

## NAUDSONCE

Bishop Berkeley's famous question  
about the sound of a falling tree  
may have no standing in Science.  
But there is a highly interesting  
question about "sound" that Science  
needs to consider....

**BY H. BEAM PIPER**

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The sun warmed Mark Howell's back pleasantly. Underfoot, the mosslike stuff was soft and yielding, and there was a fragrance in the air unlike anything he had ever smelled. He was going to like this planet; he knew it. The question was, how would it, and its people, like him? He watched the little figures advancing across the fields from the mound, with the village out of sight on the other end of it and the combat-car circling lazily on contragravity above.

Major Luis Gofredo, the Marine officer, spoke without lowering his binoculars:

"They have a tubular thing about twelve feet long; six of them are carrying it on poles, three to a side, and a couple more are walking behind it. Mark, do you think it could be a cannon?"

So far, he didn't know enough to have an opinion, and said so, adding:

"What I saw of the village in the screen from the car, it looked pretty primitive. Of course, gunpowder's one of those things a primitive people could discover by accident, if the ingredients were available."

"We won't take any chances, then."

"You think they're hostile? I was hoping they were coming out to parley with us."

That was Paul Meillard. He had a right to be anxious; his whole future in the Colonial Office would be made or ruined by what was going to happen here.

The joint Space Navy-Colonial Office expedition was looking for new planets suitable for colonization; they had been out, now, for four years, which was close to maximum for an exploring expedition. They had entered eleven systems, and made landings on eight planets. Three had been reasonably close to Terra-type. There had been Fafnir; conditions there would correspond to Terra during the Cretaceous Period, but any Cretaceous dinosaur would have been cute and cuddly to the things on Fafnir. Then

there had been Imhotep; in twenty or thirty thousand years, it would be a fine planet, but at present it was undergoing an extensive glaciation. And Irminsul, covered with forests of gigantic trees; it would have been fine except for the fauna, which was nasty, especially a race of subsapient near-humanoids who had just gotten as far as clubs and *coup-de-poing* axes. Contact with them had entailed heavy ammunition expenditure, with two men and a woman killed and a dozen injured. He'd had a limp, himself, for a while as a result.

As for the other five, one had been an all-out hell-planet, and the rest had been the sort that get colonized by irreconcilable minority-groups who want to get away from everybody else. The Colonial Office wouldn't even consider any of them.

Then they had found this one, third of a GO-star, eighty million miles from primary, less axial inclination than Terra, which would mean a more uniform year-round temperature, and about half land surface. On the evidence of a couple of sneak landings for specimens, the biochemistry was identical with Terra's and the organic matter was edible. It was the sort of planet every explorer dreams of finding, except for one thing.

It was inhabited by a sapient humanoid race, and some of them were civilized enough to put it in Class V, and Colonial Office doctrine on Class V planets was rigid. Friendly relations with the natives had to be established, and permission to settle had to be guaranteed in a treaty of some sort with somebody more or less authorized to make one.

If Paul Meillard could accomplish that, he had it made. He would stay on with forty or fifty of the ship's company to make preparations. In a year a couple of ships would come out from Terra, with a thousand colonists, and a battalion or so of Federation troops, to protect them from the natives and vice versa. Meillard would automatically be appointed governor-general.

But if he failed, he was through. Not out—just through. When he got back to Terra, he would be promoted to some home office position at slightly higher base pay but without the three hundred per cent extraterrestrial bonus, and he would vegetate there till he retired. Every time his name came up, somebody would say, "Oh, yes; he flubbed the contact on Whatzit."

It wouldn't do the rest of them any good, either. There would always be the suspicion that they had contributed to the failure.



*Bwaaa-waaa-waaanh!*

The wavering sound hung for an instant in the air. A few seconds later, it was repeated, then repeated again.

"Our cannon's a horn," Gofredo said. "I can't see how they're blowing it, though."

There was a stir to right and left, among the Marines deployed in a crescent line on either side of the contact team; a metallic clatter as weapons were checked. A shadow fell in front of them as a combat-car moved into position above.

"What do you suppose it means?" Meillard wondered.

"Terrans, go home." He drew a frown from Meillard with the suggestion. "Maybe it's supposed to intimidate us."

"They're probably doing it to encourage themselves," Anna de Jong, the psychologist, said. "I'll bet they're really scared stiff."

"I see how they're blowing it," Gofredo said. "The man who's walking behind it has a hand-bellows." He raised his voice. "Fix bayonets! These people don't know anything about rifles, but they know what spears are. They have some of their own."

So they had. The six who walked in the lead were unarmed, unless the thing one of them carried was a spear. So, it seemed, were the horn-bearers. Behind them, however, in an open-order skirmish-line, came fifty-odd with weapons. Most of them had spears, the points glinting redly. Bronze, with a high copper content. A few had bows. They came slowly; details became more plainly visible.

The leader wore a long yellow robe; the thing in his hand was a bronze-headed staff. Three of his companions also wore robes; the other two were bare-legged in short tunics. The horn-bearers wore either robes or tunics; the spearmen and bowmen behind either wore tunics or were naked except for breechclouts. All wore sandals. They were red-brown in color, completely hairless; they had long necks, almost chinless lower jaws, and fleshy, beaklike noses that gave them an avian appearance which was heightened by red crests, like roosters' combs, on the tops of their heads.

"Well, aren't they something to see?" Lillian Ransby, the linguist asked.

"I wonder how we look to them," Paul Meillard said.

That was something to wonder about, too. The differences between one and another of the Terrans must puzzle them. Paul Meillard, as close to being a pure Negro as anybody in the Seventh Century of the Atomic Era was to being pure anything. Lillian Ransby, almost ash-blond. Major Gofredo, barely over the minimum Service height requirement; his name was Old Terran Spanish, but his ancestry must have been Polynesian, Amerind and Mongolian. Karl Dorver, the sociographer, six feet six, with red hair. Bennet Fayon, the biologist and physiologist, plump, pink-faced and balding. Willi Schallenmacher, with a bushy black beard....

They didn't have any ears, he noticed, and then he was taking stock of the things they wore and carried. Belts, with pouches, and knives with flat bronze blades and riveted handles. Three of the delegation had small flutes hung by cords around their necks, and a fourth had a reed Pan-pipe. No shields, and no swords; that was good. Swords and shields mean organized warfare, possibly a warrior-caste. This crowd weren't warriors. The spearmen and bowmen weren't arrayed for battle, but for a drive-hunt, with the bows behind the spears to stop anything that broke through the line.

"All right; let's go meet them." The querulous, uncertain note was gone from Meillard's voice; he knew what to do and how to do it.

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Gofredo called to the Marines to stand fast. Then they were advancing to meet the natives, and when they were twenty feet apart, both groups halted. The horn stopped blowing. The one in the yellow robe

lifted his staff and said something that sounded like, "*Tweedle-ee-dle-oodly-eenk.*"

The horn, he saw, was made of strips of leather, wound spirally and coated with some kind of varnish. Everything these people had was carefully and finely made. An old culture, but a static one. Probably tradition-bound as all get-out.

Meillard was raising his hands; solemnly he addressed the natives:

"'Twas brillig and the slithy toves were whooping it up in the Malemute Saloon, and the kid that handled the music box did gyre and gimble in the wabe, and back of the bar in a solo game all mimsy were the borogoves, and the mome raths outgave the lady that's known as Lou."

That was supposed to show them that we, too, have a spoken language, to prove that their language and ours were mutually incomprehensible, and to demonstrate the need for devising a means of communication. At least that was what the book said. It demonstrated nothing of the sort to this crowd. It scared them. The dignitary with the staff twittered excitedly. One of his companions agreed with him at length. Another started to reach for his knife, then remembered his manners. The bellowsman pumped a few blasts on the horn.

"What do you think of the language?" he asked Lillian.

"They all sound that bad, when you first hear them. Give them a few seconds, and then we'll have Phase Two."

When the gibbering and skreeking began to fall off, she stepped forward. Lillian was, herself, a good test of how human aliens were; this gang weren't human enough to whistle at her. She touched herself on the breast. "Me," she said.

The natives seemed shocked. She repeated the gesture and the word, then turned and addressed Paul Meillard. "You."

"Me," Meillard said, pointing to himself. Then he said, "You," to Luis Gofredo. It went around the contact team; when it came to him, he returned it to point of origin.

"I don't think they get it at all," he added in a whisper.

"They ought to," Lillian said. "Every language has a word for self and a word for person-addressed."

"Well, look at them," Karl Dorver invited. "Six different opinions about what we mean, and now the band's starting an argument of their own."

"Phase Two-A," Lillian said firmly, stepping forward. She pointed to herself. "Me—Lillian Ransby. Lillian Ransby—me *name*. You—*name*?"

"*Bwoooo!*" the spokesman screamed in horror, clutching his staff as though to shield it from profanation. The others howled like a hound-pack at a full moon, except one of the short-tunic boys, who was slapping himself on the head with both hands and yodeling. The horn-crew hastily swung their piece around at the Terrans, pumping frantically.

"What do you suppose I said?" Lillian asked.

"Oh, something like, 'Curse your gods, death to your king, and spit in your mother's face,' I suppose."

"Let me try it," Gofredo said.

The little Marine major went through the same routine. At his first word, the uproar stopped; before he was through, the natives' faces were sagging and crumbling into expressions of utter and heartbroken grief.

"It's not as bad as all that, is it?" he said. "You try it, Mark."

"Me ... Mark ... Howell...." They looked bewildered.

"Let's try objects, and play-acting," Lillian suggested. "They're farmers; they ought to have a word for water."

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They spent almost an hour at it. They poured out two gallons of water, pretended to be thirsty, gave each other drinks. The natives simply couldn't agree on the word, in their own language, for water. That or else they missed the point of the whole act. They tried fire, next. The efficiency of a steel hatchet was impressive, and so was the sudden flame of a pocket-lighter, but no word for fire emerged, either.

"Ah, to Niffenheim with it!" Luis Gofredo cried in exasperation. "We're getting nowhere at five times light speed. Give them their presents and send them home, Paul."

"Sheath-knives; they'll have to be shown how sharp they are," he suggested. "Red bandannas. And costume jewelry."

"How about something to eat, Bennet?" Meillard asked Fayon.

"Extee Three, and C-H trade candy," Fayon said. Field Ration, Extraterrestrial Service, Type Three, could be eaten by anything with a carbon-hydrogen metabolism, and so could the trade candy. "Nothing else, though, till we have some idea what goes on inside them."

Dorver thought the six members of the delegation would be persons of special consequence, and should have something extra. That was probably so. Dorver was as quick to pick up clues to an alien social order as he was, himself, to deduce a culture pattern from a few artifacts. He and Lillian went back to the landing craft to collect the presents.

