed coercion of women, continued abortions of female fetuses, and underreporting of the nation's true birth rates up the chain of command.

Yet even scrupulously honest reporting would not change the fundamental fact that Chinese leaders waited too long to attack the problem. In the late 1950s Mao brushed aside warnings about the approaching difficulties, arguing that China could always produce its way out of trouble, since "every mouth is born with two hands attached." Not until 1971, when the population already exceeded 850 million, did China begin pursuing birth control in earnest. The "later, longer, fewer" program urged later marriages, increased spacing between children, and a limit of two children per family. It was both less coercive and more

successful than the subsequent one-child policy, reducing average births per woman from 5.8 in 1970 to 2.8 by 1977 -- a remarkable achievement. But it was not enough. Because the base number -- China's population -- was already so large, even this lower rate of growth translated into huge absolute increases.

That dynamic still operates today, which may be why President Jiang in 1996 spoke of reanimating the one-child policy. Even if the official Chinese claim of 2.0 births per woman is accurate, that amounts to an annual increase of 15 million people. "So even though China has reduced its fertility as much as possible," Gu explained to me, "the total population is still growing as much as it was in the early 1970s, when women were having four or more children each."

Population growth is probably China's most important environmental issue, because it magnifies all others. For example, China ranks near the very bottom in global comparisons of per capita supplies of arable land, fresh water, and forests. This is in part because so much of China's land is arid, and in part because Mao, in his mad Great Leap Forward, ordered millions of trees to be cut down. But the country's gargantuan population makes a bad situation worse.

Beijing has so little water that Party leaders have questioned whether the city can remain the capital, according to Yu

Yuefeng, the staff director of the Environmental Protection and Natural Resources Conservation Committee of the National People's Congress. With a nervous chuckle, Yu told me that the problem has eased in the past two years, thanks to higher than normal rainfall, but, he conceded, "This is a roll of the dice. We have to rely on the gods to keep the rains coming." In his privileged Party position Yu can afford to laugh. The problem is not so amusing for some 50 million people in rural northern China who must walk for miles or wait for days to obtain any drinking water at all. As for farmland, population growth has reduced the supply per person to about the size of one third of a tennis court.

Everywhere I visited, I noticed that China *felt* crowded. How could it not? China's population is five times that of the United States, even though the two countries occupy roughly the same amount of land area. But since deserts and mountains make the western half of China inhospitable to human settlement, 90 percent of its population lives in the east. Imagine, then, almost nine times as many people living east of the Mississippi as live there in real life. That is everyday reality in China.

In all the thousands of miles of scenery I observed during my travels, I cannot recall a single place without signs of intense human settlement. Open space was for farming, period, and was cultivated to within an inch of its life, with furrows

reaching right to the edge of any road and curling into hollows as small as pitcher's mounds. In daylight hours the cities become churning masses of congestion. Although China has only one car for every 150 inhabitants (the United States has one for every *two*), that still means a huge number of cars. Jockeying for space alongside them are sky-blue cargo trucks, ancient city buses, an occasional horse-drawn wagon, and an endless fleet of bicycles -- many of them three-wheeled cargo bikes, transporting everything from bulging sacks of fruit and vegetables to freshly skinned sides of pork to couches, toilets, and televisions.

Traffic jams are the rule. Since no vehicle seems capable of forward motion without frequent beeps of its horn (Chinese drivers say this is necessary to clear the way forward, just as they honestly believe that using headlights at night wastes gas and causes accidents), making one's way across town is a stressful adventure. Negotiating the sidewalks is no better, partly because the pavement is invariably covered with many kinds of litter: plastic bags, peanut shells, cigarette boxes, food cartons, construction-site refuse, and other unsavory items. Pedestrians don't necessarily try to crash into one another, but they certainly don't shrink from it. Intersections are bedlam. There are no STOP signs, very few traffic lights, and no concept of right-of-way, so everyone simply presses forward at all times. Crossing the street often

resembles a game of chicken, with pedestrian and driver inching ahead in apparent disregard of each other until someone blinks. In the swarming cacophony of urban China one presses forward or gets run over.

