Pink elephants may vanish with surprising speed when B-1 is added to the old soak's tapering-off routine

Hungry Nerves

By Hannah Lees

ILLUSTRATED BY GEORGE DE ZAYAS

Thiamin may be the answer to the doctor's—and patient's—prayer. Still in the experimental stage, it already has helped cure neuralgia, shingles, D. T.'s, heart disease and indigestion. Not a bad start

A MAN came into a well-known New England hospital recently in bad shape. Very bad shape. Trees, he said, were growing out of his bureau drawers. Lampposts were walking around the room spitting at him, and there were soldiers shooting and a little boy with his legs cut off. The doctors in charge didn't need to smell his breath to know that his trouble was delirium tremens, and they started treatment. They prescribed a quart of whisky a day; four ounces every three hours awake or asleep, whether he wanted it or not. And at the end of three days he was cured.

Now the doctors who gave this remarkable treatment weren't trying to prove the hair-of-the-dog theory, or even just to make the patient happy. It probably didn't make him happy at all, but they didn't care. What they were interested in proving was that it isn't basically liquor that causes delirium tremens; that too much whisky doesn't have nearly as much to do with the trouble as too little of something else, too little vitamin B_1.

Along with his quart a day they gave their D. T. patient large intravenous injections of vitamin B_1, and almost as soon as he began getting the shots his brain began to clear, whisky and all. They tried this quart a day plus shots of vitamin B_1 on four other patients with delirium tremens and they all got well in an average of two and a half days. To make extra sure they took five other D. T. patients—sober old New England is apparently full of them—and cut off their liquor entirely and gave them regular old-style treatment in the way of sedatives and what not but no extra vitamin B_1. They all took twice as long, on an average, to come out of the horrors.

Now this is not a testimonial for the beneficial effects of a quart a day of bonded best, but just by way of suggesting what an interesting little item vitamin B_1 seems to be. We've been hearing a lot about vitamins for a long time—too much, as a matter of fact, so much that we've all got pretty confused and more than a little bored with them. But the trouble has been that when the man who first discovered them named them vitamins he didn't know what he was getting into. Lumping vitamins A, B, C, etc., together under the name vitamin is about as descriptive as lumping butter, olive oil, egg yolks and cream together and calling them fats. Less descriptive, as a matter of fact, because butter and olive oil and cream and egg yolks are all fats, but the only vitamin that is chemically an

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amine is vitamin B_1. Only nobody knew it at first.

It all started back in the gay nineties, that decade we used to look back to with such condescension and now look back to with such longing. An inquisitive German scientist named Eijkman, knowing a disease called beriberi was common among Chinese who lived mostly on polished rice, tried feeding polished rice and just polished rice to fine, healthy fowl. The fowl promptly developed beriberi, one form of it at least, which for all its sinister-sounding oriental name is simply what we would call polyneuritis or inflammation of the nerves in various parts of the body all at the same time. Now there wasn't anything in the polished rice that could hurt the fowl, so, decided Eijkman, it must be something that wasn't in the rice, something perhaps that was thrown away when the rice was polished that the birds didn't get. Beriberi must be a deficiency disease and maybe if people just ate those rice polishings . . .

He told the world about it but in the inevitable way of the world it was ten years before his words began even to register. Then another man, an American this time by the name of Funk, took a batch of rice polishings and began analyzing it and experimenting with it, and pretty soon he found—remember way back during the last war when vitamins first broke on a receptive world? —well, he found something in the rice polishings that he called vitamine or vitamins. Amine because he thought it belonged to the amino group in chemistry and vita because it was apparently necessary to life. And he didn't know it then, but what he'd really found was vitamin B_1.

Vitamins Aren't Simple

We'd better not go into vitamins A to Z right now. In the first place it would take a book, and in the second you're probably panting to get back to the man who had the lampposts spitting at him and so am I. All that the other vitamins really have in common with the vitamin B group is that as more and more work was done on deficiency diseases scientists kept discovering first one little item and then another that had to be present in the diet in an infinitesimal quantity if our engines were to keep running smoothly. If you didn't get your vitamin A by eating enough butter you'd get night blindness. If you didn't take enough orange juice or tomato juice, vitamin C this time, you'd get scurvy, and so on and so on. And after a while they began discovering that a good many of these single-lettered vitamins were really complicated groups, until just recently a vitamin researcher said that as things were shaping now there soon wouldn't be enough letters in the alphabet to name all the vitamins and they'd have to switch to the Chinese.

