

Arkady and Boris Strugatsky - Molecular Cafe - Crabs on the Island

CRABS ON THE ISLAND

Anatoly DNEPROV

From the SF compilation "THE MOLECULAR CAFE"

MIR PUBLISHERS

Moscow

1968

OCR:

<http://home.freeuk.com/russica2>

"Hey, you there! Be careful!" shouted Cookling at the sailors who, standing up to their waists in the water, were trying to drag a small wooden case along the gunwale of the boat. It was the last of ten crates the engineer had brought to the island.

"Phew! Isn't it hot! Like a furnace," he groaned, wiping his thick red neck with a bandana handkerchief. Then he pulled off his sweat-soaked shirt and threw it on the sand. "Take your things off, Bud; there's no civilization here."

Dejectedly I watched the light schooner rocking gently on the waves at a distance of a mile or so from the shore. It would come back for us in three weeks' time.

"Why the devil did we have to come to this sun-hell with your machines?" I demanded of Cookling as I undressed. "With a sun like this we'll be peeling like cucumbers tomorrow."

"Never mind. The sun will come in useful. Incidentally, it's exactly noon, and it's just above our heads."

"It's always like that at the equator," I muttered, not taking my eyes off the

"Dove". "All the geography books tell you that."

The sailors had come over to us and were standing in silence before the engineer. Unhurriedly he put his hand in his trouser pocket and took out a wad of notes.

"Is that enough?" he asked, giving them several. One of them nodded.

"In that case you can return to the ship. Remind Captain Gale we shall expect him in twenty days' time."

Then Cookling turned to me. "Let's get busy, Bud," he said. "I'm impatient to begin." I stared at him.

"To tell you the truth, I don't know why we've come here. I understand that it may not have been convenient at the Admiralty for you to tell me about it. But I think you can now."

Cookling grimaced and looked down at the sand.

"Of course I can. I would have told you all about it even then but there was no time."

I felt he was lying, but said nothing. Cookling stood rubbing his purple neck with his greasy palm. He always did that when he was going to tell a lie, I knew, and now that was quite sufficient for me.

"You see, Bud, we're going to perform an interesting experiment to test the theories of that. . . what's his name. . .?" He hesitated and looked searchingly at me.

"That English scientist. Damn it, I've clean forgotten his name. No, I've got it—Charles Darwin."

I went over to him and put my hand on his bare shoulder.

"Look here, Cookling. You seem to think I'm a brainless idiot who doesn't know who Darwin was. Stop lying and tell me straight why we've landed on this blazing scrap of land in the middle of the ocean. And please don't mention Darwin to me again."

Cookling burst out laughing, displaying a mouthful of false teeth. Backing away a few paces, he said, "You're an ass, Bud, all the same. Because it is Darwin we're going to test here."

"And that's what you've dragged ten crates of old iron here for?" I demanded, moving close to him again. Hatred for this fat sweating man began to well up inside me.

"Yes," he said, and his smile vanished. "As for your duties, the first thing you have to do is to open crate No. 1 and get out the tent, water, tinned stuff and the tools to open the others."

Cookling spoke in the same tones he had used when I had first met him at the firing-ground. He had been in military uniform then, and so had I.

"Very good," I muttered and went over to case numbered one.

Within two hours we had pitched a tent on the beach, and put a spade, crowbar, hammer, chisel, several screw-drivers, and other tools into it. In addition we stowed away about a hundred tins of different foods and containers of fresh water.

In spite of being the boss, Cookling worked like a bull and was, indeed, all agog to get started. With all the work, we did not notice that the "Dove" had weighed anchor and disappeared behind the horizon.

After supper we started on crate No. 2. It contained an ordinary two-wheeled barrow of the kind used at railway stations to carry luggage.

I was turning to the third crate when Cookling stopped me.

"Let's look at the map first. We've got to distribute the things at different places."

I looked at him in amazement.

"It's for the experiment," he explained.

The island was round, like a plate turned upside down, with a small bay in the north-where we had landed. It was ringed by a sandy beach about fifty yards wide. Behind the beach stretched a low plateau overgrown with stunted shrubs of some kind, parched by the heat.

The diameter of the island did not exceed two miles.