Everybody, horn-detail, armed guard and all, got one ten-inch bowie knife and sheath, a red bandanna neckcloth, and a piece of flashy junk jewelry. The (town council? prominent citizens? or what?) also received a colored table-spread apiece; these were draped over their shoulders and fastened with two-inch plastic pins advertising the candidacy of somebody for President of the Federation Member Republic of Venus a couple of elections ago. They all looked woebegone about it; that would be their expression of joy. Different type nerves and different facial musculature, Fayon thought. As soon as they sampled the Extee Three and candy, they looked crushed under all the sorrows of the galaxy.

By pantomime and pointing to the sun, Meillard managed to inform them that the next day, when the sun was in the same position, the Terrans would visit their village, bringing more gifts. The natives were quite agreeable, but Meillard was disgruntled that he had to use sign-talk. The natives started off toward the village on the mound, munching Extee Three and trying out their new knives. This time tomorrow, half of them would have bandaged thumbs.

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The Marine riflemen and submachine-gunners were coming in, slinging their weapons and lighting cigarettes. A couple of Navy technicians were getting a snooper—a thing shaped like a short-tailed tadpole, six feet long by three at the widest, fitted with visible-light and infra-red screen pickups and crammed with detection instruments—ready to relieve the combat car over the village. The contact team crowded into the Number One landing craft, which had been fitted out as a temporary headquarters. Prefab-hut elements were already being unloaded from the other craft.

Everybody felt that a drink was in order, even if it was two hours short of cocktail time. They carried bottles and glasses and ice to the front of the landing craft and sat down in front of the battery of view

and communication screens. The central screen was a two-way, tuned to one in the officers' lounge aboard the *Hubert Penrose*, two hundred miles above. In it, also provided with drinks, were Captain Guy Vindinho and two other Navy officers, and a Marine captain in shipboard blues. Like Gofredo, Vindinho must have gotten into the Service on tiptoe; he had a bald dome and a red beard, and he always looked as though he were gloating because nobody knew that his name was really Rumpelstiltskin. He had been watching the contact by screen. He lifted his glass toward Meillard.

"Over the hump, Paul?"

Meillard raised his drink to Vindinho. "Over the first one. There's a whole string of them ahead. At least, we sent them away happy. I hope."

"You're going to make permanent camp where you are now?" one of the other officers asked. Lieutenant-Commander Dave Questell; ground engineering and construction officer. "What do you need?"

There were two viewscreens from pickups aboard the 2500-foot battle cruiser. One, at ten-power magnification, gave a maplike view of the broad valley and the uplands and mountain foothills to the south. It was only by tracing the course of the main river and its tributaries that they could find the tiny spot of the native village, and they couldn't see the landing craft at all. The other, at a hundred power, showed the oblong mound, with the village on its flat top, little dots around a circular central plaza. They could see the two turtle-shaped landing-craft, and the combat car, that had been circling over the mound, landing beside them, and, sometimes, a glint of sunlight from the snoopers that had taken its place.

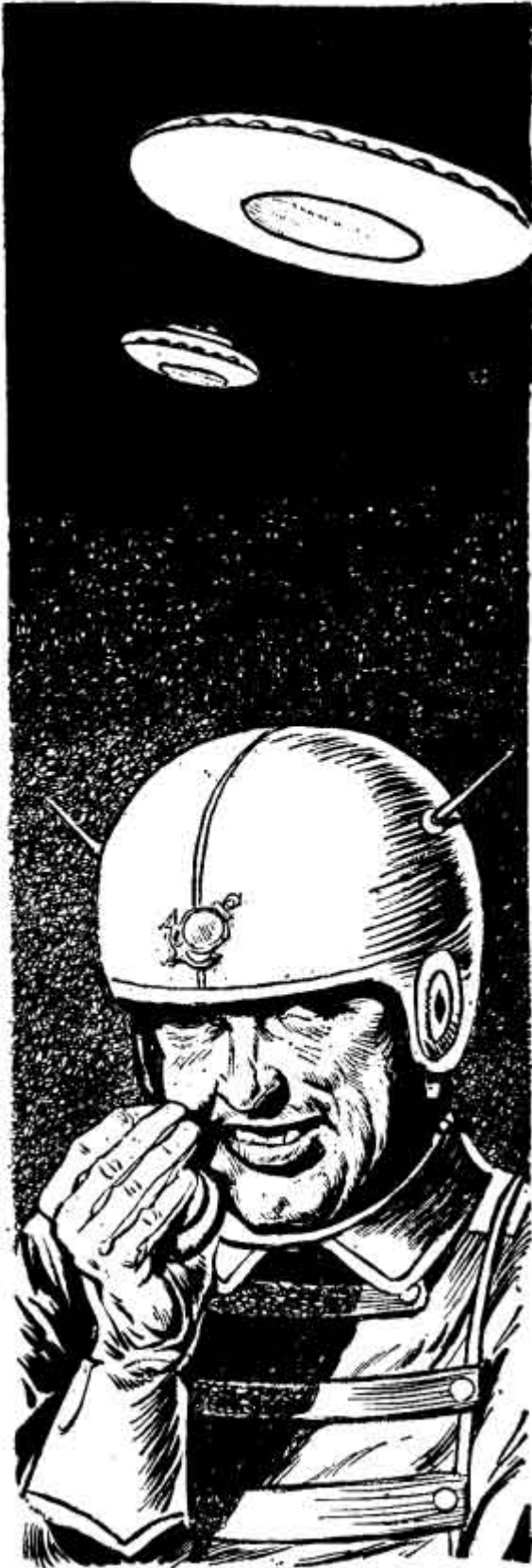
The snoopers were also transmitting in, to another screen, from two hundred feet above the village. From the sound outlet came an incessant gibber of native voices. There were over a hundred houses, all small and square, with pyramidal roofs. On the end of the mound toward the Terran camp, animals of at least four different species were crowded, cattle that had been herded up from the meadows at the first alarm. The open circle in the middle of the village was crowded, and more natives lined the low palisade along the edge of the mound.

"Well, we're going to stay here till we learn the language," Meillard was saying. "This is the best place for it. It's completely isolated, forests on both sides, and seventy miles to the nearest other village. If we're careful, we can stay here as long as we want to and nobody'll find out about us. Then, after we can talk with these people, we'll go to the big town."

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The big town was two hundred and fifty miles down the valley, at the forks of the main river, a veritable metropolis of almost three thousand people. That was where the treaty would have to be negotiated.





*"... But no two of them speak the same language!"*

"You'll want more huts. You'll want a water tank, and a pipeline to that stream below you, and a pump,"

Questell said. "You think a month?"

Meillard looked at Lillian Ransby. "What do you think?"

"*Poodly-doodly-oodly-foodle*," she said. "You saw how far we didn't get this afternoon. All we found out was that none of the standard procedures work at all." She made a tossing gesture over her shoulder. "There goes the book; we have to do it off the cuff from here."

"Suppose we make another landing, back in the mountains, say two or three hundred miles south of you," Vindinho said. "It's not right to keep the rest aboard two hundred miles off planet, and you won't be wanting liberty parties coming down where you are."

"The country over there looks uninhabited," Meillard said. "No villages, anyhow. That wouldn't hurt, at all."

"Well, it'll suit me," Charley Loughran, the xeno-naturalist, said. "I want a chance to study the life-forms in a state of nature."

Vindinho nodded. "Luis, do you anticipate any trouble with this crowd here?" he asked.

"How about it, Mark? What do they look like to you? Warlike?"

"No." He stated the opinion he had formed. "I had a close look at their weapons when they came in for their presents. Hunting arms. Most of the spears have cross-guards, usually wooden, lashed on, to prevent a wounded animal from running up the spear-shaft at the hunter. They made boar-spears like that on Terra a thousand years ago. Maybe they have to fight raiding parties from the hills once in a while, but not often enough for them to develop special fighting weapons or techniques."

"Their village is fortified," Meillard mentioned.

"I question that," Gofredo differed. "There won't be more than a total of five hundred there; call that a fighting strength of two hundred, to defend a twenty-five-hundred-meter perimeter, with woodchoppers' axes and bows and spears. If you notice, there's no wall around the village itself. That palisade is just a fence."

"Why would they mound the village up?" Questell, in the screen wondered. "You don't think the river gets up that high, do you? Because if it does—"

Schallenmacher shook his head. "There just isn't enough watershed, and there's too much valley. I'll be very much surprised if that stream, there"—he nodded at the hundred-power screen—"ever gets more than six inches over the bank."

"I don't know what those houses are built of. This is all alluvial country; building stone would be almost unobtainable. I don't see anything like a brick kiln. I don't see any evidence of irrigation, either, so there must be plenty of rainfall. If they use adobe, or sun-dried brick, houses would start to crumble in a few years, and they would be pulled down and the rubble shoved aside to make room for a new house. The village has been rising on its own ruins, probably shifting back and forth from one end of that mound to the other."

"If that's it, they've been there a long time," Karl Dorver said. "And how far have they advanced?"

"Early bronze; I'll bet they still use a lot of stone implements. Pre-dynastic Egypt, or very early Tigris-Euphrates, in Terran terms. I can't see any evidence that they have the wheel. They have draft animals; when we were coming down, I saw a few of them pulling pole travois. I'd say they've been farming for a long time. They have quite a diversity of crops, and I suspect that they have some idea of crop-rotation. I'm amazed at their musical instruments; they seem to have put more skill into making them than anything else. I'm going to take a jeep, while they're all in the village, and have a look around the

fields, now."

Charley Loughran went along for specimens, and, for the ride, Lillian Ransby. Most of his guesses, he found, had been correct. He found a number of pole travois, from which the animals had been unhitched in the first panic when the landing craft had been coming down. Some of them had big baskets permanently attached. There were drag-marks everywhere in the soft ground, but not a single wheel track. He found one plow, cunningly put together with wooden pegs and rawhide lashings; the point was stone, and it would only score a narrow groove, not a proper furrow. It was, however, fitted with a big bronze ring to which a draft animal could be hitched. Most of the cultivation seemed to have been done with spades and hoes. He found a couple of each, bronze, cast flat in an open-top mold. They hadn't learned to make composite molds.

There was an even wider variety of crops than he had expected: two cereals, a number of different root-plants, and a lot of different legumes, and things like tomatoes and pumpkins.

"Bet these people had a pretty good life, here—before the Terrans came," Charley observed.

"Don't say that in front of Paul," Lillian warned. "He has enough to worry about now, without starting him on whether we'll do these people more harm than good."

Two more landing craft had come down from the *Hubert Penrose*; they found Dave Questell superintending the unloading of more prefab-huts, and two were already up that had been brought down with the first landing.

A name for the planet had also arrived.

"Svantovit," Karl Dorver told him. "Principal god of the Baltic Slavs, about three thousand years ago. Guy Vindinho dug it out of the 'Encyclopedia of Mythology.' Svantovit was represented as holding a bow in one hand and a horn in the other."

"Well, that fits. What will we call the natives; Svantovitians, or Svantovese?"