That's why we'll do well to stick to vitamin B right now, because, the world being the complex place it is, vitamin B turns out to be at least eight different vitamins. And again about the only thing these eight different vitamins have in common is that they are all found in rice polishings and in other rough grains, not to mention liver and yeast. They're all there together like one big happy family, but a pretty assorted family.

There's nicotinic acid for one important member of the family, and if you don't get nicotinic acid you get pellagra instead. There's vitamin B_2 with the amazing name of riboflavin, and if this is missing from your diet for very long you get an unpleasant kind of sore lip that they're just beginning to be able to recognize. There's vitamin B_4. It hasn't reached the human experiment stage, but chicks who are deprived of this little vitamin lie down on their sides, turn cartwheels and die, or so I'm told on good authority. There are several others they are just beginning to separate out of the complex they used just to call vitamin B. And then there is vitamin B_1, which can bring men out of delirium tremens even while they're still getting a quart of rye a day.

Vitamin B_1, by the way, if you'd rather call it by its name than by its letter and number, has been officially christened thiamin. Thia for the sulphur which it contains and amin for the amino group that it is in. Want to see what it looks like chemically? Okay. $C_{12}H_{16}N_4SO_2$. Think of needing infinitesimal quantities of all that so you won't see pink elephants!

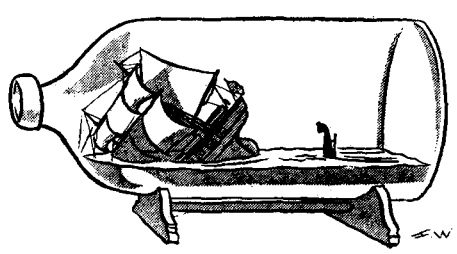
Anyway, It Worked

What made those New England psychiatrists think that maybe lack of vitamin B_1 had something to do with pink elephants was one of those trains of thought that are always leading scientists to strange places. Lack of thiamin caused polyneuritis. Everybody knew that by now. But one of the commonest other forms of neuritis was alcoholic neuritis. People had always thought it was the alcohol that caused this neuritis. But now look, there was diabetic neuritis too, and neuritis of pregnancy. And diabetics were very apt to live on limited diets low in starches. And pregnant women were apt to eat strange and unbalanced diets and burn up a lot more nourishment than normal individuals besides.

And here came the final link: People who drank too much were usually too busy drinking to eat. In fact, people who drank enough to get alcoholic neuritis—or D. T.'s—often didn't eat at all but just lived for days on alcohol, which, after all, is almost as full of calories as chocolate fudge but singularly lacking in vitamins of any kind. However, if they did eat their digestive systems were likely to be so upset by the alcohol that they didn't absorb much food, including vitamin B_1.

What it comes down to is that vitamin B_1 is turning out to be a sort of universal nerve food, the kind of thing the country-fair medicine men used to love to sell at a dollar a bottle without any vitamins in it at all. Because if all these things are due to lack of vitamin B_1 they ought to respond to treatment with vitamin B_1 and they all do. For some time, in fact, before these New England doctors tried their quart a day plus treatment, other doctors had been giving B_1 to people with alcoholic and diabetic and interesting-condition neuritis, and in each case getting rid of the aches and pains. And then other doctors began wondering, if this little vitamin was good for all those troubles due to undernourished nerve ends, why mightn't it be good for other nerve troubles that nobody'd ever been able to do much with?

Some began trying it on shingles, that unpleasant disease that starts with intense pain along a nerve path and then develops into whole rows of horrid fever blisters following the trail of the nerve along the skin. And they found that shingles, which they might have expected to last for a matter of painful weeks, when treated with vitamin B_1 became a matter of much less painful days.



Other doctors have used B_1 to treat tic douloureux. Tic douloureux is that excruciating tri-facial neuralgia that you're apt to run across in detective stories as giving the suspect a legitimate right to take dope and contort his face and act in a generally suspicious manner. And the detective stories aren't exaggerating. I know of at least one man who committed suicide because the pain of it was so unbearable. Until recently the only really useful treatment has been a difficult operation that actually severed the offending nerve. But some doctors are reporting that shots of vitamin B_1 do a good deal to relieve the excruciating pain.

Another doctor I know has been using thiamin for migraine. Not for any very logical reason; migraine has been considered chiefly allergic, though nobody really knows. Not with any very logical system, he gives far, far larger doses of the stuff than you'd ever run across in any normal diet, larger amounts than any human body could possibly be deficient in. But nobody has proved that migraine is allergic. Migraine headaches might just as well be nervous, and perhaps they are. At least several very miserable people with migraine headaches whom this doctor has injected with tremendous doses of vitamin B_1 are sure of it, for their headaches have disappeared.

