

NO WORD FOR LUCK

What the Eskimos know about surviving mind-numbing cold—including the secrets of track soup, plate fright, and Arctic madness—could save your life

■ By Paula Schiller ■

I knew my feet were going to freeze solid, both of them. In my mind's nose I could already smell the gangrene. What had looked like ice on Rosie Creek turned out to be slush; I was up to my knees in it, my toes wiggling in ice water, and the sled was stuck. It was 20 below.

How much time did I have? Two minutes? Two hours? Was I supposed to make a fire? The man in Jack London's "To Build a Fire" couldn't manage it, and he died. What chance did I have?

Ahead lay 500 yards of steep, brushy, unbroken trail, then two more miles of good road. Behind lay my own backtrail—back the wrong direction. It would take me four miles away from civilization before bringing me this close again. But at least it was a familiar route, and the dogs, who were tired and mutinous, might be persuaded to work on automatic pilot.

I had been paralyzed for so long that my wet feet were encased in a shell of hard ice. An Eskimo would know what to do, I thought. An

Indian would know. Just about anybody else in Alaska would know. Driven by amputation fantasies, I decided by process of elimination: I didn't have the time to gather wood for a fire or the stamina to continue to break trail on the short way home. It represented defeat, but when I got

the dogs lined up again, I pointed them back down the trail we'd come by.

By the time I got home my mukluks were frozen so stiff that I had to use a hair dryer to thaw through three layers just to get them off. But inside my feet were warm, with no tingle of frostbite. I had literally stumbled upon an old Eskimo trick for protecting feet in water. The shell of ice had prevented the water inside from evaporating; so my feet weren't losing heat very

fast, and my wool socks retained warmth from my skin. The fabric boots had become airtight, and the temperature inside them actually rose.

Of course, when the Eskimos used this technique they did it right. If they knew they had to negotiate open water or step in puddles, they



Illustration by Stephen O'Connor

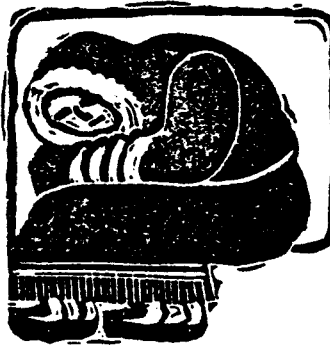
dunked their feet very quickly so only the outermost layer got wet, then blotted the drips in dry, fluffy snow. After the ice coating was hard they were free to walk in water all day.

I was lucky. That's a confession, not a boast. Eskimos have so little use for luck that they don't even have a word for it. They don't leave survival to chance. At birth, an Eskimo child knows no better than any other human how to survive extreme cold; survival tactics are acquired skills. And these skills work for anyone, as the Army found out when it started using Eskimo methods to train soldiers. Although the Eskimos learn how to live in, and like, the cold through cultural traditions—stories and legends that indirectly teach them what to do in every life-threatening situation—their daily survival is based on a few central ideas. And if you learn them, they just may save your life.

The essence is a simple premise: Stay warm and avoid cold. It is a physiological fact that cooling off is easy for humans, while warming up takes work. And the thermal imperative is uncompromising: 98.6 degrees Fahrenheit or else. We have only two ways of obtaining heat. We can absorb it from the environment—a fire, another body, hot rocks—or we can generate it internally through metabolism.

In the Arctic, these rules boil down to three strategies for staying warm. We can move somewhere warm, south like the whales and migratory birds. We can increase metabolism by voluntary exercise or involuntary shivering, neither of which we can sustain very long. And we can increase our insulation. Most wild species will try that first. The problem with people is that we left most of our fur somewhere back in the tropics; when we try to raise our feathers, all we can produce are goose bumps; and our blubber is in all the wrong places. But the Eskimos have taken these strategies and refined them into day-to-day survival techniques: the right insulation, the right food, and the right state of mind.

Insulation: Heating the Core



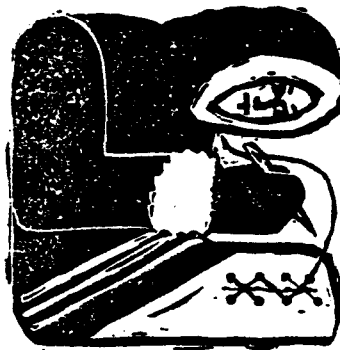
An Eskimo woman is caught out on the tun-
dra by herself in a snowstorm, only a half-mile from home. When she realizes she can't reach it in the white-out, she sits down on a snow-covered hummock with her back to the wind. As she sits, the heat from her body melts the snow underneath her, and "blaming herself" for not having foreseen this dangerous condition, she

removes her mittens and sits on them. She slips her arms out of her sleeves, tucks the sleeve-ends inside her belt, and continues to sit with her arms folded across her chest inside her parka. After a while she leans forward and goes to sleep....