"Well, Paul wanted to call them Svantovese, but Luis persuaded him to call them Svants. He said everybody'd call them that, anyhow, so we might as well make it official from the start."

"We can call the language Svantovese," Lillian decided. "After dinner, I am going to start playing back recordings and running off audiovisuals. I will be so happy to know that I have a name for what I'm studying. Probably be all I will know."

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After dinner, he and Karl and Paul went into a huddle on what sort of gifts to give the natives, and the advisability of trading with them, and for what. Nothing too far in advance of their present culture level. Wheels; they could be made in the fabricating shop aboard the ship.

"You know, it's odd," Karl Dorver said. "These people here have never seen a wheel, and, except in documentary or historical-drama films, neither have a lot of Terrans."

That was true. As a means of transportation, the wheel had been completely obsolete since the development of contragravity, six centuries ago. Well, a lot of Terrans in the Year Zero had never seen a suit of armor, or an harquebus, or even a tinder box or a spinning wheel.

Wheelbarrows; now there was something they'd find useful. He screened Max Milzer, in charge of the fabricating and repair shops on the ship. Max had never even heard of a wheelbarrow.

"I can make them up, Mark; better send me some drawings, though. Did you just invent it?"

"As far as I know, a man named Leonardo da Vinci invented it, in the Sixth Century Pre-Atomic. How

soon can you get me half a dozen of them?"

"Well, let's see. Welded sheet metal, and pipe for the frame and handles. I'll have some of them for you by noon tomorrow. Now, about hoes; how tall are these people, and how long are their arms, and how far can they stoop over?"

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They were all up late, that night. So were the Svants; there was a fire burning in the middle of the village, and watch-fires along the edge of the mound. Luis Gofredo was just as distrustful of them as they were of the Terrans; he kept the camp lighted, a strong guard on the alert, and the area of darkness beyond infra red lighted and covered by photoelectric sentries on the ground and snoopers in the air. Like Paul Meillard, Luis Gofredo was a worrier and a pessimist. Everything happened for the worst in this worst of all possible galaxies, and if anything could conceivably go wrong, it infallibly would. That was probably why he was still alive and had never had a command massacred.

The wheelbarrows, four of them, came down from the ship by midmorning. With them came a grindstone, a couple of crosscut saws, and a lot of picks and shovels and axes, and cases of sheath knives and mess gear and miscellaneous trade goods, including a lot of the empty wine and whisky bottles that had been hoarded for the past four years.

At lunch, the talk was almost exclusively about the language problem. Lillian Ransby, who had not gotten to sleep before sunrise and had just gotten up, was discouraged.

"I don't know what we're going to do next," she admitted. "Glenn Orent and Anna and I were on it all night, and we're nowhere. We have about a hundred wordlike sounds isolated, and twenty or so are used repeatedly, and we can't assign a meaning to any of them. And none of the Svants ever reacted the same way twice to anything we said to them. There's just no one-to-one relationship anywhere."

"I'm beginning to doubt they have a language," the Navy intelligence officer said. "Sure, they make a lot of vocal noise. So do chipmunks."

"They have to have a language," Anna de Jong declared. "No sapient thought is possible without verbalization."

"Well, no society like that is possible without some means of communication," Karl Dorver supported her from the other flank. He seemed to have made that point before. "You know," he added, "I'm beginning to wonder if it mightn't be telepathy."

He evidently hadn't suggested that before. The others looked at him in surprise. Anna started to say, "Oh, I doubt if—" and then stopped.

"I know, the race of telepaths is an old gimmick that's been used in new-planet adventure stories for centuries, but maybe we've finally found one."

"I don't like it, Karl," Loughran said. "If they're telepaths, why don't they understand us? And if they're telepaths, why do they talk at all? And you can't convince me that this boodly-oodly-doodle of theirs isn't talking."

"Well, our neural structure and theirs won't be nearly alike," Fayon said. "I know, this analogy between telepathy and radio is full of holes, but it's good enough for this. Our wave length can't be picked up with their sets."

"The deuce it can't," Gofredo contradicted. "I've been bothered about that from the beginning. These people act as though they got meaning from us. Not the meaning we intend, but some meaning. When Paul made the gobbledygook speech, they all reacted in the same way—frightened, and then defensive."

The you-me routine simply bewildered them, as we'd be at a set of semantically lucid but self-contradictory statements. When Lillian tried to introduce herself, they were shocked and horrified...."

"It looked to me like actual physical disgust," Anna interpolated.

"When I tried it, they acted like a lot of puppies being petted, and when Mark tried it, they were simply baffled. I watched Mark explaining that steel knives were dangerously sharp; they got the demonstration, but when he tried to tie words onto it, it threw them completely."

"ALL RIGHT. Pass that," Loughran conceded. "But if they have telepathy, why do they use spoken words?"

"Oh, I can answer that," Anna said. "Say they communicated by speech originally, and developed their telepathic faculty slowly and without realizing it. They'd go on using speech, and since the message would be received telepathically ahead of the spoken message, nobody would pay any attention to the words as such. Everybody would have a spoken language of his own; it would be sort of the instrumental accompaniment to the song."

"Some of them don't bother speaking," Karl nodded. "They just toot."

"I'll buy that, right away," Loughran agreed. "In mating, or in group-danger situations, telepathy would be a race-survival characteristic. It would be selected for genetically, and the non-gifted strains would tend to die out."

It wouldn't do. It wouldn't do at all. He said so.

"Look at their technology. We either have a young race, just emerged from savagery, or an old, stagnant race. All indications seem to favor the latter. A young race would not have time to develop telepathy as Anna suggests. An old race would have gone much farther than these people have. Progress is a matter of communication and pooling ideas and discoveries. Make a trend-graph of technological progress on Terra; every big jump comes after an improvement in communications. The printing press; railways and steamships; the telegraph; radio. Then think how telepathy would speed up progress."

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The sun was barely past noon meridian before the Svants, who had ventured down into the fields at sunrise, were returning to the mound-village. In the snooper-screen, they could be seen coming up in tunics and breechclouts, entering houses, and emerging in long robes. There seemed to be no bows or spears in evidence, but the big horn sounded occasionally. Paul Meillard was pleased. Even if it had been by sign-talk, which he rated with worm-fishing for trout or shooting sitting rabbits, he had gotten something across to them.

When they went to the village, at 1500, they had trouble getting their lorry down. A couple of Marines in a jeep had to go in first to get the crowd out of the way. Several of the locals, including the one with the staff, joined with them; this quick co-operation delighted Meillard. When they had the lorry down and were all out of it, the dignitary with the staff, his scarlet tablecloth over his yellow robe, began an oration, apparently with every confidence that he was being understood. In spite of his objections at lunch, the telepathy theory was beginning to seem more persuasive.

"Give them the Shooting of Dan McJabberwock again," he told Meillard. "This is where we came in yesterday."

Something Meillard had noticed was exciting him. "Wait a moment. They're going to do something."

They were indeed. The one with the staff and three of his henchmen advanced. The staff bearer touched himself on the brow. "*Fwoonk*," he said. Then he pointed to Meillard. "*Hoonkle*," he said.

"They got it!" Lillian was hugging herself joyfully. "I knew they ought to!"

Meillard indicated himself and said, "*Fwoonk*."

That wasn't right. The village elder immediately corrected him. The word, it seemed, was, "*Fwoonk*."

His three companions agreed that that was the word for self, but that was as far as the agreement went. They rendered it, respectively, as "*Pwink*," "*Tweelt*" and "*Kroosh*."

Gofredo gave a barking laugh. He was right; anything that could go wrong would go wrong. Lillian used a word; it was not a ladylike word at all. The Svants looked at them as though wondering what could possibly be the matter. Then they went into a huddle, arguing vehemently. The argument spread, like a ripple in a pool; soon everybody was twittering vocally or blowing on flutes and Panpipes. Then the big horn started blaring. Immediately, Gofredo snatched the hand-phone of his belt radio and began speaking urgently into it.

"What are you doing, Luis?" Meillard asked anxiously.

"Calling the reserve in. I'm not taking chances on this." He spoke again into the phone, then called over his shoulder: "Rienet; three one-second bursts, in the air!"

A Marine pointed a submachine gun skyward and ripped off a string of shots, then another, and another. There was silence after the first burst. Then a frightful howling arose.

"Luis, you imbecile!" Meillard was shouting.

Gofredo jumped onto the top of an airjeep, where they could all see him; drawing his pistol, he fired twice into the air.

"Be quiet, all of you!" he shouted, as though that would do any good.

It did. Silence fell, bounced noisily, and then settled over the crowd. Gofredo went on talking to them:

"Take it easy, now; easy." He might have been speaking to a frightened dog or a fractious horse.

"Nobody's going to hurt you. This is nothing but the great noise-magic of the Terrans...."

"Get the presents unloaded," Meillard was saying. "Make a big show of it. The table first."

The horn, which had started, stopped blowing. As they were getting off the long table and piling it with trade goods, another lorry came in, disgorging twenty Marine riflemen. They had their bayonets fixed; the natives looked apprehensively at the bare steel, but went on listening to Gofredo. Meillard pulled the (Lord Mayor? Archbishop? Lord of the Manor?) aside, and began making sign-talk to him.

When quiet was restored, Howell put a pick and shovel into a wheelbarrow and pushed them out into the space that had been cleared in front of the table. He swung the pick for a while, then shoveled the barrow full of ground. After pushing it around for a while, he dumped it back in the hole and leveled it off. Two Marines brought out an eight-inch log and chopped a couple of billets off it with an ax, then cut off another with one of the saws, split them up, and filled the wheelbarrow with the firewood.



*We can't use the computer till we can tell it what the data is data about!*

The knives, jewelry and other small items would be no problem; they had enough of them to go around. The other stuff would be harder to distribute, and Paul Meillard and Karl Dorver were arguing about how to handle it. If they weren't careful, a lot of new bowie knives would get bloodied.

"Have them form a queue," Anna suggested. "That will give them the idea of equal sharing, and we'll be able to learn something about their status levels and social hierarchy and agonistic relations."

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The one with the staff took it as a matter of course that he would go first; his associates began falling in behind him, and the rest of the villagers behind them. Whether they'd gotten one the day before or not, everybody was given a knife and a bandanna and one piece of flashy junk-jewelry, also a stainless steel cup and mess plate, a bucket, and an empty bottle with a cork. The women didn't carry sheath knives, so they got Boy Scout knives on lanyards. They were all lavishly supplied with Extee Three and candy. Any of the children who looked big enough to be trusted with them got knives too, and plenty of candy.

Anna and Karl were standing where the queue was forming, watching how they fell into line; so was Lillian, with an audiovisual camera. Having seen that the Marine enlisted men were getting the presents handed out properly, Howell strolled over to them. Just as he came up, a couple approached hesitantly, a man in a breechclout under a leather apron, and a woman, much smaller, in a ragged and soiled tunic. As soon as they fell into line, another Svant, in a blue robe, pushed them aside and took their place.