A number of places on the map had been marked in red pencil-some along the shore, others inland.

"We've got to take the things we're going to unpack now to all these places," said Cookling. "What are they-measuring instruments of some sort?"

"No," said the engineer and chuckled. He had the obnoxious habit of laughing when it happened that someone didn't know what he did.

The third case was incredibly heavy. It seemed to me it must contain some massive machine. But when I knocked the first boards off, I nearly gasped with astonishment. Metal bars and slabs of metal of every size and shape fell out. The case was crammed with metal billets.

"You might think we were going to play bricks!" I exclaimed, unpacking heavy rectangular, cubic, round, and spherical ingots.

"Hardly," replied Cookling, and went on to the next crate.

Case No. 4, and all the rest up to and including the ninth, were filled with similar ingots.

There were three kinds-grey, red, and silvery, and I could easily tell that they were iron, copper, and zinc.

When I was about to open the last box, Cookling said "We'll open this one when we've distributed these ingots."

We spent three days pushing them in the barrow over the island. We dumped them out in small heaps, and left some on the sand. Others, on Cookling's instructions, I buried. Some of the heaps consisted of ingots of every kind, others of only one. When it was all done, we returned to the tent for the tenth crate.

"Open it," Cookling ordered, "but be careful."

This case was much lighter and smaller than the others. It was packed tight with sawdust which covered a package wrapped in felt and oiled paper. We opened the package, and uncovered a most strange-looking apparatus.

At first glance it looked like a large metal child's toy shaped like a crab. But it was no ordinary crab. In addition to six large articulated claws, it had in front two pairs of slender tentacles whose ends were tucked into the gaping protuberant "mouth" of the hideous beast. In a depression on its back gleamed a small parabolic mirror of polished metal with a dark-red crystal in its centre. Unlike an ordinary toy crab, this one had two pairs of eyes, in front and behind.

For a long time I stared in bewilderment at this object.

"Like it?" asked Cookling after a long silence.

I shrugged my shoulders.

"It looks more as though we've come to play with bricks and kid's toys."

"This is a dangerous toy," said Cookling smugly. "You'll see in a minute. Take it up and put it on the sand."

The crab was light, not weighing more than ten pounds.

"And now what?" I asked the engineer in irony. "Let's wait a bit until it warms up." We sat down and watched the little metal monster. After a couple of minutes I noticed that the mirror on its back was slowly turning towards the sun.

"Oh, it's coming to life, it seems!" I exclaimed, and stood up.

As I rose my shadow accidentally fell across the mechanism. The crab's feet suddenly began to move and it made for the sun again. I was so taken aback that I jumped to one side.

Cockling burst out laughing. "There's your toy! Gave you a fright, did it?" I wiped my damp forehead.

"For God's sake, Cockling, tell me-what are we going to do with it? Why have we come here?" He got up, came over me, and said in tones that were now serious. "To test Darwin's theory."

"But that's a biological theory, a theory of natural selection, evolution, and so on..," I muttered.

"Exactly. Now look, our hero's gone to get a drink."

I was astounded. The toy had crawled up to the water's edge and, lowering its proboscis, was quite evidently drinking. Having sucked up its fill, it crawled back into the sunshine and stopped motionless.

I stared at the little machine and was conscious of a strange feeling of revulsion, mingled with fear, toward it. For an instant the clumsy toy crab reminded me somehow of Cookling himself.

"Did you invent it?" I asked the engineer after a pause.

"Uhuh," he mumbled, and stretched himself out on the sand.

I lay down too and watched the strange machine in silence. It seemed now to be quite lifeless.

I crawled over to it on my belly and began to scrutinize it.

The crab's back could be described as a semi-cylinder with flat depression's in front and behind. In each of these there were two openings resembling eyes. This impression was strengthened by the fact that the gleam of crystals deep in the interior could be seen through them. Underneath there was a flat surface for a belly. From just above this platform three pairs of large jointed pincers and two pairs of small ones protruded. I was unable to see inside the crab.

As I looked at the toy, I tried to understand why the Admiralty should attach so much importance to it that it had equipped a special ship for the expedition to the island.