One reason that the Eskimo woman, whose story is told in Vilhjalmur Stefansson's *Arctic Manual*, is not worried about falling asleep is that she is dressed like a polar bear. Her fur is heaviest around her torso, thinner at the extremities, and nonexistent at the end of her nose. Her double-layered fur-in, fur-out parka keeps her core warm, and if she overheats she can loosen her belt and push back her hood, creating a "chimney" for cool air to circulate. That way she never perspires in her clothing, and by staying dry she stays warm.

Traditional Eskimo clothing is designed with a basic rule in mind: If you keep the body core warm, that helps take care

of the extremities. If you neglect the core, your hands and feet (the usual order of freezing is a rhyme: fingers, toes, heels, and nose) are at risk: The core automatically sacrifices the perimeter to save itself, redistributing blood flow from the skin to feed the center. The surest way to keep your hands and feet warm, then, is to keep your core well satisfied. It doesn't work in reverse; you can pile all the insulation in the world on your hands, and if the core is cold, you'll still get frostbitten.



How warm should the core be kept? The Eskimo woman knows. "If you can't sit down and fall asleep any time you're outdoors," says bush pilot Bud Helmericks, "you're not dressed right. You shouldn't have to keep moving to stay comfortable." Your outfit doesn't need to be expensive to be warm; loose layers of old wool sweaters will serve as well as

an expedition parka. You just need a warm core, a way to cool off so you won't sweat, and, if you're really wise, a sewing kit. "A needle and thread is a blessing to a person out in the cold," Helmericks says. "That tear in your pants is pretty serious when it means your leg might freeze."

There's another way to add insulation when you're caught

The problem with people is that we left most of our fur somewhere back in the tropics, and when we try to raise our feathers, all we can produce are goose bumps.

out in the cold for a long time, and the Eskimos learned it from Arctic animals. A cold ptarmigan flies smack-dab into loose snow and makes a roost at the end of the tunnel. Rabbits, better adapted for digging, excavate holes in the snow, hunker down, and go to sleep with just their heads poking out.

Forget trying to build an igloo or following the diagrams for a snow cave when you need more insulation. You need shelter, not architecture. Just burrow into a drift, or pile up a mound of snow and crawl in.

Inner Fuel: Outwitting Starvation



The Eskimo woman sits and sleeps on the tun-
dra, waiting for the storm to blow over. She isn't cold enough to shiver, and although as an Eskimo she has a slightly higher metabolism than the rest of us, she is burning very few calories. She is hungry only for a short while at the end of the first day. If she needs inner fuel, however, she has the best possible reserve to draw

from. She has been eating high concentrations of fats and oils all her life, and the fat in her system helps her through the lean times. ▶

"Emergency" ↑↑↑

"The length of life under the conditions of starvation generally depends upon the quantity of fat present in the organism at the start," writes Walter B. Cannon in *The Wisdom of the Body*. The colder it is, the quicker you burn fat.

I was complaining to a Fairbanks businessman who is also an Athabaskan Indian that I felt cold all the time. He asked me how many salmon sticks I put in my pocket when I went out. He said his grandfather never left the house without salmon sticks in his pocket. As soon as I switched from low-cal lunches to smoked salmon, fruitcake, and peanut butter I was appreciably warmer and much happier.

"You talk to people who are cold all the time," says Patty Friend, a long-distance dog musher, "you key in to what they eat, and you find they're usually watching their weight or limiting their intake of fat."

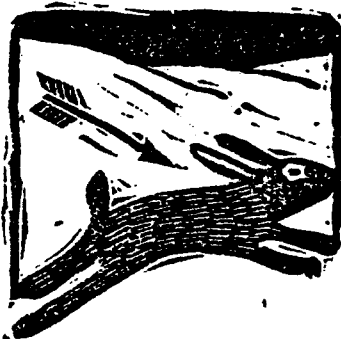
It's not required that you eat fat—glucose will do, and you need protein, too. The advantage of fat is that it packs more calories to the ounce and stays with you longer. You tend to "blow off" other foods, according to a climber who takes canned tuna packed in oil, powdered whole milk, and plastic bottles of honey up Mount McKinley.

In *The Cama-i Book*, an Alaskan relative of the *Foodfire* series to be published by Doubleday early next year, there is a story about an Eskimo woman who is feeding her sick husband the breast meat from a ptarmigan. Every day she snares a ptarmigan and gives her husband the breast while she eats the back. He eats more and grows weaker; she eats less and is strong. Maybe there's medicine in the back, she thinks. She divides the next ptarmigan along the back, lengthwise, giving each of them some lean from the breast and fat from the back. Her husband recovers and "she finds out for herself" how to divide animals so two people can survive on one.