"Here, you can't do that!" Lillian cried. "Karl, make him step back."

Karl was saying something about social status and precedence. The couple tried to get into line behind the man who had pushed them aside. Another villager tried to shove them out of his way. Howell advanced, his right fist closing. Then he remembered that he didn't know what he'd be punching; he might break the fellow's neck, or his own knuckles. He grabbed the blue-robed Svant by the wrist with both hands, kicked a foot out from under him, and jerked, sending him flying for six feet and then sliding in the dust for another couple of yards. He pushed the others back, and put the couple into place in the line.

"Mark, you shouldn't have done that," Dorver was expostulating. "We don't know..."

The Svant sat up, shaking his head groggily. Then he realized what had been done to him. With a snarl of rage, he was on his feet, his knife in his hand. It was a Terran bowie knife. Without conscious volition, Howell's pistol was out and he was thumbing the safety off.

The Svant stopped short, then dropped the knife, ducked his head, and threw his arms over it to shield his comb. He backed away a few steps, then turned and bolted into the nearest house. The others, including the woman in the ragged tunic, were twittering in alarm. Only the man in the leather apron was calm; he was saying, tonelessly, "*Ghrooogh-ghrooogh*."

Luis Gofredo was coming up on the double, followed by three of his riflemen.

"What happened, Mark? Trouble?"

"All over now." He told Gofredo what had happened. Dorver was still objecting:

"... Social precedence; the Svant may have been right, according to local customs."

"Local customs be damned!" Gofredo became angry. "This is a Terran Federation handout; we make the rules, and one of them is, no pushing people out of line. Teach the buggers that now and we won't have to work so hard at it later." He called back over his shoulder, "Situation under control; get the show going again."

The natives were all grimacing heartbrokenly with pleasure. Maybe the one who got thrown on his ear—no, he didn't have any—was not one of the more popular characters in the village.

"You just pulled your gun, and he dropped the knife and ran?" Gofredo asked. "And the others were scared, too?"

"That's right. They all saw you fire yours; the noise scared them."

Gofredo nodded. "We'll avoid promiscuous shooting, then. No use letting them find out the noise won't hurt them any sooner than we have to."

Paul Meillard had worked out a way to distribute the picks and shovels and axes. Considering each house as representing a family unit, which might or might not be the case, there were picks and shovels enough to go around, and an ax for every third house. They took them around in an airjeep and left them at the doors. The houses, he found, weren't adobe at all. They were built of logs, plastered with adobe on the outside. That demolished his theory that the houses were torn down periodically, and left the mound itself unexplained.

The wheelbarrows and the grindstone and the two crosscut saws were another matter. Nobody was quite sure that the (nobility? capitalist-class? politicians? prominent citizens?) wouldn't simply appropriate them for themselves. Paul Meillard was worried about that; everybody else was willing to let matters take their course. Before they were off the ground in their vehicles, a violent dispute had begun, with a bedlam of jabbering and shrieking. By the time they were landing at the camp, the big laminated leather horn had begun to bellow.

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One of the huts had been fitted as contact-team headquarters, with all the view and communication screens installed, and one end partitioned off and soundproofed for Lillian to study recordings in. It was cocktail time when they returned; conversationally, it was a continuation from lunch. Karl Dorver was even more convinced than ever of his telepathic hypothesis, and he had completely converted Anna de Jong to it.

"Look at that." He pointed at the snooper screen, which gave a view of the plaza from directly above. "They're reaching an agreement already."

So they seemed to be, though upon what was less apparent. The horn had stopped, and the noise was diminishing. The odd thing was that peace was being restored, or was restoring itself, as the uproar had begun—outwardly from the center of the plaza to the periphery of the crowd. The same thing had happened when Gofredo had ordered the submachine gun fired, and, now that he recalled, when he had dealt with the line-crasher.

"Suppose a few of them, in the middle, are agreed," Anna said. "They are all thinking in unison, combining their telepathic powers. They dominate those nearest to them, who join and amplify their telepathic signal, and it spreads out through the whole group. A mental chain-reaction."

"That would explain the mechanism of community leadership, and I'd been wondering about that," Dorver said, becoming more excited. "It's a mental aristocracy; an especially gifted group of telepaths, in agreement and using their powers in concert, implanting their opinions in the minds of all the others. I'll bet the purpose of the horn is to distract the thoughts of the others, so that they can be more easily dominated. And the noise of the shots shocked them out of communication with each other; no wonder they were frightened."

Bennet Fayon was far from convinced. "So far, this telepathy theory is only an assumption. I find it a lot easier to assume some fundamental difference between the way they translate sound into sense-data and the way we do. We *think* those combs on top of their heads are their external hearing organs, but we have no idea what's back of them, or what kind of a neural hookup is connected to them. I wish I knew how these people dispose of their dead. I need a couple of fresh cadavers. Too bad they aren't warlike. Nothing like a good bloody battle to advance the science of anatomy, and what we don't know about Svant anatomy is practically the entire subject."

"I should imagine the animals hear in the same way," Meillard said. "When the wagon wheels and the hoes and the blacksmith tools come down from the ship, we'll trade for cattle."

"When they make the second landing in the mountains, I'm going to do a lot of hunting," Loughran added. "I'll get wild animals for you."

"Well, I'm going to assume that the vocal noises they make are meaningful speech," Lillian Ransby said. "So far, I've just been trying to analyze them for phonetic values. Now I'm going to analyze them for sound-wave patterns. No matter what goes on inside their private nervous systems, the sounds exist as waves in the public atmosphere. I'm going to assume that the Lord Mayor and his stooges were all trying to say the same thing when they were pointing to themselves, and I'm going to see if all four of those sounds have any common characteristic."

By the time dinner was over, they were all talking in circles, none of them hopefully. They all made recordings of the speech about the slithy toves in the Malemute Saloon; Lillian wanted to find out what was different about them. Luis Gofredo saw to it that the camp itself would be visible-lighted, and beyond the lights he set up more photoelectric robot sentries and put a couple of snoopers to circling on contragravity, with infra-red lights and receptors. He also insisted that all his own men and all Dave Questell's Navy construction engineers keep their weapons ready to hand. The natives in the village were equally distrustful. They didn't herd the cattle up from the meadows where they had been

pastured, but they lighted watch-fires along the edge of the mound as soon as it became dark.

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It was three hours after nightfall when something on the indicator-board for the robot sentries went off like a startled rattlesnake. Everybody, talking idly or concentrating on writing up the day's observations, stiffened. Luis Gofredo, dozing in a chair, was on his feet instantly and crossing the hut to the instruments. His second-in-command, who had been playing chess with Willi Schallenschmacker, rose and snatched his belt from the back of his chair, putting it on.

"Take it easy," Gofredo said. "Probably just a cow or a horse—local equivalent—that's strayed over from the other side."

He sat down in front of one of the snooper screens and twisted knobs on the remote controls. The monochrome view, transformed from infra red, rotated as the snooper circled and changed course. The other screen showed the camp receding and the area around it widening as its snooper gained altitude.

"It's not a big party," Gofredo was saying. "I can't see—Oh, yes I can. Only two of them."

The humanoid figures, one larger than the other, were moving cautiously across the fields, crouching low. The snooper went down toward them, and then he recognized them. The man and woman whom the blue-robed villager had tried to shove out of the queue, that afternoon. Gofredo recognized them, too.

"Your friends, Mark. Harry," he told his subordinate, "go out and pass the word around. Only two, and we think they're friendly. Keep everybody out of sight; we don't want to scare them away."

The snooper followed closely behind them. The man was no longer wearing his apron; the woman's tunic was even more tattered and soiled. She was leading him by the hand. Now and then, she would stop and turn her head to the rear. The snooper over the mound showed nothing but half a dozen fire-watchers dozing by their fires. Then the pair were at the edge of the camp lights. As they advanced, they seemed to realize that they had passed a point-of-no-return. They straightened and came forward steadily, the woman seeming to be guiding her companion.

"What's happening, Mark?"

It was Lillian; she must have just come out of the soundproof speech-lab.

"You know them; the pair in the queue, this afternoon. I think we've annexed a couple of friendly natives."

They all went outside. The two natives, having come into the camp, had stopped. For a moment, the man in the breechclout seemed undecided whether he was more afraid to turn and run than advance. The woman, holding his hand, led him forward. They were both bruised, and both had minor cuts, and neither of them had any of the things that had been given to them that afternoon.

"Rest of the gang beat them up and robbed them," Gofredo began angrily.

"See what you did?" Dorver began. "According to their own customs, they had no right to be ahead of those others, and now you've gotten them punished for it."

"I'd have done more to that fellow than Mark did, if I'd been there when it happened." The Marine officer turned to Meillard. "Look, this is your show, Paul; how you run it is your job. But in your place, I'd take that pair back to the village and have them point out who beat them up, and teach the whole gang of them a lesson. If you're going to colonize this planet, you're going to have to establish Federation law, and Federation law says you mustn't gang up on people and beat and rob them. We don't have to speak Svantese to make them understand what we'll put up with and what we won't."

"Later, Luis. After we've gotten a treaty with somebody." Meillard broke off. "Watch this!"

The woman was making sign-talk. She pointed to the village on the mound. Then, with her hands, she shaped a bucket like the ones that had been given to them, and made a snatching gesture away from herself. She indicated the neckcloths, and the sheath knife and the other things, and snatched them away too. She made beating motions, and touched her bruises and the man's. All the time, she was talking excitedly, in a high, shrill voice. The man made the same *ghroogh-ghroogh* noises that he had that afternoon.

"No; we can't take any punitive action. Not now," Meillard said. "But we'll have to do something for them."

Vengeance, it seemed, wasn't what they wanted. The woman made vehement gestures of rejection toward the village, then bowed, placing her hands on her brow. The man imitated her obeisance, then they both straightened. The woman pointed to herself and to the man, and around the circle of huts and landing craft. She began scuttling about, picking up imaginary litter and sweeping with an imaginary broom. The man started pounding with an imaginary hammer, then chopping with an imaginary ax.

Lillian was clapping her hands softly. "Good; got it the first time. 'You let us stay; we work for you.' How about it, Paul?"

Meillard nodded. "Punitive action's inadvisable, but we will show our attitude by taking them in. You tell them, Luis; these people seem to like your voice."

Gofredo put a hand on each of their shoulders. "You ... stay ... with us." He pointed around the camp. "You ... stay ... this ... place."

Their faces broke into that funny just-before-tears expression that meant happiness with them. The man confined his vocal expressions to his odd *ghroogh-ghroogh*-ing; the woman twittered joyfully. Gofredo put a hand on the woman's shoulder, pointed to the man and from him back to her. "Unh?" he inquired.

The woman put a hand on the man's head, then brought it down to within a foot of the ground. She picked up the imaginary infant and rocked it in her arms, then set it down and grew it up until she had her hand on the top of the man's head again.