Public transportation in China is not for the claustrophobic, to put it mildly. In trains and buses one's body is constantly pressed against, usually from two or more sides, by the bodies of other passengers, who seem neither to notice nor to care. As they have done with so many discomforts over the years, the Chinese have grown used to such close proximity. Zhenbing and I were once standing in line at a train station, waiting to offer the bribe necessary to gain sleeper tickets, when suddenly I felt myself grabbed from behind and moved aside as roughly as if I were blocking Patrick Ewing's path to the basket. I'm not the fighting type, but I instinctively whirled around to find ... no one. The culprit, a man in his sixties, had already hurried past me, intent on his destination. There had been no malice in his gesture, only the natural impatience of an animal who has been confined in too small a space with too many others for too long a time. I tried to take a calming deep breath, but my lungs couldn't reach it. Not for the last time in China, I felt as if I had stumbled into some fiendish laboratory experiment that was mushrooming beyond control.

The Meaning of Spitting

WALKING down the sidewalk in China was a challenge not only because of all the people I had to dodge but also because of the puddles of spit they left in my path. Everyone, it seems, spits in China -- on the sidewalk, in the classroom, on the train, in restaurants. The habit is universal. During a daylong train ride from Shenyang I was wedged between a sniffling peasant girl on one side and her older brother or cousin on the other. We had "hard-seat" tickets -- the lowest class, and the only ones available. I was a curiosity to these peasants, and to show friendship the young man offered me a few of the sunflower seeds he and his family of seven were munching. Upon finishing his own seeds, he washed them down with a swig of tea and then, with a deep hawking sound, summoned from his throat a prodigious gob of phlegm, which he casually spat onto the floor in front of us. He then reached out his foot and rubbed the spit into the floor, as if stamping out a cigarette. It was 8:15 A.M., there were fourteen more hours to Beijing, and lots more spittle was loosed throughout that packed compartment before we arrived.

The Communists tried to eradicate spitting when they came to power, in 1949; it was one of their first exhortations to the masses. They failed. Spitting lives on because it is a habit of peasant life, and the vast majority of Chinese are still peasants or only one generation removed. The habit apparently derives from the basic conditions of peasant

life, which include rampant lung infections and other respiratory problems. These, in turn, result from a historical fact with enormous environmental implications: for centuries Chinese peasants lived with very little heat in wintertime. They burned wood if they were lucky, but more often they used dried leaves and crop stalks, as Zhenbing remembers his family doing exclusively before he turned ten, in 1976. Today peasants still rely on such "biomass" fuels for 70 percent of their energy consumption.

Coal therefore represents a great advance for the Chinese people; it keeps a body much warmer. But it does so at terrible cost: the Chinese are dying in frightful numbers from coal smoke. Twenty-six percent of all deaths in China are caused by respiratory disease. Coal smoke is not the sole cause of these deaths, but it is a major contributor. Outdoor air pollution, of which coal smoke is the main component, is second only to cigarette smoking as a cause of lung cancer in China's cities, where lung cancers have increased 18.5 percent since 1988. Coal is also a central element in the "indoor pollution" from home stoves that is the chief cause of rural lung cancers, especially among women.

There is little hope of relief. One of the few natural resources China has in abundance, coal accounts for three quarters of total energy consumption. The country's power stations and manufacturing plants are fueled overwhelmingly by coal. Factor in coal's

dominant role in keeping people warm, along with the primitive technologies often employed, and it's no surprise that Chinese cities, especially in the industrial, frigid north, have some of the filthiest air on the planet.

Levels of "total suspended particulates," or TSP (soot and dust, in lay terms), are appallingly high in China -- often four to nine times as high as the World Health Organization's guideline of 60 to 90 micrograms per cubic meter annually. Most American cities have readings in the 40-to-60 range; New York measures 62. In some northern cities in China the level climbs as high as 400, 500, or even 800 in wintertime.