Her husband was suffering from something called rabbit starvation. "It's still known among most people of the North," Bud Helmericks says. "It means that no matter how many rabbits you ate, you could still starve to death." Rabbit starvation applies to lean meat of any kind, Helmericks says, "because you can't digest lean meat alone. It sets up a protein imbalance that takes the fat right out of you, and as soon as the fat is gone, you die."

Another phenomenon the Eskimos know all about is something called plate fright—fear of food that doesn't look like food—and overcoming it can make all the difference when you're out in the bush. A Canadian Indian man is said to have survived 13 days on flesh he cut from his thighs. Not many years ago an Eskimo family was found lying together, near starvation, after they'd eaten all but their most essential clothing.

I once saw a soldier demonstrate how to survive in the bush by squeezing the guts out of a rabbit the way I might strip the last drop of water out of a wet sleeping bag. He started at the neck and worked down until the guts dribbled out the anus. He stirred around in the pile of ooze at his feet with his finger, found the heart, and popped it into his mouth. He lifted his chin so we could make sure he swallowed. The specific skill he was showing us was how to gut a rabbit without a knife, but the more important hurdle was the psychological one: overcoming plate fright.



Knowing how to take in liquids in the Arctic is at least as vital as knowing what and how to eat.

Soon after I arrived in Alaska, the person I trusted and respected most said she never went out without a thermos of hot coffee, tea, or hot water, and when she made me a sled bag in which to carry my own thermos, I took it as an article of faith. I never went out without a thermos, but I kind of missed the point. I thought the liquid was the important part, and the warmth a luxury.

On a snowy day I got lazy and left with cold cider in my thermos. At the end of the trail I had a long, refreshing drink. I gasped. My shoulders caved in and I hunched over on the sled. I felt the warmth in my chest dissolve. If anybody had been there they would have seen me turn blue. I had been metabolically poleaxed. It would have been a disaster if I'd been cold, exhausted, or otherwise weakened.

Bud Helmericks recalls an old Indian man telling him about track soup, which is a little like the rule of having a hot thermos. "When you're really up against it, Bud," the old Indian man said, "when you don't have anything else, you just gather up the tracks of a rabbit or a ptarmigan and boil them up and drink that. That'll help you a lot."

Helmericks remembers looking skeptical. "You know an animal can smell those tracks," the Indian explained, "so there's something in them. That warm track soup will help you."

The trick to track soup, of course, is the liquid and the warmth. The rule is never eat snow; melt it. Even a handpacked slush ball is better than snow. Eskimo hunters never go out in the boats without a water skin warming under their parkas, and they always carry some kind of cup when they travel inland. Bernard Assiniwi, Cree Indian author of *Survival in the Bush*, says you can forget the tea, you can forget the coffee, but whatever you do, don't forget the pot, unless you're an expert in making birchbark baskets. He puts the pot ahead of guns and below a copy of his book in order of usefulness.

If, however, it's ever a choice between eating snow and not taking in any fluid, the doctors say eat the snow. It's a trade-off. It can take more calories than you can afford to melt the snow inside your system, but you can't live without water.

Psychology: Loving the Cold



The Eskimo woman is not cold. She sits on her hummock in the third day of the blizzard, waiting for the whiteout to clear. She is calm and has not wasted the tiniest breath of energy. She has paid attention to the stories of her elders, remembers the rules for survival, and knows they work as perfectly now as they have for the past ten thousand years. She knows, for instance, that it is safe to sleep, and that she'll wake up the minute she's chilled. When

I liked this

hunters are caught out alone, they sleep sitting up, even in a shelter. If you lie down and become too comfortable, you'll sleep too long and fail to notice a change in the wind, a shift in the ice, or a wet place on your clothing.

She can endure sitting still for hours because she has done it before in the time of sewing, when women sit for days, sewing, falling asleep where they sit, waking and sewing more clothing for the spring hunting. She has practiced silence.

She is calm and unafraid because her religion teaches her that she is a part of nature, a small being in a harmonious universe that includes the cold, the wind, the sea, the plants, and the animals. Nature is often kind to humans, but it has no reason to favor them over the mountains or the rocks. It is willing to assist those who respect it.

The Eskimo woman has a good chance of surviving the blizzard because she is psychologically prepared for it, and that's the most important cold-survival skill of all. If you can keep your head—and your spirits—you'll probably come out alive.