"That was good, Mom," Gofredo told her. "Now, you and Sonny come along; we'll issue you equipment and find you billets." He added, "What in blazes are we going to feed them; Extee Three?"

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They gave them replacements for all the things that had been taken away from them. They gave the man a one-piece suit of Marine combat coveralls; Lillian gave the woman a lavender bathrobe, and Anna contributed a red scarf. They found them quarters in one end of a store shed, after making sure that there was nothing they could get at that would hurt them or that they could damage. They gave each of them a pair of blankets and a pneumatic mattress, which delighted them, although the cots puzzled them at first.

"What do you think about feeding them, Bennet?" Meillard asked, when the two Svants had gone to bed and they were back in the headquarters hut. "You said the food on this planet is safe for Terrans."

"So I did, and it is, but the rule's not reversible. Things we eat might kill them," Fayon said. "Meats will be especially dangerous. And no caffeine, and no alcohol."

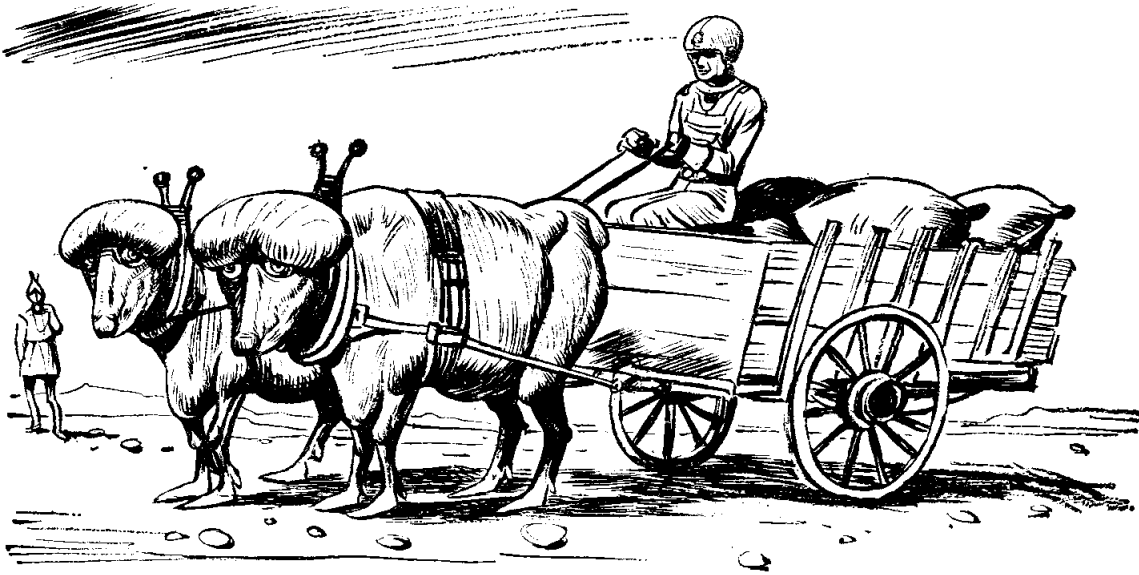
"Alcohol won't hurt them," Schallenmacher said. "I saw big jars full of fermenting fruit-mash back of some of those houses; in about a year, it ought to be fairly good wine.  $C_2H_5OH$  is the same on any planet."

"Well, we'll get native foodstuffs tomorrow," Meillard said. "We'll have to do that by signs, too," he regretted.

"Get Mom to help you; she's pretty sharp," Lillian advised. "But I think Sonny's the village half-wit."

Anna de Jong agreed. "Even if we don't understand Svant psychology, that's evident; he's definitely subnormal. The way he clings to his mother for guidance is absolutely pathetic. He's a mature adult, but mentally he's still a little child."

"That may explain it!" Dorver cried. "A mental defective, in a community of telepaths, constantly invading the minds of others with irrational and disgusting thoughts; no wonder he is rejected and persecuted. And in a community on this culture level, the mother of an abnormal child is often regarded with superstitious detestation—"



"Yes, of course!" Anna de Jong instantly agreed, and began to go into the villagers' hostility to both mother and son; both of them were now taking the telepathy hypothesis for granted.

Well, maybe so. He turned to Lillian.

"What did you find out?"

"Well, there is a common characteristic in all four sounds. A little patch on the screen at seventeen-twenty cycles. The odd thing is that when I try to repeat the sound, it isn't there."

Odd indeed. If a Svant said something, he made sound waves; if she imitated the sound, she ought to imitate the wave pattern. He said so, and she agreed.

"But come back here and look at this," she invited.

She had been using a visibilizing analyzer; in it, a sound was broken by a set of filters into frequency-groups, translated into light from dull red to violet paling into pure white. It photographed the light-pattern on high-speed film, automatically developed it, and then made a print-copy and projected the film in slow motion on a screen. When she pressed a button, a recorded voice said, "*Fwoonk*." An instant later, a pattern of vertical lines in various colors and lengths was projected on the screen.

"Those green lines," she said. "That's it. Now, watch this."

She pressed another button, got the photoprint out of a slot, and propped it beside the screen. Then she picked up a hand-phone and said, "*Fwoonk*," into it. It sounded like the first one, but the pattern that

danced onto the screen was quite different. Where the green had been, there was a patch of pale-blue lines. She ran the other three Svants' voices, each saying, presumably, "Me." Some were mainly up in blue, others had a good deal of yellow and orange, but they all had the little patch of green lines.

"Well, that seems to be the information," he said. "The rest is just noise."

"Maybe one of them is saying, 'John Doe, *me*, son of Joe Blow,' and another is saying, 'Tough guy, *me*; lick anybody in town.'"

"All in one syllable?" Then he shrugged. How did he know what these people could pack into one syllable? He picked up the hand-phone and said, "Fwoonk," into it. The pattern, a little deeper in color and with longer lines, was recognizably like hers, and unlike any of the Svants'.

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The others came in, singly and in pairs and threes. They watched the colors dance on the screen to picture the four Svant words which might or might not all mean *me*. They tried to duplicate them. Luis Gofredo and Willi Schallenmacher came closest of anybody. Bennet Fayon was still insisting that the Svants had a perfectly comprehensible language—to other Svants. Anna de Jong had started to veer a little away from the Dorver Hypothesis. There was a difference between event-level sound, which was a series of waves of alternately crowded and rarefied molecules of air, and object-level sound, which was an auditory sensation inside the nervous system, she admitted. That, Fayon crowed, was what he'd been saying all along; their auditory system was probably such that *fwoonk* and *pwink* and *tweelt* and *kroosh* all sounded alike to them.

By this time, *fwoonk* and *pwink* and *tweelt* and *kroosh* had become swear words among the joint Space Navy-Colonial Office contact team.

"Well, if I hear the two sounds alike, why doesn't the analyzer hear them alike?" Karl Dorver demanded.

"It has better ears than you do, Karl. Look how many different frequencies there are in that word, all crowding up behind each other," Lillian said. "But it isn't sensitive or selective enough. I'm going to see what Ayesha Keithley can do about building me a better one."

Ayesha was signals and detection officer on the *Hubert Penrose*. Dave Questell mentioned that she'd had a hard day, and was probably making sack-time, and she wouldn't welcome being called at 0130. Nobody seemed to have realized that it had gotten that late.

"Well, I'll call the ship and have a recording made for her for when she gets up. But till we get something that'll sort this mess out and make sense of it, I'm stopped."

"You're stopped, period, Lillian," Dorver told her. "What these people gibber at us doesn't even make as much sense as the Shooting of Dan McJabberwock. The real information is conveyed by telepathy."

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Lieutenant j.g. Ayesha Keithley was on the screen the next morning while they were eating breakfast. She was a blonde, like Lillian.

"I got your message; you seem to have problems, don't you?"

"Speaking conservatively, yes. You see what we're up against?"

"You don't know what their vocal organs are like, do you?" the girl in naval uniform in the screen asked.

Lillian shook her head. "Bennet Fayon's hoping for a war, or an epidemic, or something to break out, so

that he can get a few cadavers to dissect."

"Well, he'll find that they're pretty complex," Ayesha Keithley said. "I identified stick-and-slip sounds and percussion sounds, and plucked-string sounds, along with the ordinary hiss-and-buzz speech-sounds. Making a vocoder to reproduce that speech is going to be fun. Just what are you using, in the way of equipment?"

Lillian was still talking about that when the two landing craft from the ship were sighted, coming down. Charley Loughran and Willi Schallenmacher, who were returning to the *Hubert Penrose* to join the other landing party, began assembling their luggage. The others went outside, Howell among them.

Mom and Sonny were watching the two craft grow larger and closer above, keeping close to a group of spacemen; Sonny was looking around excitedly, while Mom clung to his arm, like a hen with an oversized chick. The reasoning was clear—these people knew all about big things that came down out of the sky and weren't afraid of them; stick close to them, and it would be perfectly safe. Sonny saw the contact team emerging from their hut and grabbed his mother's arm, pointing. They both beamed happily; that expression didn't look sad, at all, now that you knew what it meant. Sonny began ghroogh-ghrooging hideously; Mom hushed him with a hand over his mouth, and they both made eating gestures, rubbed their abdomens comfortably, and pointed toward the mess hut. Bennet Fayon was frightened. He turned and started on the double toward the cook, who was standing in the doorway of the hut, calling out to him.

The cook spoke inaudibly. Fayon stopped short. "Unholy Saint Beelzebub, no!" he cried. The cook said something in reply, shrugging. Fayon came back, talking to himself.

"Terran carniculture pork," he said, when he returned. "Zarathustra pool-ball fruit. Potato-flour hotcakes, with Baldur honey and Odin flameberry jam. And two big cups of coffee apiece. It's a miracle they aren't dead now. If they're alive for lunch, we won't need to worry about feeding them anything we eat, but I'm glad somebody else has the moral responsibility for this."

Lillian Ransby came out of the headquarters hut. "Ayesha's coming down this afternoon, with a lot of equipment," she said. "We're not exactly going to count air molecules in the sound waves, but we'll do everything short of that. We'll need more lab space, soundproofed."

"Tell Dave Questell what you want," Meillard said. "Do you really think you can get anything?"

She shrugged. "If there's anything there to get. How long it'll take is another question."

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The two sixty-foot collapsium-armored turtles settled to the ground and went off contragravity. The ports opened, and things began being floated off on lifter-skids: framework for the water tower, and curved titanium sheets for the tank. Anna de Jong said something about hot showers, and not having to take any more sponge-baths. Howell was watching the stuff come off the other landing craft. A dozen pairs of four-foot wagon wheels, with axles. Hoes, in bundles. Scythe blades. A hand forge, with a crank-driven fan blower, and a hundred and fifty pound anvil, and sledges and cutters and swages and tongs.

Everybody was busy, and Mom and Sonny were fidgeting, gesturing toward the work with their own empty hands. *Hey, boss; whatta we gonna do?* He patted them on the shoulders.