Anything as new as thiamin, especially anything that has done such spectacular things, as it has in the various neuritises, is bound to be used to death. Some authorities are advocating putting a small quantity of it in all liquor just to counteract any possible alcoholic neuritises or spitting lampposts, and not a bad idea either except that it might make too much of a virtue of drinking. Another authority with an adding-machine mind has calculated that exactly three million, forty-six thousand, seven hundred and twenty symptoms can be due to deficiency of the vitamin B complex in all its many combinations.

And No Harm Done

Most sensible doctors won't go that far, but a good many of them are beginning to think that a lot of our vague aches and pains may be from not enough thiamin in our diet. And they're probably right, for where would we get it? How many of us ever eat any rice but polished rice and how much brown or whole-wheat bread compared to the nice, refined white kind. Unless we have pernicious anemia we don't eat much liver compared to other meats. And as for yeast, we certainly don't get enough of that to amount to much. Maybe this idea of putting thiamin in liquor and more practically still in white bread, as one company has been advertising recently, isn't such a bad one. Particularly since, as far as anyone can find out, too much thiamin can't do you any harm even if you don't need it.

Animals have been cut off from thiamin and their digestions have been seen under X-rays to get all sluggish and torpid and then speed right up when they were given a shot of the stuff. Doctors are beginning to think that perhaps that bankers' ailment called Wall Street colic or LaSalle Street colic may not be as much a result of the hectic lives they lead as of the deficient lunches they eat —or drink. And lots of poor appetites seem to be just a vicious circle, the less you eat the less vitamin B_1 you get; the less B_1 you get the less you eat. At least many of the unexplained variety of poor appetites vanish under shots of vitamin B_1.

As for heart disease, well, it may seem a far cry from neuritis to an enlarged heart but the Chinese don't think so. As long as there has been beriberi there have been two kinds: dry beriberi, which

is polyneuritis, and wet beriberi, which is an enlarged heart with shortness of breath and a rapid pulse and general puffiness. Nobody can tell me why they both have the same name, but now what they seem to have in common is a crying need for thiamin. The aches and pains of dry beriberi vanish away under thiamin, and so does the enlarged heart of wet beriberi. Melts away, as one scientific writer poetically puts it, like snow under the summer sun. I have actually seen X-rays of a patient with this sort of tremendously enlarged heart taken before and after. The one taken after three weeks of thiamin dosing was amazingly smaller, right down to normal again, and with no digitalis, which is usually the first thing given in heart disease.

I can't explain these heart and digestive symptoms from thiamin deficiency as plausibly as I could the nerve symptoms. Hundreds of research workers are doing hundreds of experiments to try to find out the whys and wherefores; experiments with plants, with human tissue, with guinea pigs and with human guinea pigs. And all they can tell us is that thiamin, when it is absorbed, turns into certain specific enzymes which act as catalysts to help cell oxidation and promote growth. Which seems pretty vague to me but will have to do till tomorrow. They're probably going to find out a lot more about thiamin in the next few years or even months. They may find out that some of the things I've just been telling you about aren't true after all, but they're almost certain also to find out that a great many more still remarkable things are true about it.

I heard a horticultural-looking damsel at a cocktail party the other day solemnly assuring her neighbor that since she had been feeding her plants with vitamin B_1 they had developed much longer stems and bigger blooms. When I cornered her on the second cocktail and taxed her with it she soberly assured me that all intelligent gardeners were using vitamin B_1 on their plants.

So step right up, ladies and gentlemen, get your Universal Nerve Medicine.

And it certainly is, but I'll still take brown rice and whole-wheat bread.

A Brother Offended

Continued from page 13

the shine of their hide got to do with the way they pull?"

"I dunno," Sandy said. "Maybe a horse likes to look nice, same as a man."

Red roared with angry mirth at that, and in the days and weeks that followed he continued to ridicule Sandy's solicitude for his team. As though to prove his point, he somewhat neglected his own; yet that was a winter when a man needed a good team. They were cutting spruce and hemlock on the high ground north of the river, and every stick of it had to be hauled down to the landing to wait till the ice went out in the spring.