Cookling and I lay on the sand until the sun had sunk so low on the horizon that the shadow cast by the bushes growing some distance away fell on the metal crab. As soon as this happened, it moved slightly and crawled out again into the sunlight. But the shadow overtook it and then our crab started crawling along the shore, coming closer and closer to the water, which was still lit by the sun. The warmth of the sun's rays was quite indispensable to it, it seemed.

We got to our feet and slowly followed the machine.

In this way we gradually circled the island, until we finally came to its western

shore.

There, almost at the water's edge, lay one of the heaps of metal. When the crab got within some ten paces of the heap, it suddenly made a rush for it as if it had forgotten all about the sun and stopped dead by one of the copper bars.

Cookling touched my arm. "Let's get back to the tent now," he said. "We'll see something interesting tomorrow morning."

We ate our supper in silence in the tent and then wrapped ourselves in light flannel blankets. It seemed to me that Cookling was pleased that I hadn't asked him any questions. Before falling asleep, I heard him tossing from side to side and chuckling now and again, which meant he knew something nobody else did.

Early next morning I went for a bathe. The water was warm and I had a long swim, enjoying the sight, to the east, of the crimson rays of the sun just rising above the water whose mirror-like surface was scarcely ruffled by the long slow swell. When I returned and entered the tent, the engineer was no longer there.

"Gone to feast his eyes on his mechanical monster," I thought, and opened a tin of pineapple.

But I had no more than swallowed three slices when I heard his voice, from a distance at first, and then getting louder and louder. "Lieutenant, come here quick!" he was shouting. "It's begun! Hurry! Run quick!"

I went out of the tent and saw Cookling standing among the bushes on a hillock and waving to me.

"Come on," he said, puffing like a steam engine. "Be quick!"

"Where to?"

"Where we left our little beauty yesterday."

The sun was already high in the sky when, running all the way, we reached the heap of metal. The ingots were shining so brightly I could make out nothing at first.

It was only when we were a couple of steps away that I noticed two thin streams of bluish smoke rising above the heap, and then-I stopped as if paralysed. I rubbed my eyes, but the apparition did not vanish. By the heap of metal stood two crabs, exactly like the one we had unpacked yesterday.

"Could one of them have been buried in that heap of scrap?" I exclaimed.

Cookling doubled up several times, chuckling and rubbing his hands.

"Stop playing the fool!" I shouted. "Where did the second crab come from?"

"It was born! It was born last night."

I bit my lip and without saying a word went right up to the crabs, above whose backs the thin wisps of smoke were rising. At first I thought I was suffering from hallucinations: both crabs were hard at work!

Exactly, they were at work, their slender front tentacles moving rapidly up and down. The tentacles were in contact with the bars and, producing an electric arc on their surface, as in electric welding, they were cutting off bits of metal. The crabs quickly pushed the metal into their wide mouths. Inside these mechanical creatures could be heard a humming noise. At times a shower of hissing sparks was ejected from their mouths, and then the second pair of tentacles extracted finished components.

These components were put together in definite order on a little flat platform that gradually moved out from under the crab.

An almost complete copy of a third crab had been created on the platform of one of the crabs, while only the outlines of one had appeared on that of the other. I was astounded by the sight.

"But these awful things are creating others in their own image!" I exclaimed.

"Quite so. The whole purpose of this machine is to create machines in its own image," said Cockling.

"But is that possible?" I asked, in utter perplexity.

"Why not? Any machine tool, a lathe, for example, makes parts for lathes like itself. So I conceived the notion of making an automatic machine that would manufacture copies of itself from start to finish. My crab is the model of such a machine."

I thought over the engineer's words, trying to grasp their import. Just then the first crab's mouth opened and a wide ribbon of metal issued from it, covering the entire mechanism on the platform and thus forming the back of the third automaton. When the back was properly in place, the nimble front legs welded on metal ends with openings at front and back, and the new crab was ready. As with its brothers, one could see the gleam of a metal mirror with a red crystal in the depression on its back.

The crab manufacturer pulled the platform in under its belly and its "baby" got down on to the sand. I noted how the mirror on its back began slowly to turn toward the sun. After a while, the crab crawled to the water's edge and had a drink. Then it crawled into the sunshine and stood motionless, warming itself. I thought I was dreaming.