"Take it easy." He hoped his tone would convey nonurgency. "We'll find something for you to do."

He wasn't particularly happy about most of what was coming off. Giving these Svants tools was fine, but it was more important to give them technologies. The people on the ship hadn't thought of that. These wheels, now; machined steel hubs, steel rims, tubular steel spokes, drop-forged and machined

axles. The Svants wouldn't be able to copy them in a thousand years. Well, in a hundred, if somebody showed them where and how to mine iron and how to smelt and work it. And how to build a steam engine.

He went over and pulled a hoe out of one of the bundles. Blades stamped out with a power press, welded to tubular steel handles. Well, wood for hoe handles was hard to come by on a spaceship, even a battle cruiser almost half a mile in diameter; he had to admit that. And they were about two thousand per cent more efficient than the bronze scrapers the Svants used. That wasn't the idea, though. Even supposing that the first wave of colonists came out in a year and a half, it would be close to twenty years before Terran-operated factories would be in mass production for the native trade. The idea was to teach these people to make better things for themselves; give them a leg up, so that the next generation would be ready for contragravity and nuclear and electric power.

Mom didn't know what to make of any of it. Sonny did, though; he was excited, grabbing Howell's arm, pointing, saying, "*Ghroogh! Ghroogh!*" He pointed at the wheels, and then made a stooping, lifting and pushing gesture. *Like wheelbarrow?*

"That's right." He nodded, wondering if Sonny recognized that as an affirmative sign. "Like big wheelbarrow."

One thing puzzled Sonny, though. Wheelbarrow wheels were small—his hands indicated the size—and single. These were big, and double.

"Let me show you this, Sonny."

He squatted, took a pad and pencil from his pocket, and drew two pairs of wheels, and then put a wagon on them, and drew a quadruped hitched to it, and a Svant with a stick walking beside it. Sonny looked at the picture—Svants seemed to have pictorial sense, for which make us thankful!—and then caught his mother's sleeve and showed it to her. Mom didn't get it. Sonny took the pencil and drew another animal, with a pole travois. He made gestures. A travois dragged; it went slow. A wagon had wheels that went around; it went fast.

So Lillian and Anna thought he was the village half-wit. Village genius, more likely; the other peasants didn't understand him, and resented his superiority. They went over for a closer look at the wheels, and pushed them. Sonny was almost beside himself. Mom was puzzled, but she thought they were pretty wonderful.

Then they looked at blacksmith tools. Tongs; Sonny had never seen anything like them. Howell wondered what the Svants used to handle hot metal; probably big tweezers made by tying two green sticks together. There was an old Arabian legend that Allah had made the first tongs and given them to the first smith, because nobody could make tongs without having a pair already.

Sonny didn't understand the fan-blower until it was taken apart. Then he made a great discovery. The wheels, and the fan, and the pivoted tongs, all embodied the same principle, one his people had evidently never discovered. A whole new world seemed to open before him; from then on, he was constantly finding things pierced and rotating on pivots.

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By this time, Mom was fidgeting again. She ought to be doing something to justify her presence in the camp. He was wondering what sort of work he could invent for her when Karl Dorver called to him from the door of the headquarters hut.

"Mark, can you spare Mom for a while?" he asked. "We want her to look at pictures and show us which of the animals are meat-cattle, and which of the crops are ripe."

"Think you can get anything out of her?"

"Sign-talk, yes. We may get a few words from her, too."

At first, Mom was unwilling to leave Sonny. She finally decided that it would be safe, and trotted over to Dorver, entering the hut.

Dave Questell's construction crew began at once on the water tank, using a power shovel to dig the foundation. They had to haul water in a tank from the river a quarter-mile away to mix the concrete. Sonny watched that interestedly. So did a number of the villagers, who gathered safely out of bowshot. They noticed Sonny among the Terrans and pointed at him. Sonny noticed that. He unobtrusively picked up a double-bitted ax and kept it to hand.

He and Mom had lunch with the contact team. As they showed no ill effects from breakfast, Fayon decided that it was safe to let them have anything the Terrans ate or drank. They liked wine; they knew what it was, all right, but this seemed to have a delightfully different flavor. They each tried a cigarette, choked over the first few puffs, and decided that they didn't like smoking.

"Mom gave us a lot of information, as far as she could, on the crops and animals. The big things, the size of rhinoceroses, are draft animals and nothing else; they're not eaten," Dorver said. "I don't know whether the meat isn't good, or is taboo, or they are too valuable to eat. They eat all the other three species, and milk two of them. I have an idea they grind their grain in big stone mortars as needed."

That was right; he'd seen things like that.

"Willi, when you're over in the mountains, see if you can find something we can make millstones out of. We can shape them with sono-cutters; after they get the idea, they can do it themselves by hand. One of those big animals could be used to turn the mill. Did you get any words from her?"

Paul Meillard shook his head gloomily. "Nothing we can be sure of. It was the same thing as in the village, yesterday. She'd say something, I'd repeat it, and she'd tell us it was wrong and say the same thing over again. Lillian took recordings; she got the same results as last night. Ask her about it later."

"She has the same effect on Mom as on the others?"

"Yes. Mom was very polite and tried not to show it, but—"

Lillian took him aside, out of earshot of the two Svants, after lunch. She was almost distracted.

"Mark, I don't know what I'm going to do. She's like the others. Every time I open my mouth in front of her, she's simply horrified. It's as though my voice does something loathsome to her. And I'm the one who's supposed to learn to talk to them."

"Well, those who can do, and those who can't teach," he told her. "You can study recordings, and tell us what the words are and teach us how to recognize and pronounce them. You're the only linguist we have."

That seemed to comfort her a little. He hoped it would work out that way. If they could communicate with these people and did leave a party here to prepare for the first colonization, he'd stay on, to teach the natives Terran technologies and study theirs. He'd been expecting that Lillian would stay, too. She was the linguist; she'd have to stay. But now, if it turned out that she would be no help but a liability, she'd go back with the *Hubert Penrose*. Paul wouldn't keep a linguist who offended the natives' every sensibility with every word she spoke. He didn't want that to happen. Lillian and he had come to mean a little too much to each other to be parted now.

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Paul Meillard and Karl Dorver had considerable difficulty with Mom, that afternoon. They wanted her



to go with them and help trade for cattle. Mom didn't want to; she was afraid. They had to do a lot of play-acting, with half a dozen Marines pretending to guard her with fixed bayonets from some of Dave Questell's Navy construction men who had red bandannas on their heads to simulate combs before she got the idea. Then she was afraid to get into the contragravity lorry that was to carry the hoes and the wagon wheels. Sonny managed to reassure her, and insisted on going along, and he insisted on taking his ax with him. That meant doubling the guard, to make sure Sonny didn't lose his self-control when he saw his former persecutors within chopping distance.

It went off much better than either Paul Meillard or Luis Gofredo expected. After the first shock of being air-borne had worn off, Mom found that she liked contragravity-riding; Sonny was wildly delighted with it from the start. The natives showed neither of them any hostility. Mom's lavender bathrobe and Sonny's green coveralls and big ax seemed to be symbols of a new and exalted status; even the Lord Mayor was extremely polite to them.

The Lord Mayor and half a dozen others got a contragravity ride, too, to the meadows to pick out cattle. A dozen animals, including a pair of the two-ton draft beasts, were driven to the Terran camp. A couple of lorry-loads of assorted vegetables were brought in, too. Everybody seemed very happy about the deal, especially Bennet Fayon. He wanted to slaughter one of the sheep-sized meat-and-milk animals at once and get to work on it. Gofredo advised him to put it off till the next morning. He wanted a large native audience to see the animal being shot with a rifle.

The water tower was finished, and the big spherical tank hoisted on top of it and made fast. A pump, and a filter-system were installed. There was no water for hot showers that evening, though. They would have to run a pipeline to the river, and that would entail a ditch that would cut through several cultivated fields, which, in turn, would provoke an uproar. Paul Meillard didn't want that happening until he'd concluded the cattle-trade.

Charley Loughran and Willi Schallenmacher had gone up to the ship on one of the landing craft; they accompanied the landing party that went down into the mountains. Ayesha Keithley arrived late in the afternoon on another landing craft, with five or six tons of instruments and parts and equipment, and a male Navy warrant-officer helper.

They looked around the lab Lillian had been using at one end of the headquarters hut.

"This won't do," the girl Navy officer said. "We can't get a quarter of the apparatus we're going to need in here. We'll have to build something."

Dave Questell was drawn into the discussion. Yes, he could put up something big enough for everything the girls would need to install, and soundproof it. Concrete, he decided; they'd have to wait till he got the water line down and the pump going, though.

There was a crowd of natives in the fields, gaping at the Terran camp, the next morning, and Gofredo decided to kill the animal—until they learned the native name, they were calling it Domesticated Type C. It was herded out where everyone could watch, and a Marine stepped forward unslung his rifle took a kneeling position, and aimed at it. It was a hundred and fifty yards away. Mom had come out to see what was going on; Sonny and Howell, who had been consulting by signs over the construction of a wagon, were standing side by side. The Marine squeezed his trigger. The rifle banged, and the Domesticated-C bounded into the air, dropped, and kicked a few times and was still. The natives, however, missed that part of it; they were howling piteously and rubbing their heads. All but Sonny. He was just mildly surprised at what had happened to the Dom.-C.

Sonny, it would appear, was stone deaf.

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As anticipated, there was another uproar later in the morning when the ditching machine started north across the meadow. A mob of Svants, seeing its relentless progress toward a field of something like turnips, gathered in front of it, twittering and brandishing implements of agriculture, many of them Terran-made.

Paul Meillard was ready for this. Two lorries went out; one loaded with Marines, who jumped off with their rifles ready. By this time, all the Svants knew what rifles would do beside make a noise. Meillard, Dorver, Gofredo and a few others got out of the other vehicle, and unloaded presents. Gofredo did all the talking. The Svants couldn't understand him, but they liked it. They also liked the presents, which included a dozen empty half-gallon rum demijohns, tarpaulins, and a lot of assorted knickknacks. The pipeline went through.

He and Sonny got the forge set up. There was no fuel for it. A party of Marines had gone out to the woods to the east to cut wood; when they got back, they'd burn some charcoal in the pit that had been dug beside the camp. Until then, he and Sonny were drawing plans for a wooden wheel with a metal tire when Lillian came out of the headquarters hut with a clipboard under her arm. She motioned to him.

"Come on over," he told her. "You can talk in front of Sonny; he won't mind. He can't hear."

"Can't hear?" she echoed. "You mean—?"

"That's right. Sonny's stone deaf. He didn't even hear that rifle going off. The only one of this gang that has brains enough to pour sand out of a boot with directions on the bottom of the heel, and he's a total linguistic loss."

"So he isn't a half-wit, after all."

"He's got an IQ close to genius level. Look at this; he never saw a wheel before yesterday; now he's designing one."

