

II

THE old man showed pleasure in being thus called upon. He cleared his throat and began.

"Twenty or thirty years ago my story was in great demand. But in these days nobody seems interested--"

"There you go!" Hare-Lip cried hotly. "Cut out the funny stuff and talk sensible. What's interested? You talk like a baby that don't know how."

"Let him alone," Edwin urged, "or he'll get mad and won't talk at all. Skip the funny places. We'll catch on to some of what he tells us."

"Let her go, Granser," Hoo-Hoo encouraged; for the old man was already maundering about the disrespect for elders and the reversion to cruelty of all humans that fell from high culture to primitive conditions.

The tale began.

"There were very many people in the world in those days. San Francisco alone held four millions--"

"What is millions?" Edwin interrupted.

Granser looked at him kindly.

"I know you cannot count beyond ten, so I will tell you. Hold up your two hands. On both of them you have altogether ten fingers and thumbs. Very well. I now take this grain of sand--you hold it, Hoo-Hoo." He dropped the grain of sand into the lad's palm and went on. "Now that grain of sand stands for the ten fingers of Edwin. I add another grain. That's ten more fingers. And I add another, and another, and another, until I have added as many grains as Edwin has fingers and thumbs. That makes what I call one hundred. Remember that word--one hundred. Now I put this pebble in Hare-Lip's hand. It stands for ten grains of sand, or ten tens of fingers, or one hundred fingers. I put in ten pebbles. They stand for a thousand fingers. I take a mussel-shell, and it stands for ten pebbles, or one hundred grains of sand, or one thousand fingers...." And so on, laboriously, and with much reiteration, he strove to build up in their minds a crude conception of numbers. As the quantities increased, he had the boys holding different magnitudes in each of their hands. For still higher sums, he laid the symbols on the log of driftwood; and for symbols he was hard put, being compelled to use the teeth from the skulls for millions, and the crab-shells for billions. It was here that he stopped, for the boys were showing signs of becoming tired.

"There were four million people in San Francisco--four teeth."

The boys' eyes ranged along from the teeth and from hand to hand, down

through the pebbles and sand-grains to Edwin's fingers. And back again they ranged along the ascending series in the effort to grasp such inconceivable numbers.

"That was a lot of folks, Granser," Edwin at last hazarded.

"Like sand on the beach here, like sand on the beach, each grain of sand a man, or woman, or child. Yes, my boy, all those people lived right here in San Francisco. And at one time or another all those people came out on this very beach--more people than there are grains of sand. More--more--more. And San Francisco was a noble city. And across the bay--where we camped last year, even more people lived, clear from Point Richmond, on the level ground and on the hills, all the way around to San Leandro--one great city of seven million people.--Seven teeth... there, that's it, seven millions."

Again the boys' eyes ranged up and down from Edwin's fingers to the teeth on the log.

"The world was full of people. The census of 2010 gave eight billions for the whole world--eight crab-shells, yes, eight billions. It was not like to-day. Mankind knew a great deal more about getting food. And the more food there was, the more people there were. In the year 1800, there were one hundred and seventy millions in Europe alone. One hundred years later--a grain of sand, Hoo-Hoo--one hundred years later, at 1900, there were five hundred millions in Europe--five grains of sand, Hoo-Hoo, and

this one tooth. This shows how easy was the getting of food, and how men increased. And in the year 2000 there were fifteen hundred millions in Europe. And it was the same all over the rest of the world. Eight crab-shells there, yes, eight billion people were alive on the earth when the Scarlet Death began.

"I was a young man when the Plague came--twenty-seven years old; and I lived on the other side of San Francisco Bay, in Berkeley. You remember those great stone houses, Edwin, when we came down the hills from Contra Costa? That was where I lived, in those stone houses. I was a professor of English literature."

Much of this was over the heads of the boys, but they strove to comprehend dimly this tale of the past.

"What was them stone houses for?" Hare-Lip queried.

"You remember when your dad taught you to swim?" The boy nodded.

"Well, in the University of California--that is the name we had for the houses--we taught young men and women how to think, just as I have taught you now, by sand and pebbles and shells, to know how many people lived in those days. There was very much to teach. The young men and women we taught were called students. We had large rooms in which we taught. I talked to them, forty or fifty at a time, just as I am talking to you now. I told them about the books other men had written before their time, and even, sometimes, in their time--"

"Was that all you did?--just talk, talk, talk?" Hoo-Hoo demanded. "Who hunted your meat for you? and milked the goats? and caught the fish?"