The Ghosts in Tiananmen Square

VISITORS to Beijing can forget seeing blue skies in winter, except immediately after Siberian winds have roared through. By chance such winds struck the capital the night of my arrival. But two days later the winds calmed, and over the following week and a half I witnessed the sickening descent of the city into murk and gloom.

At noon on my third day, a Saturday, after barely twelve hours of still air, I took a bus across town to a luncheon interview, traveling the main east-west boulevard past Tiananmen Square. Directly above me the sky was still blue, but in the distance a

fuzzy pale-gray layer of smog already frosted the skyline. When I came back outside a mere four hours later, the layer had nearly doubled in thickness, its blurry density giving the sky an otherworldly aspect as it melted into a sunset of vivid pinks and yellows. The pollution accumulated with each passing day, and by Thursday I was used to waking up to a dull gray-white haze that rested on the city skyline like a lid on a wok.

On Friday morning I took a taxi to the National People's Congress. Passing through the larger intersections of Beijing, I looked both ways down the cross streets, but my line of sight extended no farther than about 200 yards. When I reached Tiananmen Square, at 8:45, the sun hung white and barely visible above the southern gate to the Imperial Palace, like a dim light bulb in a barroom full of cigarette smoke. Gazing north, past Mao's mausoleum and the site of the 1989 massacre, I could not see the far end of the square, much less the Forbidden City beyond it. The pedestrians crossing the square were like spectral figures, half ghost, half flesh, as they disappeared into the gritty mist.

During our travels beyond Beijing, Zhenbing and I fell into a running debate over which city in China had the nastiest air. Was it, in fact, Beijing? Zhenbing, a resident of the capital, wouldn't entertain the possibility. Was it Benxi, in Manchuria, whose pollution was so thick that in the

1980s the city had vanished from satellite photos? Possibly. Though Benxi was now visible again from outer space, local officials admitted that its TSP levels remained very high. What's more, my interviews with residents suggested that what progress had been made stemmed as much from widespread factory bankruptcies as from the government's vaunted cleanup campaign.

For a day I leaned toward Datong, an ugly, low-slung town known as China's coal-mining capital. Bad as the air was in Beijing, it was unusual there to see smokestacks belching copious amounts of pure-black smoke; the pollution somehow seemed more dispersed. In Datong black emissions were routine and ubiquitous. Nevertheless, Datong was soon supplanted by Taiyuan, its neighbor to the south. Taiyuan, the provincial capital, was another major coal center that seemed to impose no controls on smokestack emissions. But it had a population of four million, nearly five times that of Datong. Its air was as soupy and gray as a foggy day in London, though there was no natural fog within a hundred miles.

Another formidable competitor was Xi'an, the ancient imperial capital known the world over for the enormous collection of terra-cotta warriors buried outside town. A splendid bell tower and massive city wall dating back to the Ming dynasty further enhance Xi'an's reputation as one of China's

loveliest cities. But Xi'an's pollution screened these architectural treasures from view. Even on a sunny day the only sign of the orb itself was a patch of sky somewhat brighter than the rest. As a test I timed how long I could stare at that artificially veiled sun without hurting my eyes. After sixty seconds I stopped counting.

Astonishingly, the Chinese I met insisted that their health is not endangered by all this pollution. I developed a dry, rasping cough because I was a foreigner; they, on the other hand, were "used to it." I heard that phrase dozens of times, even from people who should have known better. One leading environmental scholar and advocate in Beijing, for example, assured me that his lungs could tolerate his daily jogs because he had been breathing Beijing's air for years. By that logic, of course, smoking cigarettes poses no health risk so long as one begins in early childhood. He granted the point, but said that since he could not escape Beijing's air, he at least wanted to be as strong and fit as possible.

