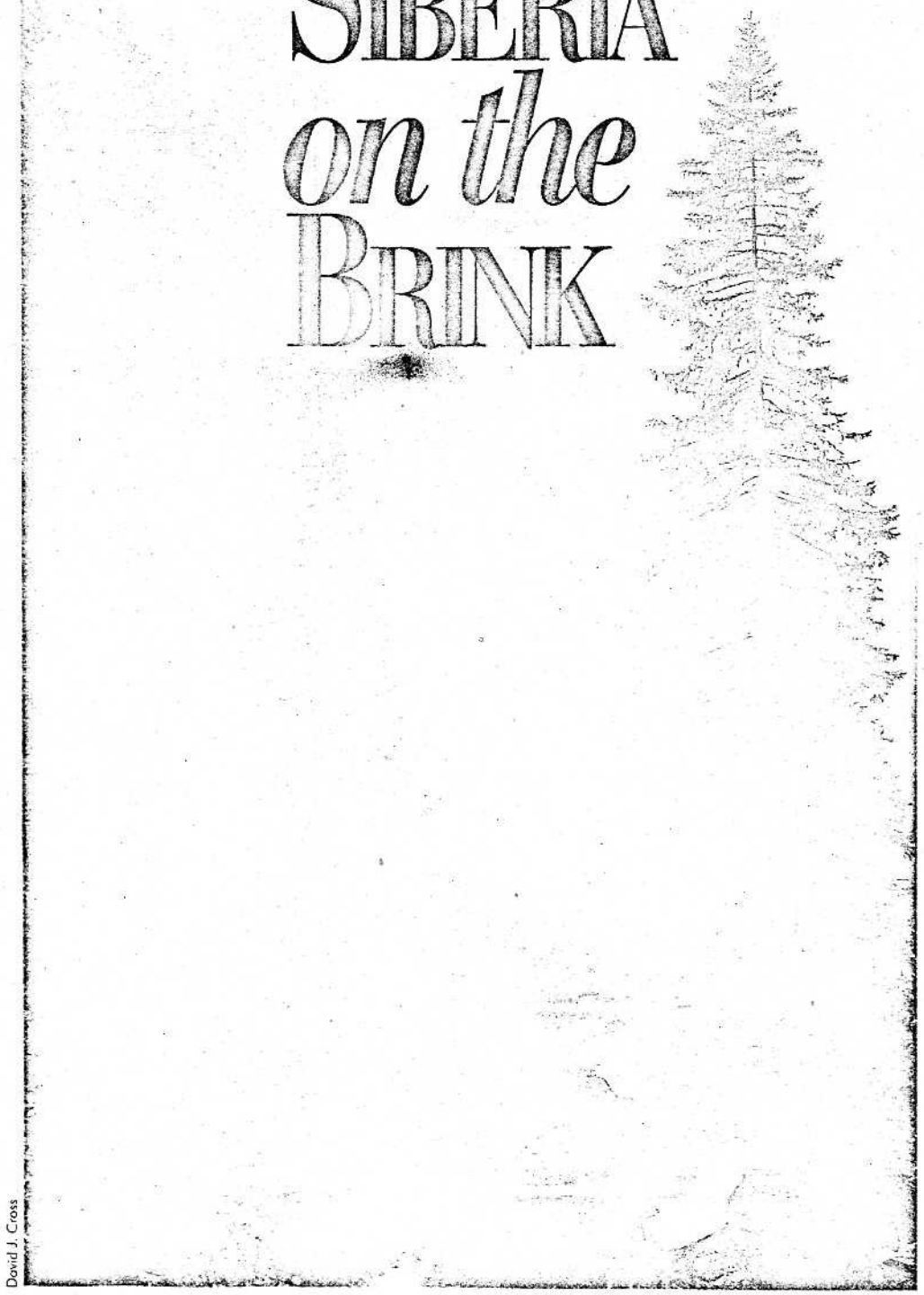
SIBERIA *on the* BRINK



David J. Cross

The vast taiga, a forest larger than the continental U.S., is an astonishing treasure. "But change is happening very fast. The pressure is great. You will see."

By C.W. GUSEWELLE

To the eyes of a traveler riding the current north, the Lena River wilderness looks utterly untouched.

Like huge, dark-pelted animals asleep in the Asian sun, the hills that channel the river roll away to the end of seeing. Furred with conifers and birch, the hills belong to the region of *taiga*—haunt of the sable, wolf, and bear, the wilderness that European Russians still speak of with a murmur of dread. Except for the occasional small settlement of log houses huddled at the river's edge, no sign of man's hand can be seen.