The men, routed out long before dawn, struck the first ax into the tall trees as soon as it was light enough to see. Camp was on the edge of the intervale, at the foot of the hill; but twice a day old Ike Marner, the cook, hauled a robust meal of pork and beans and biscuits and pie and coffee up to them, in a two-wheeled cart with a pair of birch poles lashed to the axle and trailing behind to hold the cart on the steep grade when the team stopped to breathe.

The hill was a quarter mile long, and it was a bad one. If it had been a few degrees steeper, Jock MacIlroy would have built a slide and let the great logs go down by gravity; but as it was, they used a snub line. This was a hawser a full three inches thick and long enough to reach from the top of the hill to the bottom, with some to spare. When a teamster reached the top of the pitch with his sled loaded high with logs, he stopped and took the end of the hawser and passed it around the load, throwing two or three half hitches so that it would draw tight and hold. With the bight of the line he laid four or five coils around a three-foot hemlock stump at the head of the grade, and then started his team down the hill. The weight of the heavy hawser kept a pressure on those coils around the stump sufficient to check the load.

EXCEPT on the hill itself, the road was glare ice, sprinkled every night; and on this glassy footing a team could move a tremendous load. But on the hill, there was no ice, and whenever snow fell the men cleared the worst of it away; and dirt and sand and small boughs were thrown in the way to give friction that helped check the heavy descending loads. The road down the hill ran as straight as possible; but there was one left turn near the top, and another more gradual near the bottom, and these turns were well banked to make it easier to hold the heavy sleds in their appointed path.

The heavier the load, the quicker it came down the hill, but Sandy saw to it that his own sled loads were kept within reasonable bounds; and, as the winter wore on, Red began to deride him for this excess of caution. Also because for obscure reasons it had become necessary to his own self-respect that he prove himself a better man than Sandy in every way, he handled mountainous loads, working his team to a lather, driving them cruelly hard. . . .

ON a day in January, Red came down from the cutting, standing spread-legged atop his tremendous load, high above the ground; and at the snubbing post he checked the horses and leaped down. He threw the end of the snub line around the load and made it fast. Then he mounted the load again and laid the whip to his horses, and they settled in the traces, their feet flying, and started the load down the hill.

The first pitch was relatively easy. They passed the first turn and dipped into the steepest part of the run. They were halfway down it when Red felt the hawser jerk like a plucked violin string, felt the shock run through the load under his feet. Instantly, he whipped his horses, shouting at them warningly; but behind him the weakened hawser parted, and suddenly the sled load of logs was sliding free.

There was another ten rods of steep descent below them. The sled with its massive burden gathered speed, the horses breaking into a run to keep it off their heels, and Red jumped. He took a flying leap and landed on his hands and feet, sprawling in the snow. The sled plunged on. The desperate horses raced to outrun it, but without any guiding hand upon the reins they floundered, and the sled overtook them. Red heard them scream, and the men at the camp below heard them scream, and the men at the cutting, half a mile away up on the high land, heard them too. The sled piled into them, the chains parted and the great logs cascaded down upon the fallen horses, smashing them into a bloody pulp.

Jock MacIlroy had been tramping up the trail from camp to the cutting; and he was first to reach them. The one that was still alive, he killed with his ax, putting the beast out of its wretched agony. Then Red came racing down the hill.

"The damned snub line parted!" he roared.

"Aye," Jock agreed. "I c'n see that, Red." He asked: "Hurt, are you?"

"No, I jumped clear."

"It was a good team," Jock commented. "But you loaded them too heavy once too often!"

Red, knowing himself in the wrong, was the more angry for that knowledge. "Don't you try to tell me!" he cried furiously, and he lunged at Jock MacIlroy, his fists swinging.

To attack Jock was not considered safe, and in his calmer moments Red knew it; but rage drove him witless, and he suffered for it now. Jock was twenty years older, and twenty pounds lighter; but he reversed his ax and with the handle cut Red's scalp to the bone and laid him senseless. He kicked snow on Red's head to fetch him around, and when the other could sit up Jock told him calmly:

"And the next time, I'll use the other end of the ax, Red; so don't cut your comb at me!"

Then as the men, drawn by the screams of the dying horses, came trooping down the hill, he faced them mildly. "All right, boys," he said. "Red sluiced his team, so we've got this mess to clear away."

Now a snub line may break with any man, and when one breaks death takes a hand. So no one blamed Red for jumping; but Red blamed himself, and he read blame in their eyes where there was none. Also, he had tackled Jock MacIlroy, and Jock had handled him, and since he had come to manhood no one had bested Red in any physical encounter. When a man has been used to success, failure is a bitter pill. Red took the thing hard; and because they saw this, some of the men kept him reminded of what had happened. Sandy was his only open defender, but Red resented that too; and he bade Sandy tend his own affairs, and Sandy held his tongue and hoped Red would be better by and by.