The Eskimos know that, and their native customs foster mental agility and cheerfulness. Gloomy, unstable people are traditionally shunned in the Far North, and the stereotype of the "happy" Eskimo has some basis. Case studies support the Eskimos' instincts, showing that optimists make better survivors, while pessimism can be lethal. Eskimos are also habitual problem solvers, and problem solving is pleasurable, says Michael Graf, a clinical psychologist in Fairbanks. It brings a sense of mastery, confidence, and self-esteem—prime ingredients for survival.

If you don't have the Eskimos' background of acceptance and general optimism, being in the cold can be more difficult. Oppressive cold doesn't drive people berserk—that's a result of cabin fever. Instead, cold that distracts you from your purpose, drains your body, preys on your mind, and erodes your will is sedating. "You close down, you're not motivated to move," says Richard Possenti, a psychology professor at the University of Alaska. He says the emotional stresses of survival—isolation, fear, boredom, sensory deprivation, and fatigue—compounded by the physical impact of cold, leads to a "general withdrawal into oneself." Pretty soon, he says, you feel helpless and you give up. It's almost the same thing as brainwashing. Your resistance is worn away; you're susceptible to your own darkest thoughts and especially vulnerable to the negativism of others around you.

This destructive element manifests itself in a phenomenon some people call Arctic madness. "It amounts to a fear problem," says Dr. William Doolittle, one of Alaska's corps of famous frostbite doctors. Nobody has defined it to his satisfaction, but "everyone would agree that there is such a thing as stupefying cold. Everyone who has been out in serious cold weather recognizes the effects."

The effects are psychological and unrelated to a drop in core temperature or the sensation of cold, according to Doolittle. "It's a terrible, fatalistic thing that happens. There are endless anecdotes of people in cold environments who just sit down and die." A recent case involved a group of trained men who sat around in the cold and talked about death until they convinced themselves they were in a hopeless position. In fact, Doolittle says, "They were not more than ten miles from home and mother," yet they watched the fire go out and waited to be overcome. They were not misfits. Doolittle says, "They were people who all of a sudden recognized something bigger than they were, and they didn't think they could cope with it."

There doesn't have to be someone there to talk you into

Arctic madness. You can do it all by yourself, and it can happen more quickly than you can imagine. There is a story about a pilot who was flying over the North Slope when his airplane suddenly quit. He did a neat job of gliding it down on a frozen lake, and there were no signs of damage. According to Air Force instructor Larry Schroeder, who uses this story in his classes on survival, rescuers could tell that "he cracked the canopy back, got out of the airplane, walked around the airplane at least one time, got back in the airplane, took out his .45, and killed himself." They found him six hours later.

"When things come unglued and nothing's actually hurt except your pride, I always tell people the first thing to do is put up your tent and make a cup of tea," says Bud Helmericks, who wouldn't taxi down the field without his tent, stove, or tea. "As soon as you have a cup of tea made, you're functional. The whole show is won then."

It doesn't have to be tea, but it's a good example. You need to put a brake on recklessness caused by adrenalin, and you need a task that's simple, constructive, and harmless. Survival practitioners say it's better to sit for a while than do the wrong things immediately. On the other hand, they prescribe activity as an antidote to an affliction the Air Force calls passive outlook. Passive outlook is a twist on Arctic madness. Instead of doing nothing because they feel defeated and helpless, victims of passive outlook do nothing because they've deluded themselves into thinking things are okay. They shrug off the realities and don't do their survival chores.

The Eskimos sometimes counteract passive outlook by trying to outwit the "little people." According to health educator Carl Hild, of Barrow, the little people are pranksters like leprechauns. They're curious, and you have to watch out or they'll play around in your camp. You constantly have to check to make sure they haven't spilled your food or put small rips in your clothes. Hunters should always be on guard lest the little people misplace their rifles or hide their knives in the snow. You have to keep track of your things. It's a game and it isn't.

In their challenging way, the little people will also help you out of trouble if you're clever enough to solve their riddles. They might come to a hunter who's lost and frustrated. He rouses himself from his snow shelter and finds a set of tracks that weren't there before, or he notices an oddly shaped drift—these are clues from the little people that put him in the frame of mind to start figuring out where he is. He remembers that a fox travels in a certain direction at night or that only a seaward wind makes that shape. Soon he's no longer disoriented. Then the little people go away, and the lost hunter finds his way home.

The Eskimo woman periodically sleeps and wakes up, sits on the hummock, gets up and walks about to warm herself and relieve her stiffness. She continues to repeat these actions for 72 hours. Then the "three-day blow" subsides, and she walks the rest of the way home. She was never afraid, and she was never cold.

Paula Schuller, a free-lance writer based in the Midwest, worked for a Fairbanks radio station while learning how not to be cold.