It is tragic illusion.

Doomsayers like the militant conservationist and writer Valentin Rasputin have pronounced Siberia spoiled forever—already exploited beyond hope of healing. Others say that the forest region, greater in expanse than the whole continental United States, is so vast that it hardly has been scratched, much less fatally damaged. Probably the truth lies somewhere between. What's certain is that behind the riverside collar of uncut timberland, the loggers are furiously at work.

Our expedition of June through August 1991 took us across the whole vertical expanse of Siberia, from the mountains rimming Lake Baikal in the south to the river's mouth, where the Lena

empties into the Laptev Sea of the Arctic Ocean above the 72nd parallel. On its journey to the northern rim of the continent, the river cuts a great arc through the territory of Yakutia in the very heart of the *taiga* zone.

Three Russians from the Institute of Geography of the Siberian branch of the Soviet Academy of Sciences joined our scientific team. Victor Paolovich Gulevich, the expedition's co-leader, was senior among them. Thirty-eight years old, a mountaineer and glaciologist who spends part of every year in the Siberian wilds, he also is the most passionate about the growing ecological injury to the region. Siberia, in his view, still is an astonishing treasure. "But the change is happening very fast," he says. "The pressure is great. You will see."

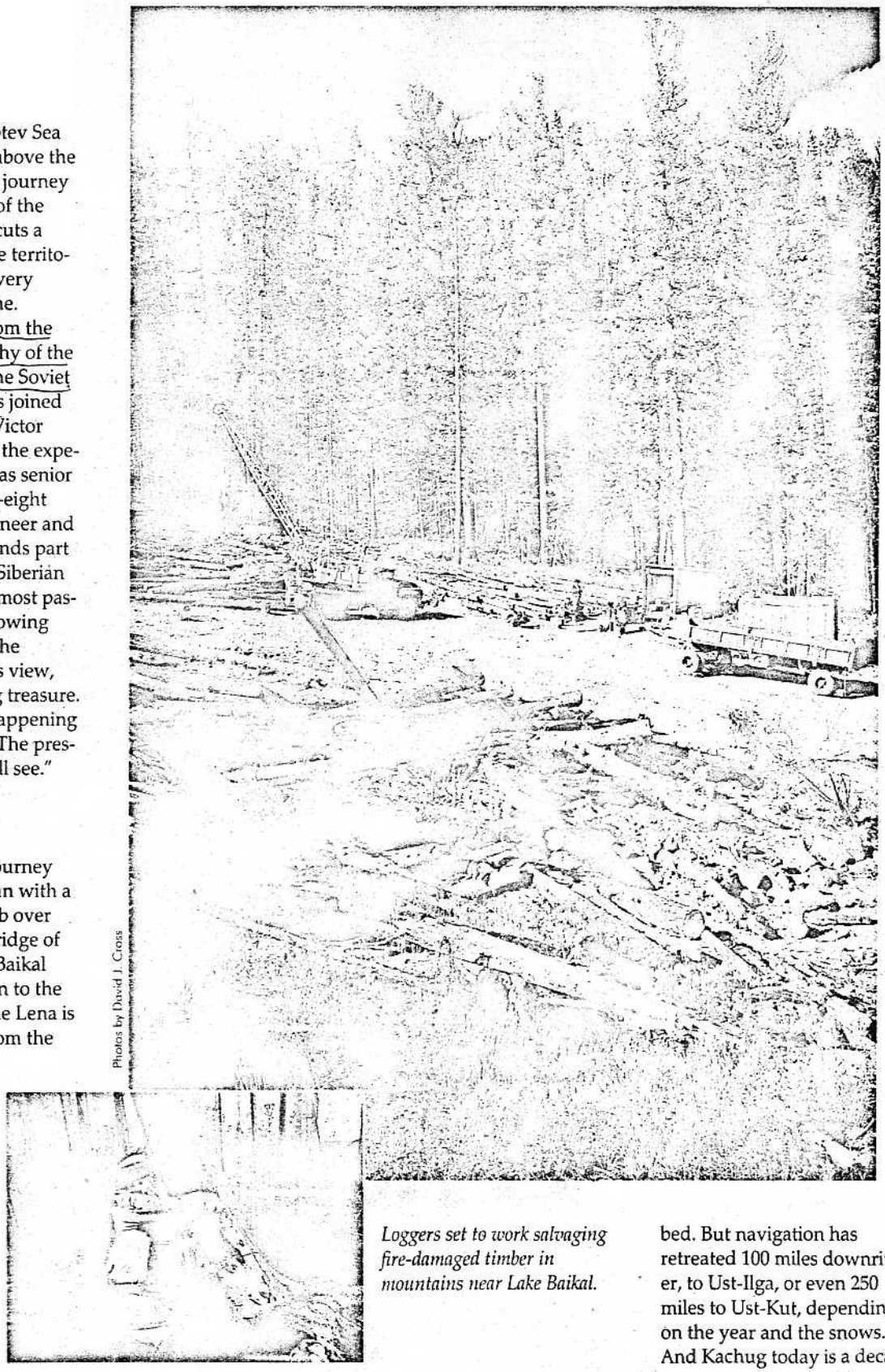
Our journey began with a climb over the ridge of the Baikal chain to the high valley where the Lena is born of snowmelt from the mountains' flanks. From there it was a trek of two days more before the brook was large enough to float our rafts. The game trails we followed meandered through highland glades and into the shadow of cathedral stands of pine and larch where it was possible to believe no one had ever passed before. In country so vast and so pristine, talk of the spoiling of Siberia seemed altogether preposterous.