Red was still—next to Sandy—the best teamster in the crew; so Jock put Fergus MacConnell to work as a swamper and gave his team to Red. But Fergus had an ill-mated pair of horses, forever squealing and nipping at each other; and Red, always heavy-handed, was constantly in trouble with them. The fact that Sandy continued to move more than his share of logs, in a calm, unhurried way, keeping his horses always in fine temper and condition, seemed to Red like a deliberate affront. He became surly and morose, working in a sour silence.

AFTER the accident, the work inevitably slowed. Jock MacIlroy sent downriver for another team, but till it could arrive, the horses still working could not keep up with the rest of the crew. Also, Red had always been the pace setter, but now he lagged, and the work lagged too. Then one day his ugly humor came to a head. At the cutting, loading his sled with logs, he had trouble with his horses. The temper in him communicated itself to them, and they squealed and bridled, and one of them lashed out and his hoof brushed Red's trouser leg. His whip was not heavy enough to punish them as he wished, and he caught up a stave beside the load and swung it high.

Sandy's sled, waiting to be loaded, was just behind Red's; and Sandy, loving horses too well to see them abused, reached the big man before he could strike a second blow. He dove at Red like a bull and rolled him in the snow; and then Jock MacIlroy was on top of them, spinning Sandy away while Red scrambled to his feet. Red was raging to get at Sandy, but Jock had his ax in his hand; and he said curtly:

"That's enough, Red." He called old Fergus MacConnell, whose team this had been. "Gentle those horses, Ferg," he said, "and take that load down. You'll drive from now on. Red, get your ax and go to swamping." He added flatly: "Or roll your bed and get out of camp!"

Some thought for a minute that Red would jump Jock again. He stood with lowering eyes, taut and scowling. But then Fergus tried to swing the team, and the nigh horse squealed and bit his mate and reared and straddled the traces; and half a dozen men leaped to steady them, and Red grinned maliciously.

"Go it, Ferg!" he called to the man who had displaced him on the load. "You're welcome to 'em, for all of me!"

He was laughing, but when he caught Sandy's eye he stopped laughing; for it was Sandy who had rolled him in the snow. "I'll teach you to keep yore hands off of me, farmer," he said grimly. "But that can wait a spell." He clambered on Ferg's load to ride down and fetch his ax; and the team headed away for the landing.

SANDY did not speak. He went on to get his load of logs. They were cutting a vein of big spruce, two feet and better at the butt, sawing the stuff to fourteen and sixteen feet where it fell. Sandy helped load four logs, and three atop them, and two, and one to cap the pile. He saw them snugly nested and chained. Ten logs of that size would have been too much load for some teams, but Sandy's team in Sandy's hands could handle them.

As far as the snubbing post at the head of the steep pitch he brought them briskly. The road was glare ice, banked at the edges with old snow long since packed and frozen hard. On the level they moved the sled easily; and for the occasional short upward slope Sandy gave them a flying start.

At the top of the hill he halted them. The snub line lay loosely coiled around the old hemlock stump, one end of it in sight four or five rods down the first pitch, the other end going on down the hill to where Fergus on his last descent had loosed it from his load when he reached the level intervale. Sandy hauled in the short end and bent it around his load and threw the hitches to hold it. He ordered the coils on the snubbing post, taking up what slack there was; then climbed up to stand poised on the single log which topped his load, eight or nine feet above the ground. He spoke to his horses, cheerfully yet briskly, gathering the reins.

"So Blackie! Mike! Take it away!"

They chose their vantage with mincing hoofs, tightened the traces and threw their weight into it. The sled lurched forward, slewed a little sidewise, then started down the hill. Here there was no ice under them, and little snow; and they had at first to work to keep the sled moving, till the grade increased and helped them. The long end of the snub line, sliding up the hill as they went down, was on Sandy's left. He kept the team to the right to leave it clear.

As the grade increased, the road made an easy left turn to clear a boulder that had been too big to move. A young hemlock, three or four inches through, grew there and fended the snub line away from the boulder; and Sandy noticed as he approached the spot that the winter's work had worn that hemlock through. It was broken off since his last trip, and the line was running now against the ice that sheathed the side of the boulder. The hemlock must

have fallen under the strain of the last descending load. Sandy made a mental note that something must be put to replace it before the line should begin to rasp against the naked boulder itself.