As I watched the new-born creature, I heard Cockling say: "And here's the fourth."

A turned my head and saw that a fourth crab had been born. The first two, quite unconcerned, continued to stand by the heap of metal, cutting off bits and shoving them inside them-repeating what they had done before.

The fourth crab also went for a drink of sea-water.

"Why the hell do they swill water?" I demanded.

"They're filling the battery. While the sun shines, its energy is transformed into electricity by means of the mirror on their back and a silicon battery. It's enough for all their day-time work and to charge the accumulator. At night the robot is fed by the power stored in the accumulator."

"So these creatures work day and night?"

"Yes, day and night, without a break."

The third crab stirred and crawled over to the heap of metal. Now three robots were working, while the fourth was charging itself with solar energy.

"But there's no material for silicon batteries in these heaps of metal," I remarked, trying to grasp the technology of this monstrous self-production of machines.

"There's no need. There's plenty of it here."

Cockling clumsily kicked up the sand. "Sand is an oxide of silicon. It is reduced to pure silicon inside the crab by an electric arc."

We returned to the tent in the evening, by which time six robot-crabs were working by the heap of metal and two were warming themselves in the sun.

"What's it all for?" I asked Cockling during supper.

"For war. These crabs are a terrible means of sabotage," he said bluntly.

"I don't get it."

Cookling went on chewing his stewed beef and then, without haste, explained: "Imagine what would happen if these things were secretly introduced into enemy territory."

"Well?" I said, and stopped eating.

"You know what progression means?"

"Of course."

"Yesterday we began with one crab. Now there are eight. Tomorrow there will be sixty-four, the day after tomorrow-five hundred and twelve, and so on. In ten days' time there would be over ten million. And that would require thirty thousand tons of metal."

I was struck dumb when I heard these figures.

"Yes, but. . ."

"In a short time these crabs could devour all the enemy's metal-all his tanks, guns, and aircrafts. All his machine tools, plant, and equipment. All the metal on his territory. Within a month not a scrap of metal would remain on the face of the earth. It would all have gone to reproduce these crabs. And in wartime, don't forget, metal is the most important strategic material."

"So that's why the Admiralty was so interested in your toy!" I whispered.

"Exactly. But this is only the first model. I'm going to simplify it considerably in order to speed up the process of reproduction. Speed it up two or three times. Make the construction stronger and firmer. Make them more mobile. Increase the sensitivity of the indicators to metal deposits. Then my robots will be more dangerous in wartime than the plague. I want the enemy to be deprived of his metal potential within two or three days."

"Yes, but when they've eaten up all the metal on the enemy's territory, they'll move over to their own," I exclaimed.

"That's another question. We can code their work and knowing this code, stop them working the moment they appear on our territory. And incidentally, we can get hold of the enemy's whole metal supply this way."

All that night I had nightmares. Swarms of metal crabs were crawling over me, their feelers rustling, thin columns of blue smoke rising from their metal bodies.

Within four days the whole island was covered with Cookling's robots.

According to his calculations, there were over four thousand of them now. Shining in the sunlight, they could be seen everywhere. When the metal in one heap came to an end, they began to search all over the island and found others.

Just before sunset on the fifth day I witnessed terrible scene: two crabs fighting over a piece of zinc.

This was on the south side of the island where we had buried a number of zinc bars in the sand.

The crabs working in other parts of the island came here from time to time to make a certain zinc component. It so happened that about a score of crabs had all scuttled at the same time to the zinc cache, and a real scramble resulted. The machines got into each other's way. One crab particularly distinguished itself: it was nimbler than the others and, it seemed to me, stronger and more aggressive.

It pushed its brothers aside and climbed over their backs in its endeavour to get a

bit of metal from the bottom of the hole. But just as it was achieving its purpose, another crab seized the same piece with its pincers. The two machines tugged at the bar in opposite directions. Finally, the crab that seemed to me the more agile, tore the bar away from its rival. But the latter, unwilling to give up its prey, came up from behind, got on the robot's back, and thrust its pincers into the other's mouth. The pincers of both twisted together and they began to tear at each other with terrible force.