The biology of cancer seems to be unknown to many Chinese; even well-educated people appear to be unaware that the human body cannot build up tolerance against industrial carcinogens the way it can against the infections that cause influenza. But the lack of awareness goes deeper. "A tendency to deny unpleasant realities has become part of the Chinese personality in recent decades," according to Orville Schell, the

author of many books on China. "A society that has for decades had to ignore so many unjust and irrational things in order to just get along -- the injustices of the gulag, families ruined during the Cultural Revolution, other kinds of government barbarity, the lack of a believable news media -- is one in which the capacity to avoid recognizing all sorts of problems, including environmental ones, has become essential to survive," Schell says. In addition, most Chinese accept the familiar idea that economic growth requires environmental damage, and they are quite ready to pay that price. "We have a saying in China," one journalist who has tried to raise public awareness of the subject told me. "Is your stomach too full?" In other words, are you so well off you can afford to complain about nothing? This phrase is used for Americans who talk about saving birds and monkeys while there are still many Chinese people who don't have enough food to eat."

400 Green Chinese

THE environmental movement in China, such as it is, thus faces a daunting challenge. The few individuals who dare to work on the issue say that by necessity education is the top priority. Liang Congjie, the founder and president of Friends of Nature, one of the very few independent environmental groups in China, told me that his organization got permission to operate because it registered as a cultural rather than

a political group. He added that with a mere 400 members, "Friends of Nature could never oppose the government directly, the way Greenpeace would -- that will not work." Liang focuses instead on raising public consciousness, particularly by prodding Chinese journalists to cover environmental issues more attentively.

It would be hard to overstate the power that the government-run media exercise in China, so, not surprisingly, Liang was glad to see an increase during the past year in media criticism of environmental problems. Much of that increase has been orchestrated by the government itself, specifically the National Environmental Protection Agency. But there are definite limits to what the official media will say. "In my stories," one journalist told me, "I always have to begin with something positive -- how NEPA has announced new policies to protect the air, for example -- not with how the pollution got there in the first place and what its exact effects are. So people don't know how bad the situation actually is."

From the archives:

• **Can Selfishness Save the Environment?**
by Matt Ridley and Bobbi S. Low
(September, 1993)

Is it cynical to observe that the Chinese media's newfound interest in environmental issues correlates rather neatly with the environmental crackdown on TVEs that Beijing ordered last summer? The coverage will probably continue as long as the Party keeps pressing the environmental issue, but how long will that be? "The anti-pollution campaign may soon blow over," says Jasper Becker, of the *South China Morning Post*. "The pattern is for such campaigns to come

"Conventional wisdom has it that the way to avert global ecological disaster is to persuade people to change their selfish habits for the common good. A more sensible approach would be to tap a boundless and renewable resource: the human propensity for thinking mainly of short term self-interest."

and go, each being replaced by another, and then everyone goes back to doing what they were doing before."

Whose Camel Is It?

PRESIDENT Bill Clinton has said that in his meeting with President Jiang Zemin, in October of 1995, he told Jiang that the biggest security threat China posed to the United States was related not to nuclear weapons or trade agreements but to the environment. Specifically, Clinton worried that China would copy America's bad example while pursuing economic development and end up causing terrible air pollution and global warming. Clinton said he could tell that Jiang "hadn't thought about it just like that." No doubt. Jiang was probably wondering whether his American counterpart could possibly be serious. If ever there was a non-issue for China's leaders, global warming is it.

"Global warming is not on our agenda," a senior official for the Chongqing Environmental Protection Bureau said with a dismissive wave of his hand when I asked about his agency's strategies to reduce emissions of carbon dioxide and other greenhouse gases. As if to underscore his contempt for the issue, the official asserted something he had to know was false -- "All the pollution produced in Chongqing is landing here in Chongqing, so it's not a global problem" -- before declaring, "We can't start worrying about carbon dioxide

until we solve the sulfur dioxide problem." The official was referring to acid rain, which he and his colleagues in China consider more urgent, because acid rain is landing on them and causing tangible damage *today*, whereas carbon-dioxide emissions threaten merely potential, far-off, worldwide damage.