He saw Red, just below the turn, tramping back up the hill to the cutting with his ax over his shoulder. He hoped Red would lift a hand in greeting, but Red did not even look up as Sandy and the team went by.

Below the turn, the steepest part of the descent began. The sled slid almost of its own weight, and the horses needed only to give it a twitch now and then to keep it moving. Sandy guided them with a light, sure hand; a quiet word.

He was five or six rods below the turn when the sled under him vibrated to a sharp flip of the line; it lurched forward more sharply, then checked again. Sandy knew what had happened. Somewhere up the hill behind him, between him and the snub post, a strand in the hawser had parted.

THERE was still a chance that the remaining strands might hold, or that the sled might check sufficiently so that he could swing the horses sidewise off the road and twitch the sled around and bring it to a halt. He gathered the reins to take that chance if it came.

But it did not come. A second strand let go, and the sled plunged ahead as the third strand straightened. Then it too broke under the heavy strain, and the sled was free. It began inexorably to gather speed.

Sandy yelled sharply to the horses. He flipped the reins, and they felt the sled upon their heels and leaped into a headlong run. Sandy, high above them, might have jumped; but he did not. He settled his calks into the great log he rode and steadied Big Mike and Blackie with firm hands upon the reins and took his chance with them.

Within three rods, the sled was in full career, the horses racing headlong, hurling themselves down the sharp descent with an avalanche of death upon their heels. They tried to swerve aside, but Sandy held them in the road. If they swerved, the sled plunging straight on would whip them off their feet, roll them under and crush them utterly. Speed was their only chance, and Sandy's steadying hand upon the reins.

So they ran, and Sandy atop the load, crouching a little to hold his balance, spoke to them in low, pleading tones that yet were clear and bold, urging them on. The steepest part of the descent was perhaps twenty rods in length. Beyond that, the grade became progressively less as the road made out into the intervale for the half-mile pull to the landing by the river side. If they could keep ahead of the sled till the grade began to ease, they might win through; but till then any slackening of their pace, or a stumble by either one, and the sled would run them under as a liner runs down a helpless fisherman in a foggy night on the banks.

Sandy did not think of his own danger, though that was real enough. If the horses fell—or even if the chains which held the logs should break—he would be caught and crushed as easily as a fly; but he forgot that, intent only on doing all a man could do to help his team win through.

It seemed to him a long time before the grade flattened out ahead of them. After that there was still ten or twelve rods to go to reach the level intervale, but now the pace of the sled was no longer accelerating, and presently it would begin to slow down. Yet the horses by this time were running so fast, in blind and desperate flight from the sure destruction on their heels, that as the sled slowed they began to bring the traces taut again, to put some traction on the load. Sandy swung them around the last turn, and saw the border of the wood ahead, and the intervale beyond; and then they burst out from the cover of the trees and hit the well-iced road across the level to the landing.

The horses were still in full career, and the sled here needed little help. Its own momentum was so great that when it hit the ice it seemed to leap ahead. Sandy began to gather the team; to check by ever so little, and with voice more than with hands, their headlong race. The great pile of logs at the landing seemed to leap toward them. In their panic they might plunge blindly into it, to be crushed by the load behind; but Sandy little by little slowed them and he swung them at last into the soft snow, not deep, beside the road. The snow checked the sled and the traces lent their pull to Sandy's on the reins. He stopped them safe and sound.

When they were still, Sandy leaped to the ground and came to their heads, speaking to them easily, so that his steadiness might steady them.

"So, Blackie," he said. "So, Mike. Good running, boys! You done well!"

Then men were crowding around him, clapping him on the back, applauding him and praising the team; and from the bunk house old Ike Marner, his white cook's apron flapping, came running across the intervale, and Fergus MacConnell and other men were on his heels.

It was Fergus who stopped on the way to look at the broken end of the snub line, and when he came on, he dragged the hawser after him, and when he was near enough he shouted: "Sandy, it's been cut. Look a-here!"

The men trooped to meet him, Sandy last of all. Sandy walked slowly, and his face was white, and he walked stiff-legged as a dog. They made room for him, and Fergus put the frayed end of the hawser in his hands.

The evidence was plain enough. The hawser, dragging down the hill in the wake of Sandy's headlong flight, had raveled out; but it was still possible to see here and there strands that had been sliced across at an angle by some sharp edge. Sandy, looking at it, was white as snow.

Then he looked yonder toward where the road came out of the woods, and they all saw Red Fowler appear there. Red was running. His ax was in his hands. Sandy went to meet him.