"A sensible question, Hoo-Hoo, a sensible question. As I have told you, in those days food-getting was easy. We were very wise. A few men got the food for many men. The other men did other things. As you say, I talked. I talked all the time, and for this food was given me--much food, fine food, beautiful food, food that I have not tasted in sixty years and shall never taste again. I sometimes think the most wonderful achievement of our tremendous civilization was food--its inconceivable abundance, its infinite variety, its marvellous delicacy. O my grandsons, life was life in those days, when we had such wonderful things to eat."

This was beyond the boys, and they let it slip by, words and thoughts, as a mere senile wandering in the narrative.

"Our food-getters were called freemen. This was a joke. We of the ruling classes owned all the land, all the machines, everything. These food-getters were our slaves. We took almost all the food they got, and left them a little so that they might eat, and work, and get us more food--"

"I'd have gone into the forest and got food for myself," Hare-Lip announced; "and if any man tried to take it away from me, I'd have

killed him."

The old man laughed.

"Did I not tell you that we of the ruling class owned all the land, all the forest, everything? Any food-getter who would not get food for us, him we punished or compelled to starve to death. And very few did that. They preferred to get food for us, and make clothes for us, and prepare and administer to us a thousand--a mussel-shell, Hoo-Hoo--a thousand satisfactions and delights. And I was Professor Smith in those days--Professor James Howard Smith. And my lecture courses were very popular--that is, very many of the young men and women liked to hear me talk about the books other men had written.

"And I was very happy, and I had beautiful things to eat. And my hands were soft, because I did no work with them, and my body was clean all over and dressed in the softest garments--

"He surveyed his mangy goat-skin with disgust.

"We did not wear such things in those days. Even the slaves had better garments. And we were most clean. We washed our faces and hands often every day. You boys never wash unless you fall into the water or go swimming."

"Neither do you Granzer," Hoo-Hoo retorted.

"I know, I know, I am a filthy old man, but times have changed. Nobody washes these days, there are no conveniences. It is sixty years since I have seen a piece of soap.

"You do not know what soap is, and I shall not tell you, for I am telling the story of the Scarlet Death. You know what sickness is. We called it a disease. Very many of the diseases came from what we called germs. Remember that word--germs. A germ is a very small thing. It is like a woodtick, such as you find on the dogs in the spring of the year when they run in the forest. Only the germ is very small. It is so small that you cannot see it--"

Hoo-Hoo began to laugh.

"You're a queer un, Granser, talking about things you can't see. If you can't see 'em, how do you know they are? That's what I want to know. How do you know anything you can't see?"

"A good question, a very good question, Hoo-Hoo. But we did see--some of them. We had what we called microscopes and ultramicroscopes, and we put them to our eyes and looked through them, so that we saw things larger than they really were, and many things we could not see without the microscopes at all. Our best ultramicroscopes could make a germ look forty thousand times larger. A mussel-shell is a thousand fingers like Edwin's. Take forty mussel-shells, and by as many times larger was the

germ when we looked at it through a microscope. And after that, we had other ways, by using what we called moving pictures, of making the forty-thousand-times germ many, many thousand times larger still. And thus we saw all these things which our eyes of themselves could not see. Take a grain of sand. Break it into ten pieces. Take one piece and break it into ten. Break one of those pieces into ten, and one of those into ten, and one of those into ten, and one of those into ten, and do it all day, and maybe, by sunset, you will have a piece as small as one of the germs." The boys were openly incredulous. Hare-Lip sniffed and sneered and Hoo-Hoo snickered, until Edwin nudged them to be silent.

"The woodtick sucks the blood of the dog, but the germ, being so very small, goes right into the blood of the body, and there it has many children. In those days there would be as many as a billion--a crab-shell, please--as many as that crab-shell in one man's body. We called germs micro-organisms. When a few million, or a billion, of them were in a man, in all the blood of a man, he was sick. These germs were a disease. There were many different kinds of them--more different kinds than there are grains of sand on this beach. We knew only a few of the kinds. The micro-organic world was an invisible world, a world we could not see, and we knew very little about it. Yet we did know something. There was the bacillus anthracis; there was the micrococcus; there was the Bacterium termo, and the Bacterium lactis--that's what turns the goat milk sour even to this day, Hare-Lip; and there were Schizomycetes without end. And there were many others...."

Here the old man launched into a disquisition on germs and their natures, using words and phrases of such extraordinary length and meaninglessness, that the boys grinned at one another and looked out over the deserted ocean till they forgot the old man was babbling on.

"But the Scarlet Death, Granser," Edwin at last suggested.

Granser recollected himself, and with a start tore himself away from the rostrum of the lecture-hall, where, to another world audience, he had been expounding the latest theory, sixty years gone, of germs and germ-diseases.