Lillian's eyes widened. "So that's why Mom's so sharp about sign-talk. She's been doing it all his life." Then she remembered what she had come out to show him, and held out the clipboard. "You know how that analyzer of mine works? Well, here's what Ayesha's going to do. After breaking a sound into frequency bands instead of being photographed and projected, each band goes to an analyzer of its own, and is projected on its own screen. There'll be forty of them, each for a band of a hundred cycles, from zero to four thousand. That seems to be the Svant vocal range."

The diagram passed from hand to hand during cocktail time, before dinner. Bennet Fayon had been working all day dissecting the animal they were all calling a *domsee*, a name which would stick even if and when they learned the native name. He glanced disinterestedly at the drawing, then looked again, more closely. Then he set down the drink he was holding in his other hand and studied it intently.

"You know what you have here?" he asked. "This is a very close analogy to the hearing organs of that animal I was working on. The comb, as we've assumed, is the external organ. It's covered with small flaps and fissures. Back of each fissure is a long, narrow membrane; they're paired, one on each side of the comb, and from them nerves lead to clusters of small round membranes. Nerves lead from them to a complex nerve-cable at the bottom of the comb and into the brain at the base of the skull. I couldn't understand how the system functioned, but now I see it. Each of the larger membranes on the outside responds to a sound-frequency band, and the small ones on the inside break the bands down to individual frequencies."

"How many of the little ones are there?" Ayesha asked.

"Thousands of them; the inner comb is simply packed with them. Wait; I'll show you."

He rose and went away, returning with a sheaf of photo-enlargements and a number of blocks of lucite in which specimens were mounted. Everybody examined them. Anna de Jong, as a practicing psychologist, had an M.D. and to get that she'd had to know a modicum of anatomy; she was puzzled.

"I can't understand how they hear with those things. I'll grant that the membranes will respond to sound, but I can't see how they transmit it."

"But they do hear," Meillard said. "Their musical instruments, their reactions to our voices, the way they are affected by sounds like gunfire—"

"They hear, but they don't hear in the same way we do," Fayon replied. "If you can't be convinced by anything else, look at these things, and compare them with the structure of the human ear, or the ear of any member of any other sapient race we're ever contacted. That's what I've been saying from the beginning."

"They have sound-perception to an extent that makes ours look almost like deafness," Ayesha Keithley said. "I wish I could design a sound-detector one-tenth as good as this must be."

Yes. The way the Lord Mayor said *fwoonk* and the way Paul Meillard said it sounded entirely different to them. Of course, *fwoonk* and *pwink* and *tweelt* and *kroosh* sounded alike to them, but let's don't be too picky about things.

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There were no hot showers that evening; Dave Questell's gang had trouble with the pump and needed some new parts made up aboard the ship. They were still working on it the next morning. He had meant to start teaching Sonny blacksmithing, but during the evening Lillian and Anna had decided to try teaching Mom a nonphonetic, ideographic, alphabet, and in the morning they co-opted Sonny to help. Deprived of his disciple, he strolled over to watch the work on the pump. About twenty Svants had come in from the fields and were also watching, from the meadow.

After a while, the job was finished. The petty officer in charge of the work pushed in the switch, and the pump started, sucking dry with a harsh racket. The natives twittered in surprise. Then the water came, and the pump settled down to a steady *thugg-thugg, thugg-thugg*.

The Svants seemed to like the new sound; they grimaced in pleasure and moved closer; within forty or fifty feet, they all squatted on the ground and sat entranced. Others came in from the fields, drawn by the sound. They, too, came up and squatted, until there was a semicircle of them. The tank took a long time to fill; until it did, they all sat immobile and fascinated. Even after it stopped, many remained, hoping that it would start again. Paul Meillard began wondering, a trifle uneasily, if that would happen every time the pump went on.

"They get a positive pleasure from it. It affects them the same way Luis' voice does."

"Mean I have a voice like a pump?" Gofredo demanded.

"Well, I'm going to find out," Ayesha Keithley said. "The next time that starts, I'm going to make a recording, and compare it with your voice-recording. I'll give five to one there'll be a similarity."

Questell got the foundation for the sonics lab dug, and began pouring concrete. That took water, and the pump ran continuously that afternoon. Concrete-mixing took more water the next day, and by noon the whole village population, down to the smallest child, was massed at the pumphouse, enthralled. Mom was snared by the sound like any of the rest; only Sonny was unaffected. Lillian and Ayesha compared recordings of the voices of the team with the pump-sound; in Gofredo's they found an identical frequency-pattern.

"We'll need the new apparatus to be positive about it, but it's there, all right," Ayesha said. "That's why Luis' voice pleases them."

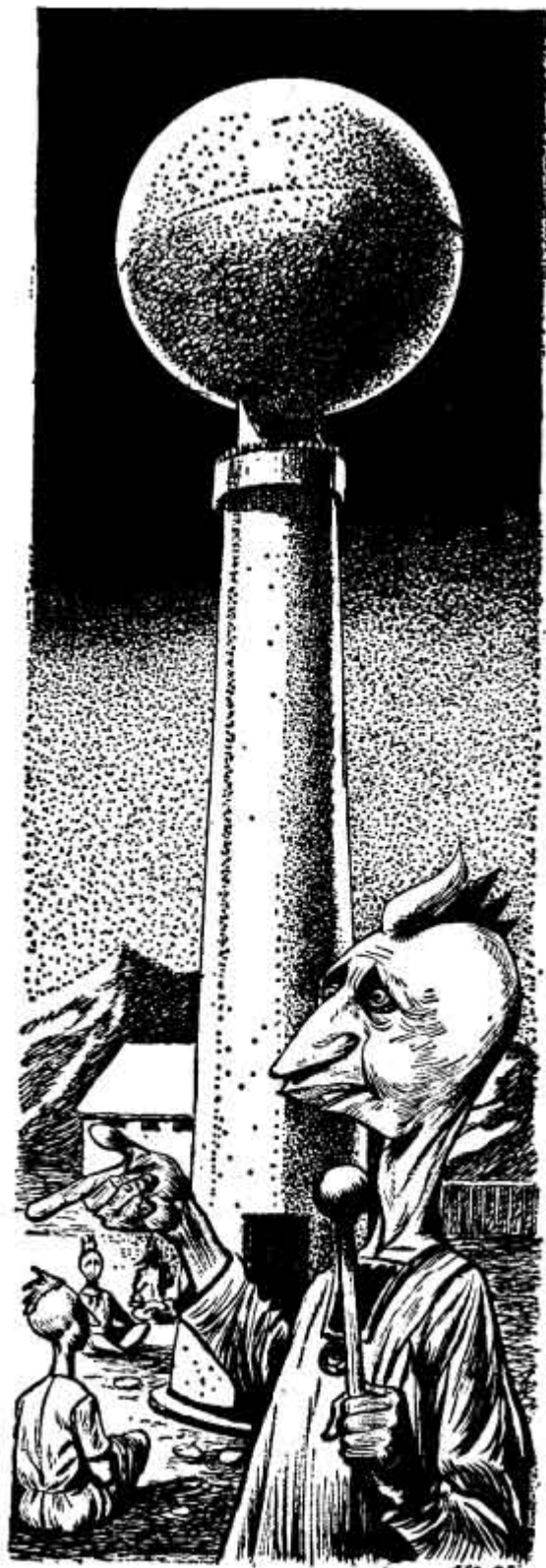
"That tags me; Old Pump-Mouth," Gofredo said. "It'll get all through the Corps, and they'll be calling me that when I'm a four-star general, if I live that long."

Meillard was really worried, now. So was Bennet Fayon. He said so that afternoon at cocktail time.

"It's an addiction," he declared. "Once they hear it, they have no will to resist; they just squat and listen. I don't know what it's doing to them, but I'm scared of it."

"I know one thing it's doing," Meillard said. "It's keeping them from their work in the fields. For all we know, it may cause them to lose a crop they need badly for subsistence."

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*It's killing us it's so nice....*

The native they had come to call the Lord Mayor evidently thought so, too. He was with the others, the next morning, squatting with his staff across his knees, as bemused as any of them, but when the pump stopped he rose and approached a group of Terrans, launching into what could only be an impassioned

tirade. He pointed with his staff to the pump house, and to the semicircle of still motionless villagers. He pointed to the fields, and back to the people, and to the pump house again, gesturing vehemently with his other hand.

*You make the noise. My people will not work while they hear it. The fields lie untended. Stop the noise, and let my people work.*

Couldn't possibly be any plainer.

Then the pump started again. The Lord Mayor's hands tightened on the staff; he was struggling tormentedly with himself, in vain. His face relaxed into the heartbroken expression of joy; he turned and shuffled over, dropping onto his haunches with the others.

"Shut down the pump, Dave!" Meillard called out. "Cut the power off."

The *thugg-thugg*-ing stopped. The Lord Mayor rose, made an odd salaamlike bow toward the Terrans, and then turned on the people, striking with his staff and shrieking at them. A few got to their feet and joined him, screaming, pushing, tugging. Others joined. In a little while, they were all on their feet, straggling away across the fields.

Dave Questell wanted to know what it meant; Meillard explained.

"Well, what are we going to do for water?" the Navy engineer asked.

"Soundproof the pump house. You can do that, can't you?"

"Sure. Mound it over with earth. We'll have that done in a few hours."

That started Gofredo worrying. "This happens every time we colonize an inhabited planet. We give the natives something new. Then we find out it's bad for them, and we try to take it away from them. And then the knives come out, and the shooting starts."

Luis Gofredo was also a specialist, speaking on his subject.

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While they were at lunch, Charley Loughran screened in from the other camp and wanted to talk to Bennet Fayon.

"A funny thing, Bennet. I took a shot at a bird ... no, a flying mammal ... and dropped it. It was dead when it hit the ground, but there isn't a mark on it. I want you to do an autopsy, and find out how I can kill things by missing them."

"How far away was it?"

"Call it forty feet; no more."

"What were you using, Charley?" Ayesha Keithley called from the table.

"Eight-point-five Mars-Consolidated pistol," Loughran said. "I'd laid my shotgun down and walked away from it—"

"Twelve hundred foot-seconds," Ayesha said. "Bow-wave as well as muzzle-blast."

"You think the report was what did it?" Fayon asked.

"You want to bet it didn't?" she countered.

Nobody did.

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Mom was sulky. She didn't like what Dave Questell's men were doing to the nice-noise-place. Ayesha and Lillian consoled her by taking her into the soundproofed room and playing the recording of the pump-noise for her. Sonny couldn't care less, one way or another; he spent the afternoon teaching Mark Howell what the marks on paper meant. It took a lot of signs and play-acting. He had learned about thirty ideographs; by combining them and drawing little pictures, he could express a number of simple ideas. There was, of course, a limit to how many of those things anybody could learn and remember—look how long it took an Old Terran Chinese scribe to learn his profession—but it was the beginning of a method of communication.