After a few steps, Sandy too began to run, like a thirsty man in sight of water. The others followed on. Red saw them coming, and he slowed, and when he was near, some of them saw that his eyes were shining as though with a high satisfaction; and he shouted: "Brought 'em down, did ye, Sandy? Good man!"

Sandy, still running, answered him. He did not shout, but every man heard him plain.

"You cut the snub line, Red!" he called in icy tones. "You tried to kill my team!"

And with the word, and before Red could speak, he drove home his charge. He hit Red fair, his fist landing in a looping overhand blow that smashed Red's nose and sent him reeling backward. Red's ax flew out of his hands, and the bigger man went down.

RED, after Jock took his team away from him, had been in a storming rage against Sandy and the world; but by the time he had ridden down to camp and tramped halfway up the hill, he was almost himself again. When he met Sandy's sled, descending, he hoped Sandy would call a word to him; but Sandy did not, and Red passed without lifting his eyes.

He had reached the snubbing post when, down the hill below him, he heard the hawser let go, one strand and then another. He turned to shout and to run

after Sandy. He yelled to the other to jump. But he knew Sandy would not jump, and he raced down the hill, expecting to hear the crash of the sled, speeding to drag Sandy from the wreckage, to help him if there was help any man could give. His heart in him was big with something like prayer that Sandy might go unhurt, and as he ran he cursed Sandy for a fool to risk his neck by sticking to the sled.

When he passed the turn by the hemlock, he caught a glimpse of the careering sled as it rounded the curve far below him; and since the horses thus far had held their own, he began to hope Sandy might bring them through. He galloped down the hill, slipping and sliding and stumbling, and emerged into the intervale and saw the horses and the sled safe and sound. He raced toward them; but then the men clustered yonder began to run to meet him, Sandy in the lead.

When they were near, he called a gleeful word to Sandy, and then Sandy accused him of cutting the hawser; and Red stopped still in a blank astonishment, and Sandy hit him like a projectile and knocked him down.

THAT blow cleared Red's head. Fighting was a thing he understood. Sandy turned to jump at him on the ground, to drive home his calks, but Red rolled clear and came to his feet, and they met face to face again.

Red was now the aggressor, and after a moment his weight and strength began to tell. Sandy gave ground, a little and a little more. No one interfered. Jock MacIlroy might have stopped them, but he was at the cutting, a mile away. Of the others, none chose to part these two.

And Red beat Sandy down. Oh, Sandy made a fight of it! For a while it seemed that the cold rage in the smaller man might even carry him through to victory; but it did not. Red beat him back, and Sandy began to sag, and at last, not from one blow but from many, his knees let go.

He did not fall. He clung limply against Red, and those who watched expected to see Red fling him down and put the boots to him; and they surged nearer, all of them Sandy's partisans, ready to pull Red away from the beaten man.

But when Sandy could no longer strike a blow, Red caught him, and then as gently as a woman he eased Sandy down till he himself was on his knees, holding his brother in his arms. Sandy still fought weakly to be free; but Red held him and he said in a fierce tenderness:

"Hush now, little man! Hush! Be easy! Have some sense, Sandy! You know well I'd never want to hurt you nor your team!"

THEY found the answer when they went up the trail to see. Where that small hemlock had been chafed through, letting the hawser rasp against the boulder, someone had tossed aside, in the fall when the camp was young, a bottle that had held rum. The bottle broke against the boulder, and the bottom half of it had been buried these weeks since in packed ice and snow till the sliding hawser wore the ice away and laid the keen edge bare. The broken glass had cut into the hemp in fifty places; and when the cut places slid around the snub post and took the weight of the load, these severed strands began the break that the weight of Sandy's load finished.

Sandy was contrite when he knew. "I'm sorry, Red. I was an awful fool to think you'd do a thing like that! Now I've busted your nose and all." He grinned at himself. "And I was a bigger fool to think I could handle you!"

Red chuckled. He was feeling fine! Lusty violence had purged the ugly humors out of him, and it was good to be in the right again, and—he had always loved this little man. "You nigh had me," he proudly confessed. "You were plumb numerous for a while. I didn't know if there was one of you or ten, and the church bells were ringing in my head!"

"You filled my dish!" said Sandy. "But I needed worse than I got, for blaming you at all. I'll find a way to make it up to you."

Red grinned and clapped the other's shoulder. "Why, that's easy done," he said. "Just let me stand up with you and Molly when the drive is down!"