But only 120 miles farther on, at Kachug—the first town of any size on the river—those first impressions were overtaken by fact. A generation ago, Kachug was the starting point for Lena navigation, a rowdy Siberian outpost aswarm with river men. But then timbering in the watershed changed the runoff pattern. Instead of the spring snowmelt being released gradually, it began to come off denuded mountainsides and down the valley in a rush.

From May through middle June, the Lena runs a torrent. Then the water is gone, and for many miles below Kachug the river is shallow enough to walk across. It's still a coiling, silver beauty, running clear as vodka over its unsilted pebble bed. But navigation has retreated 100 miles downriver, to Ust-Ilga, or even 250 miles to Ust-Kut, depending on the year and the snows. And Kachug today is a decaying, impoverished backwater.

"Moscow has sold our forest to the Japanese," a man there told me. "The town is finished."

The impression of unscarred wilderness as we traveled along the Lena itself changed with every side trip back from the river. Behind the first rank of hills lie collec-



Photos by David J. Cross

Loggers set to work salvaging fire-damaged timber in mountains near Lake Baikal.

tive farms where potatoes are the main crop, growing in fields carved from the forest three centuries ago and more.

Still farther from the river are the logging camps, dismal clutches of rough barracks amid a clutter of heavy machines, with dirt landing places for helicopters and a network of rough truck roads flung out through the *taiga* in every direction.

By the 2,000-mile mark on the Lena, as it sweeps northward toward the Arctic Circle, the river that began as a mountain streamlet is a swollen, braided giant, more than 19 miles from one true bank to the other. Long before that, larger timbering settlements begin to be seen. The harvest still is away from the Lena and out of view, but the product is stockpiled along the banks: Log stacks that sometimes are greater in area than the villages themselves wait to be formed up in rafts and floated northward.

This is also the region of perpetual summer fires. Burning unattended, they send up enormous clouds that stain the 2 a.m. twilight for weeks on end. Sometimes, we were told, the smoke shroud lying across the river is so dense that all navigation is halted for up to a fortnight.

Local authorities blame the fires on electrical storms. But people who have spent their lives in Yakutia told us repeatedly that they remember no such plague of wildfires in the years before intensive timber cutting came to the Lena basin.

The loss is seen in other ways as well. We passed part of a day with a man whose boyhood to age 15 was spent in an Evenk settlement up one of the lesser streams that feed the Lena. The Evenks are hunters and reindeer people who follow their herds through the forest. Their culture is based on harmony with the land, but the foundation of their traditional life has been all but destroyed. First, in a sweeping decree in the 1950s, villages were ordered abandoned and their people relocated to larger towns. Then the increase in logging and mining activity changed the forest itself.

"It used to be that an Evenk who traveled in the *taiga* never needed to carry meat," said the man, now 44 years old. But each year, the game is noticeably less. "Now, if you do not take meat along, you might starve."

The damage that can at best be seen only piecemeal from the ground is more evident from the air. Using helicopter and biplane, we traveled to the mining center of Mirnyy, on one of the Lena's major tributaries, the Vilyuy River, and to a reindeer camp deep in the Verkhoyanskiy mountain chain that bounds the Lena to the east. Even from above, the scars are not dramatic. A forest of more than two million square miles—some of it all but inaccessible—does not yield quickly to the saw. In every direction, it reaches to the horizon, a stupendousness of verdure. Then you notice an alien geometry: the red earth of logging slashes, blue smoke plumes rising, the black smudges of old burns. The wilderness has not vanished, but it is pocked.