"Yes, yes, Edwin; I had forgotten. Sometimes the memory of the past is very strong upon me, and I forget that I am a dirty old man, clad in goat-skin, wandering with my savage grandsons who are goatherds in the primeval wilderness. 'The fleeting systems lapse like foam,' and so lapsed our glorious, colossal civilization. I am Granser, a tired old man. I belong to the tribe of Santa Rosans. I married into that tribe. My sons and daughters married into the Chauffeurs, the Sacramentos, and the Palo-Altos. You, Hare-Lip, are of the Chauffeurs. You, Edwin, are of the Sacramentos. And you, Hoo-Hoo, are of the Palo-Altos. Your tribe takes its name from a town that was near the seat of another great institution of learning. It was called Stanford University. Yes, I remember now. It is perfectly clear. I was telling you of the Scarlet Death. Where was I in my story?"

"You was telling about germs, the things you can't see but which make men sick," Edwin prompted.

"Yes, that's where I was. A man did not notice at first when only a few of these germs got into his body. But each germ broke in half and became two germs, and they kept doing this very rapidly so that in a short time there were many millions of them in the body. Then the man was sick. He had a disease, and the disease was named after the kind of a germ that was in him. It might be measles, it might be influenza, it might be yellow fever; it might be any of thousands and thousands of kinds of diseases.

"Now this is the strange thing about these germs. There were always new ones coming to live in men's bodies. Long and long and long ago, when there were only a few men in the world, there were few diseases. But as men increased and lived closely together in great cities and civilizations, new diseases arose, new kinds of germs entered their bodies. Thus were countless millions and billions of human beings killed. And the more thickly men packed together, the more terrible were the new diseases that came to be. Long before my time, in the middle ages, there was the Black Plague that swept across Europe. It swept across Europe many times. There was tuberculosis, that entered into men wherever they were thickly packed. A hundred years before my time there was the bubonic plague. And in Africa was the sleeping sickness. The bacteriologists fought all these sicknesses and destroyed them, just as you boys fight the wolves away from your goats, or squash the mosquitoes

that light on you. The bacteriologists--"

"But, Granser, what is a what-you-call-it?" Edwin interrupted.

"You, Edwin, are a goatherd. Your task is to watch the goats. You know a great deal about goats. A bacteriologist watches germs. That's his task, and he knows a great deal about them. So, as I was saying, the bacteriologists fought with the germs and destroyed them--sometimes. There was leprosy, a horrible disease. A hundred years before I was born, the bacteriologists discovered the germ of leprosy. They knew all about it. They made pictures of it. I have seen those pictures. But they never found a way to kill it. But in 1984, there was the Pantoblast Plague, a disease that broke out in a country called Brazil and that killed millions of people. But the bacteriologists found it out, and found the way to kill it, so that the Pantoblast Plague went no farther. They made what they called a serum, which they put into a man's body and which killed the pantoblast germs without killing the man. And in 1910, there was Pellagra, and also the hookworm. These were easily killed by the bacteriologists. But in 1947 there arose a new disease that had never been seen before. It got into the bodies of babies of only ten months old or less, and it made them unable to move their hands and feet, or to eat, or anything; and the bacteriologists were eleven years in discovering how to kill that particular germ and save the babies.

"In spite of all these diseases, and of all the new ones that continued to arise, there were more and more men in the world. This was because it

was easy to get food. The easier it was to get food, the more men there were; the more men there were, the more thickly were they packed together on the earth; and the more thickly they were packed, the more new kinds of germs became diseases. There were warnings. Soldervetzsky, as early as 1929, told the bacteriologists that they had no guaranty against some new disease, a thousand times more deadly than any they knew, arising and killing by the hundreds of millions and even by the billion. You see, the micro-organic world remained a mystery to the end. They knew there was such a world, and that from time to time armies of new germs emerged from it to kill men.

"And that was all they knew about it. For all they knew, in that invisible micro-organic world there might be as many different kinds of germs as there are grains of sand on this beach. And also, in that same invisible world it might well be that new kinds of germs came to be. It might be there that life originated--the 'abysmal fecundity,' Soldervetzsky called it, applying the words of other men who had written before him...."

It was at this point that Hare-Lip rose to his feet, an expression of huge contempt on his face.

"Granser," he announced, "you make me sick with your gabble. Why don't you tell about the Red Death? If you ain't going to, say so, an' we'll start back for camp."

The old man looked at him and silently began to cry. The weak tears of age rolled down his cheeks and all the feebleness of his eighty-seven years showed in his grief-stricken countenance.

"Sit down," Edwin counselled soothingly. "Granser's all right. He's just gettin' to the Scarlet Death, ain't you, Granser? He's just goin' to tell us about it right now. Sit down, Hare-Lip. Go ahead, Granser."