Questell got the pump house mounded over. Ayesha came out and tried a sound-meter, and also Mom, on it while the pump was running. Neither reacted.

A good many Svants were watching the work. They began to demonstrate angrily. A couple tried to interfere and were knocked down with rifle butts. The Lord Mayor and his Board of Aldermen came out with the big horn and harangued them at length, and finally got them to go back to the fields. As nearly as anybody could tell, he was friendly to and co-operative with the Terrans. The snooper over the village reported excitement in the plaza.

Bennet Fayon had taken an airjeep to the other camp immediately after lunch. He was back by 1500, accompanied by Loughran. They carried a cloth-wrapped package into Fayon's dissecting-room. At cocktail time, Paul Meillard had to go and get them.

"Sorry," Fayon said, joining the group. "Didn't notice how late it was getting. We're still doing a post on this svant-bat; that's what Charley's calling it, till we get the native name.

"The immediate cause of death was spasmodic contraction of every muscle in the thing's body; some of them were partly relaxed before we could get to work on it, but not completely. Every bone that isn't broken is dislocated; a good many both. There is not the slightest trace of external injury. Everything was done by its own muscles." He looked around. "I hope nobody covered Ayesha's bet, after I left. If they did, she collects. The large outer membranes in the comb seem to be unaffected, but there is considerable compression of the small round ones inside, in just one area, and more on the left side than on the right. Charley says it was flying across in front of him from left to right."

"The receptor-area responding to the frequencies of the report," Ayesha said.

Anna de Jong made a passing gesture toward Fayon. "The baby's yours, Bennet," she said. "This isn't psychological. I won't accept a case of psychosomatic compound fracture."

"Don't be too premature about it, Anna. I think that's more or less what you have, here."

Everybody looked at him, surprised. His subject was comparative technology. The bio- and psychosciences were completely outside his field.

"A lot of things have been bothering me, ever since the first contact. I'm beginning to think I'm on the edge of understanding them, now. Bennet, the higher life-forms here—the people, and that domsee, and Charley's svant-bat—are structurally identical with us. I don't mean gross structure, like ears and combs. I mean molecular and cellular and tissue structure. Is that right?"

Fayon nodded. "Biology on this planet is exactly Terra type. Yes. With adequate safeguards, I'd even say you could make a viable tissue-graft from a Svant to a Terran, or vice versa."

"Ayesha, would the sound waves from that pistol-shot in any conceivable way have the sort of physical effect we're considering?"

"Absolutely not," she said, and Luis Gofredo said: "I've been shot at and missed with pistols at closer range than that."

"Then it was the effect on the animal's nervous system."

Anna shrugged. "It's still Bennet's baby. I'm a psychologist, not a neurologist."

"What I've been saying, all along," Fayon reiterated complacently. "Their hearing is different from ours. This proves it.

"It proves that they don't hear at all."

He had expected an explosion; he wasn't disappointed. They all contradicted him, many derisively. Signal reactions. Only Paul Meillard made the semantically appropriate response:

"What do you mean, Mark?"

"They don't *hear* sound; they *feel* it. You all saw what they have inside their combs. Those things don't transmit sound like the ears of any sound-sensitive life-form we've ever seen. They transform sound waves into tactile sensations."

Fayon cursed, slowly and luridly. Anna de Jong looked at him wide-eyed. He finished his cocktail and poured another. In the snoopers screen, what looked like an indignation meeting was making uproar in the village plaza. Gofredo cut the volume of the speaker even lower.

"That would explain a lot of things," Meillard said slowly. "How hard it was for them to realize that we didn't understand when they talked to us. A punch in the nose feels the same to anybody. They thought they were giving us bodily feelings. They didn't know we were insensible to them."

"But they do ... they do have a language," Lillian faltered. "They talk."

"Not the way we understand it. If they want to say, 'Me,' it's *tickle-pinch-rub*, even if it sounds like *fwoonk* to us, when it doesn't sound like *pwink* or *tweelt* or *kroosh*. The tactile sensations, to a Svant, feel no more different than a massage by four different hands. Analogous to a word pronounced by four different voices, to us. They'll have a code for expressing meanings in tactile sensation, just as we have a code for expressing meanings in audible sound."

"Except that when a Svant tells another, 'I am happy,' or 'I have a stomach-ache,' he makes the other one feel that way too," Anna said. "That would carry an awful lot more conviction. I don't imagine symptom-swapping is popular among Svants. Karl! You were nearly right, at that. This isn't telepathy, but it's a lot like it."

"So it is," Dorver, who had been mourning his departed telepathy theory, said brightly. "And look how it explains their society. Peaceful, everybody in quick agreement—" He looked at the screen and gulped. The Lord Mayor and his party had formed one clump, and the opposition was grouped at the other side of the plaza; they were screaming in unison at each other. "They make their decisions by endurance; the party that can resist the feelings of the other longest converts their opponents."

"Pure democracy," Gofredo declared. "Rule by the party that can make the most noise."

"And I'll bet that when they're sick, they go around chanting, 'I am well; I feel just fine!'" Anna said. "Autosuggestion would really work, here. Think of the feedback, too. One Svant has a feeling. He verbalizes it, and the sound of his own voice re-enforces it in him. It is induced in his hearers, and they verbalize it, re-enforcing it in themselves and in him. This could go on and on."

"Yes. It has. Look at their technology." He felt more comfortable, now he was on home ground again. "A friend of mine, speaking about a mutual acquaintance, once said, 'When they installed her circuits, they put in such big feeling circuits that there was no room left for any thinking circuits.' I think that's a perfect description of what I estimate Svant mentality to be. Take these bronze knives, and the musical instruments. Wonderful; the work of individuals trying to express feeling in metal or wood. But get an



idea like the wheel, or even a pair of tongs? Poo! How would you state the First Law of Motion, or the Second Law of Thermodynamics, in tickle-pinch-rub terms? Sonny could grasp an idea like that. Sonny's handicap, if you call it that, cuts him off from feel-thinking; he can think logically instead of sensually."

He sipped his cocktail and continued: "I can understand why the village is mounded up, too. I realized that while I was watching Dave's gang bury the pump house. I'd been bothered by that, and by the absence of granaries for all the grain they raise, and by the number of people for so few and such small houses. I think the village is mostly underground, and the houses are just entrances, soundproofed, to shelter them from uncomfortable natural noises—thunderstorms, for instance."

The horn was braying in the snooper-screen speaker; somebody wondered what it was for. Gofredo laughed.

"I thought, at first, that it was a war-horn. It isn't. It's a peace-horn," he said. "Public tranquilizer. The first day, they brought it out and blew it at us to make us peaceable."

"Now I see why Sonny is rejected and persecuted," Anna was saying. "He must make all sorts of horrible noises that he can't hear ... that's not the word; we have none for it ... and nobody but his mother can stand being near him."

"Like me," Lillian said. "Now I understand. Just think of the most revolting thing that could be done to you physically; that's what I do to them every time I speak. And I always thought I had a nice voice," she added, pathetically.

"You have, for Terrans," Ayesha said. "For Svants, you'll just have to change it."

"But how—?"

"Use an analyzer; train it. That was why I took up sonics, in the first place. I had a voice like a crow with a sore throat, but by practicing with an analyzer, an hour a day, I gave myself an entirely different voice in a couple of months. Just try to get some pump-sound frequencies into it, like Luis'."

"But why? I'm no use here. I'm a linguist, and these people haven't any language that I could ever learn, and they couldn't even learn ours. They couldn't learn to make sounds, as sounds."

"You've been doing very good work with Mom on those ideographs," Meillard said. "Keep it up till you've taught her the Lingua Terra Basic vocabulary, and with her help we can train a few more. They can be our interpreters; we can write what we want them to say to the others. It'll be clumsy, but it will work, and it's about the only thing I can think of that will."

"And it will improve in time," Ayesha added. "And we can make vocoders and visibilizers. Paul, you have authority to requisition personnel from the ship's company. Draft me; I'll stay here and work on it."

The rumpus in the village plaza was getting worse. The Lord Mayor and his adherents were being outshouted by the opposition.

"Better do something about that in a hurry, Paul, if you don't want a lot of Svants shot," Gofredo said. "Give that another half hour and we'll have visitors, with bows and spears."

"Ayesha, you have a recording of the pump," Meillard said. "Load a record-player onto a jeep and fly over the village and play it for them. Do it right away. Anna, get Mom in here. We want to get her to tell that gang that from now on, at noon and for a couple of hours after sunset, when the work's done, there will be free public pump-concerts, over the village plaza."

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Ayesha and her warrant-officer helper and a Marine lieutenant went out hastily. Everybody else faced the screen to watch. In fifteen minutes, an airjeep was coming in on the village. As it circled low, a new sound, the steady *thugg-thugg, thugg-thugg* of the pump, began.

The yelling and twittering and the blaring of the peace-horn died out almost at once. As the jeep circled down to housetop level, the two contending faction-clumps broke apart; their component individuals moved into the center of the plaza and squatted, staring up, letting the delicious waves of sound caress them.

"Do we have to send a detail in a jeep to do that twice a day?" Gofredo asked. "We keep a snooper over the village; fit it with a loud-speaker and a timer; it can give them their *thugg-thugg*, on schedule, automatically."

"We might give the Lord Mayor a recording and a player and let him decide when the people ought to listen—if that's the word—to it," Dorver said. "Then it would be something of their own."

"No!" He spoke so vehemently that the others started. "You know what would happen? Nobody would be able to turn it off; they'd all be hypnotized, or doped, or whatever it is. They'd just sit in a circle around it till they starved to death, and when the power-unit gave out, the record-player would be surrounded by a ring of skeletons. We'll just have to keep on playing it for them ourselves. Terrans' Burden."

"That'll give us a sanction over them," Gofredo observed. "Extra *thugg-thugg* if they're very good; shut it off on them if they act nasty. And find out what Lillian has in her voice that the rest of us don't have, and make a good loud recording of that, and stash it away along with the rest of the heavy-weapons ammunition. You know, you're not going to have any trouble at all, when we go down-country to talk to the king or whatever. This is better than fire-water ever was."

"We must never misuse our advantage, Luis," Meillard said seriously. "We must use it only for their good."

He really meant it. Only—You had to know some general history to study technological history, and it seemed to him that that pious assertion had been made a few times before. Some of the others who had made it had really meant it, too, but that had made little difference in the long run.

Fayon and Anna were talking enthusiastically about the work ahead of them.

"I don't know where your subject ends and mine begins," Anna was saying. "We'll just have to handle it between us. What are we going to call it? We certainly can't call it hearing."

"Nonauditory sonic sense is the only thing I can think of," Fayon said. "And that's such a clumsy term."

"Mark; you thought of it first," Anna said. "What do you think?"

"Nonauditory sonic sense. It isn't any worse than Domesticated Type C, and that got cut down to size. *Naudsonce*."