Impression and anecdote do not carry the authority of fact. But fact is hard to come by. Administrative competence never was great in the Soviet era. Since August 1991, it has further broken down. From most settlements along the Lena, a telephone call to Irkutsk, the largest city of eastern Siberia, was chancy at best; a call to Moscow was as futile as dialing the moon. The surest—and cheapest—way to get information to or from the capital was to send it in the hands of a courier across six time zones by plane.

There is little real cooperation or communication among the officials of neighboring districts, or often even between towns and settlements in the same district. In such circumstances, the assembling of a body of reliable information about the state of the *taiga*—how much has been lost, how much remains, how fast it is disappearing—is all but impossible, even for professionals on the scene.

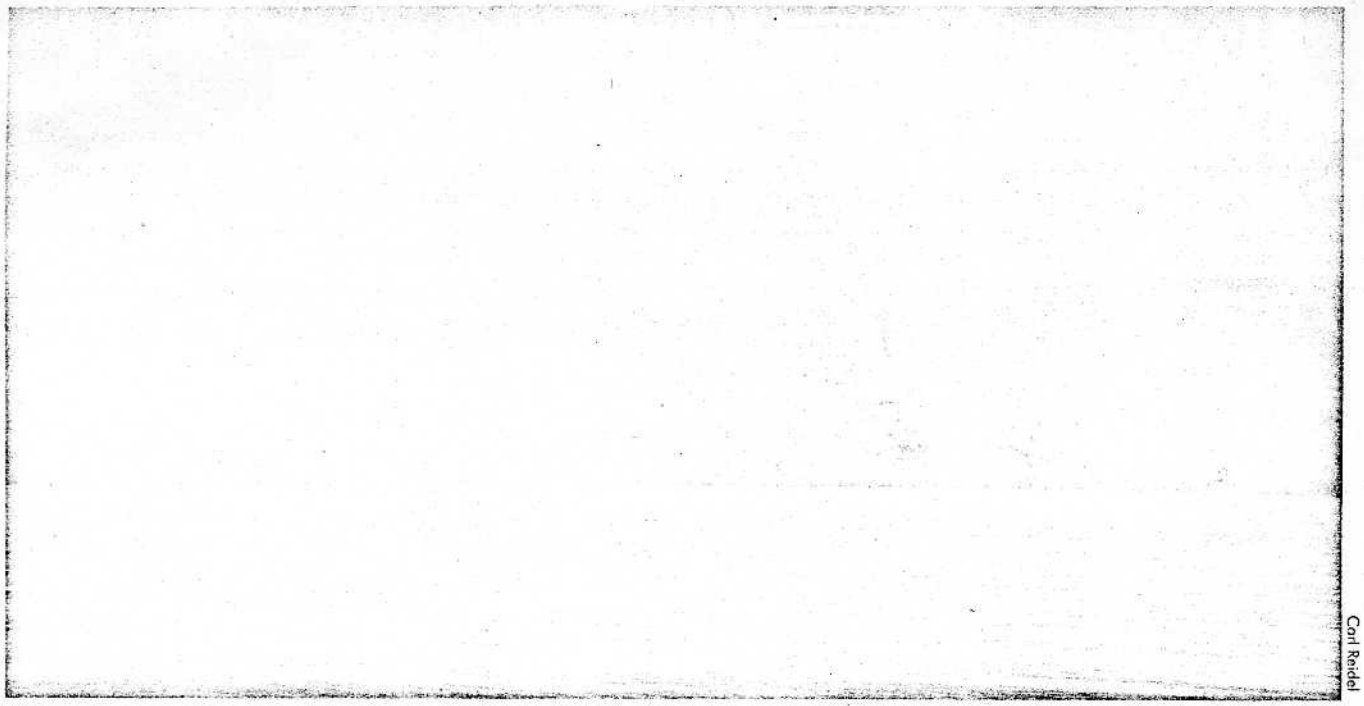
Armin Rosencranz, president of the Pacific Energy and Resources Center in Sausalito, California, has spent years assembling information on what he calls "a sleeper issue." Siberia's forest is the world's largest, a global resource on the same order of importance as the forest of the Amazon. Estimates developed by Rosencranz and his Soviet colleagues suggest that the *taiga* is being depleted at the rate of about 10 million acres a year.

In the confusion that has accompanied the faltering and final breakup of the Soviet Union, foreign timber companies—American, Japanese, and Korean—have been drawn to Siberia like scavengers to a road kill. The Japanese and Koreans are the least scrupulous about environmental issues, bulldozing crude roads inland from a northern coast where the waters are kept open by super icebreakers.