Shortsighted? Yes, but understandable. I arrived in China eager to investigate the issue of climate change, but I almost forgot to raise the point during some interviews. When one is inhaling appallingly polluted air for weeks on end, one tends to focus the questions on that.

China is a greenhouse giant. It has already surpassed the former Soviet Union to become the world's second largest producer of greenhouse gases, trailing only the United States. With its immense coal reserves, huge population, and booming economic growth, China is very likely to triple its greenhouse emissions by 2020. Absent a radical shift in policies elsewhere in the world, that increase will accelerate global climate change, plunging the world into potentially catastrophic territory -- melting polar ice caps, raising sea levels, causing more and nastier hurricanes, droughts, and blizzards. China will by no means be immune. Much of its coastline could face severe flooding; perhaps 67 million people could be affected.

Yet China has little patience with Western

finger-pointing on the climate-change issue, regarding it as a cynical means of constraining China's economic development. That is oversensitive, but it contains a kernel of truth. For all its nuclear weapons, grand ambitions, and mobile-phone-wielding, expensively dressed business executives, China remains a poor country where hundreds of millions of people have no reliable supply of electricity. What's more, China emits a far smaller amount of greenhouse gases per capita than the rich nations whose earlier industrialization has already condemned the world to climate change. If outsiders want China to do something about global warming, they will have to pay for it. As one Western consultant with regular access to senior Chinese officials puts it, "They know very well they can hold the world for ransom ... and whenever they can extract concessions, they will."

"The Americans say China is the straw that breaks the camel's back on greenhouse-gas emissions," says Zhou Dadi, the deputy director general of the State Planning Commission's Energy Research Institute. "But we say, 'Why don't you take some of your heavy load off the camel first?' If the camel belongs to America, fine, we'll walk. But the camel does not belong to America. China will insist on the per capita principle [of distributing emissions rights]. What else are we supposed to do? Go back to no heat in winter? Impossible.

"China is not like Africa, you know -- some remote place that's never been developed. We used to be the most developed country in the world. Now, after many decades of turbulence, civil war, revolution, political instability, and other difficulties, we finally have the chance to develop the country again. And we will not lose that chance."

A Terrible Dilemma

TO get rich is glorious, in Deng Xiaoping's famous phrase. Although unrestrained growth can destroy the ecosystems on which all economies ultimately depend, the headlong pursuit of wealth is the cornerstone of modern Chinese life. The crowning irony is that even China's top environmental officials accept that economic growth must take precedence over environmental protection for years to come. Economic growth is essential not only to maintaining political stability -- avoiding a return to the chaos and stagnation seen during the Cultural Revolution -- but also to financing the environmental cleanup. "The money will come from the polluter-pays principle," explains Zhang Kunmin, another deputy administrator of the National Environmental Protection Agency. "The enterprises and households must pay the true costs of a cleaner environment, so they need more wealth."

"This is the terrible dilemma of China's environmental crisis," argues a Chinese

environmental expert who must remain nameless. "If economic growth stops, people will go back to the old, dirty, cheaper methods of production. Worse, there will be political instability, and that will overshadow everything; in that case no one will have time to worry about the environment. Of course, this rapid economic growth will cause additional environmental damage; some things in the environment are irreversible. That's why I think China will have to lose something -- some species, some wetlands, something. We are working very hard to strengthen our environment. But, much as I regret it, you cannot save all the things you would like. You cannot stop a billion people."

It is true: China, and the rest of us, will have to "lose something" in the years ahead. But the scope of that loss matters greatly, and can be influenced. China has made great strides in the past toward the efficient use of energy. With (self-interested) help from the United States and other wealthy nations, a program to install efficient equipment and processes throughout China's energy system could reduce its energy consumption by half. Similar improvements are possible in other areas of environmental policy. But there is no time for delay or half measures. As a government scientist in Chongqing told me, "It is never too late to learn, but it is very late."

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reporter and the author of numerous books, including *On Bended Knee: The Press and the Reagan Presidency* (1988).

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