"You can't wear that to a picnic, dear. Keep it for a formal party where you don't take off your coat"

GEORGE SHELLHASE

Collier's WILLIAM L. CHENERY, Editor • CHARLES COLEBAUGH, Managing Editor • THOMAS H. BECK, Editorial Director

"Their Finest Hour"

ANY dawning now, Hitler's invasion forces may sneak across the Channel or the North Sea or both and hammer at the walls of Britain's island fortress.

Hitler is said by some military authorities, although there are no trustworthy figures available for publication, to have as many as 36,000 to 70,000 planes, 225 divisions of soldiers (ten to twenty of them armored, with 450 tanks apiece); fleets of ingenious barges and deadly little torpedo boats; heavy complements of parachute troops and air-borne infantry; perhaps some tank-carrier planes; bombs of unheard-of explosive power, a silent airplane engine, aircraft-detection gadgets of all but human intelligence.

Against this array, the British from general report can pit an army of about 2,000,000 soldiers, 2,000,000 home guards, a Royal Air Force inferior in quantity but superior in quality to the Luftwaffe, a huge and intricate system of beach and coast defenses and most of the superb fighting ships of the British navy. Perhaps the British also have a "blue wonder" up their sleeves—a mechanical "blue wonder."

There is one "blue wonder" (Hitler's phrase) which the world knows the British have—their eternal courage and stubbornness; their downright mental inability to be frightened by bluff or propaganda or to know when they're licked. And it may be that that quality will win for them in the end.

As to that, we don't attempt to predict. Predictions are worse than foolish.

We do want to pass along, though, this quotation that we ran across the other day, from John Bunyan's (1628-88) "Holy War":

> For here lay the excellent wisdom of him that built Mansoul, that the walls could never be broken down nor hurt by the most mighty adverse potentate unless the townsmen gave consent thereto.

As nears what Churchill said would be their finest hour, we feel that we voice the sentiments of at least 90% of the American people when we wish the British people all the luck in the world in meeting this mightiest challenge in all their history.

How to Teach Democracy

LAWRENCEVILLE, famous prep school, announces a new course for all its fourth-formers—a course in the fundamentals of democracy.

That sounds bad at first; calls up memories of high-school textbooks in civics, than which earth knows no drier, to the best of our recollection. But the Alma Mater of Owen Johnson's Tennessee Shad, Doc MacNooder and Dink Stover doesn't plan this course to work out that way.

Lawrenceville intends henceforth to show its fourth-formers how democracy's essential wheels go around. There will be open forums, field work, outside reading, lectures by informed and interesting experts rather than by professional patriots, some social-service work—all designed to show the students how our democracy really works today, instead of pumping them full of hoary theories on how it ought to work.

It sounds good to us. This is obviously the way to propagandize for democracy inside a democracy. Make it interesting. Let the facts speak for themselves, and show the boys just how and why their lives are more livable in a democracy than they would be under some other kind of government. And above all, hire persons of imagination, vision and enthusiasm to do the teaching.

In which connection we remember the confession of a young reformed Red which was printed some months ago by our esteemed colleague, The American Magazine. The boy said the main reason why he had joined the Communist party was that at no time had he ever been taught, either in school or out of it, the very things that Lawrenceville plans to teach its students.

We expect to follow this experiment with interest, we wish it every success, and we hope it turns in the answer to the problem of how to make democracy come alive in the minds and hearts of the young people of at least one democratic nation.

Freedom for Saboteurs

IT APPEARS that our key labor law, the Wagner Act, can be so interpreted as to forbid employers to hire detectives to track down saboteurs in their own plants. That seems passing thick to us.

One of the original objects of the Wagner Act, of course, was to wipe out the labor-spy racket. That was and is an excellent object. The practice of hiring spies, finks, stool pigeons, etc., to bulldoze workers out of joining unions is a vicious practice. In its prime it worked perhaps a thousand injustices and tyrannies for each genuine labor faker or racketeer that it thwarted.

But when the Wagner Act is used to keep employers who are actually menaced by sabotage artists from hiring detectives to ferret out wreckers and jerk them into criminal court, that is going too far. That can't have been the intention of Congress when it adopted the Wagner Act. Now, with defense the urgent-rush-special No. 1 Item on the national agenda, a Wagner Act loophole for saboteurs to crawl through is intolerable.

Amendment of the act in this respect by Congress is strongly indicated—or some clear rulings on the point by the National Labor Relations Board. We can't see any excuse for fooling around about it, either. The times are too critical for dilatory tactics.