An American company recently constructed a timber-loading dock described by one of Rosencranz's Soviet contacts as the largest he had ever seen. He was horrified, he said, by what its sheer scale implied about the company's intentions. Unlike the Japanese and Koreans, American timbermen come with the promise of large-scale replanting programs. But in Siberia's climate, it takes from 100 to 150 years for a seedling to mature.

"Planting will benefit people five generations down the road," Rosencranz says.

C.W. Gusewelle is an associate editor and columnist for the Kansas City Star. He was the American organizer of a joint U.S.-Soviet expedition which last year traveled Siberia's Lena River, from its source near the Mongolian border 2,800 miles north to its mouth at the Arctic Ocean. The journey took the party of eight Americans and four Russians through Earth's greatest remaining boreal forest.



Carl Reidel

A papermill on the shores of Lake Baikal belches smoke into the air and pours chemicals into the water, causing serious pollution.

"Whereas the people harmed are the Siberians who live there today. And not just Siberians, but also people who live west of the Urals and have depended on the economic benefit they received from processing Siberian timber."

Dr. Aleksey Belov, head of the biogeography department of the Institute in Irkutsk, also compares the linked human and environmental problems of Siberia to the problems of the Amazon basin, but with the difference that Siberia's are not yet irreversible. Development began in the south, along the route of the Trans-Siberia Railway, and has progressed northward, tempered to some extent by collision with the cultures of the native northern peoples.

"The Yakuts and the Evenks historically have had a special attitude toward nature," Belov told me. "They have been on the side of preservation. But this attitude is generational, and it is changing."

The change is driven partly by terrible need. The pressure of the harsh environment compounded by the paucity of medical services results, for native Siberians, in high infant mortality, short life expectancy, and a baseline of generally poor health. Siberia's mineral and timber wealth is immense, yet for its inhabitants—natives and ethnic Russians alike—conditions of life are wretchedly poor. That poverty could overwhelm the traditional instinct for conservation.

What's more, Siberia still is part of the Russian Federated Republic and is governed from Moscow. Last November, the Russian deputy prime minister pegged the external debt of the collapsed Union—of which President Boris Yeltsin has said the Russian Republic may pay nearly one-third—at $84 billion. A month later, the lender nations estimated the total could run as high as $100 billion. The temptation will be enormous to push rapid exploitation of the region's resources, responsibly or not, for foreign exchange to get through the present crisis, fend off creditors, and begin rebuilding from the wreckage of a seven-decades-long political and economic catastrophe.

In short, Siberia's crisis of decision is at hand.

"There is much talk about integrating our economy into the world economy," said Belov, the biogeographer. "But to speak of that is also to speak of integrating us into the world environment. So Siberia is a kind of laboratory, to see if it will be possible to develop without destroying—the cultures and the land."

The dominant impression is of prodigious, almost unimaginable waste. Waste of resources, of time, of lives.

After receiving the waters of uncounted tributaries, the Lena pours her gatherings into the Arctic Ocean with such force that the spiral sea currents generated at its mouth have been photographed from space. Borne on that powerful flow each year are hundreds of millions of board-feet in unmilled logs, bound for world markets and for domestic use by Siberians in the treeless far north.

Much of it—no one can say how much—is lost. Just *lost!*

The reason is plain enough, and it is the same reason that explains why, even in years of bountiful harvest, the Russians are a hungry people. A man grows potatoes and his job is finished. It's a different man's job to haul the potatoes to town. And still another's to have a rail car or barge ready to receive the crop. And yet another's to store the potatoes in a warehouse and then take care of the distribution. But *no one owns the crop.* No one is responsible for seeing that these fragmented labors amount to anything.

Our last night in the Arctic we spent camped in the tundra at the edge of the polar sea. The mid-August sky spilled a spit of snow, and ducks flew low overhead. Winter seemed very near.

Along the shore of that bay and along the Arctic coast for tens, perhaps hundreds of miles was a great windrow of driftwood—beautiful logs felled somewhere a thousand miles to the south, rafted up the Lena River, then carelessly lost in storms to be flung up and bleached silver: more logs than we'd seen in all our two-month passage. Enough to build a thousand villages, or maybe a thousand thousand.

I spoke of this to a man who said much of the wood must still have value, if anyone were to take the trouble to organize a salvage operation. But is it reasonable to suppose anyone will do that? Systems do not transform themselves so easily or so fast. In a country that could not manage to get the potatoes in, who will bother collecting the waste of the forest when there still is so much forest waiting to be cut? AF