None of the other machines took the slightest notice of all this; but for these two it was a life and death struggle. I saw the crab that had mounted the other suddenly fell over on its back, belly uppermost while its iron platform slipped down, exposing its metal insides. In a flash its enemy had begun to cut it up with a rapid succession of electric sparks. When the victim's body finally broke into pieces, the conqueror started tearing out levers, gear wheels and wires, and shoving them quickly into its mouth.

As the components thus acquired entered the body of the predator, its platform began to move out rapidly and the feverish assembly of a new machine began on it.

Some minutes later, a new crab had fallen from the platform on to the sand.

When I told Cookling what I had seen, he just chuckled.

"That's exactly what I wanted," he said.

"Why?"

"Surely I told you I want to improve my robots."

"Well, so what? Take your blue prints and work out how to do it. Why this civil war? If this goes on, they will devour each other."

"Just so. And the most perfect ones will survive."

I thought for a moment and then said : "What does that mean, the most perfect? They're all alike, aren't they? As far as I understand it, they are reproducing themselves."

"But do you think it's ever possible to make an absolutely exact copy? As you surely know even in the manufacture of ball-bearings it's impossible to make two exactly similar balls. And there are simpler things. Here the robot-reproducer has a copying mechanism that compares the copy it is making with its own construction. Can you imagine what will happen if each subsequent copy is made, not according to the original model, but copying one immediately preceding it? Ultimately, a mechanism may result that bears no resemblance at all to the original."

"But if it doesn't resemble the original, that means it won't be fulfilling its main function-of reproducing itself," I objected.

"Well, what of it? That's very good. Better copies will make another robot from its corpse, and the better copies will be precisely those in which will be accumulated, quite fortuitously, those details in their construction that make them more viable. So stronger, faster, simpler copies must come into being. That's why I don't intend to worry about my blue prints. All I've got to do is to wait until the robots have eaten up all the metal on the island and begin an internecine war, devouring each other and reproducing themselves anew. That's how the robots I need will come about."

That night I sat for a long time on the sand in front of the tent, watching the sea and smoking. Had Cockling really started something that might have grave consequences for humanity? Had we started an appalling plague on this godforsaken

little island in the middle of the ocean that could eat up all the metal in the world?

As I sat thinking about all this, several of the metal creatures ran past me. They continued to work, their mechanisms creaking, even as they ran. One of the crabs knocked against me, and I kicked it away in disgust. It fell over helplessly on its back. Almost immediately two other crabs pounced upon it and dazzling electric sparks flashed in the dark. The wretched thing was being cut to pieces by sparks! It was too much for me. I rushed into the tent and got a crowbar from the tool box. Cockling was already snoring.

Noiselessly approaching the crowd of crabs, I struck one of them with all my might. I'd imagined for some reason that this would frighten off the others, but nothing of the sort. The crabs fell on the one I had smashed, and sparks began to fly again.

I hit out several times more but this only increased the quantity of sparks; and more of the creatures come rushing to the spot from the interior of the island.

In the darkness I could only make out the outlines of the machines, and it seemed to me that one of the swarm looked exceptionally big. I aimed a blow at this crab. But no sooner had my crowbar come into contact with its back than I gave a scream and jumped aside: the crowbar had given me an electric shock! Somehow or other the body of this monster had been charged with electricity. "Defence as a result of evolution," crossed my mind.

Trembling all over, I approached the droning mass of machines in order to retrieve my weapon, but it was out of the question. By the flickering light of many electric arcs I saw my crowbar being cut up and the very big robot that I had intended to smash was working hardest of all.

I went back to the tent and lay down.

I soon fell into a heavy sleep, but not for long, apparently. I was suddenly wakened, feeling something cold and heavy crawling over my body. I jumped up. A crab-I 'had not realized at first what it was-disappeared in the back of the tent. A few seconds later I saw a bright electric spark. The damned crab had come into our tent in its search for metal and its electrode was cutting up the tin containing our drinking water.

I quickly shook Cookling awake and stammered an account of what had happened.

"All tins into the sea. All the grub and water into the sea!" he ordered.

We took all the tins down to the shore and laid them on the sandy bottom at a waist-deep in the water. Our tools were put in the same place.

Wet and exhausted, we sat on the beach till morning without closing our eyes. Cookling was breathing heavily, and down deep I was glad he was also suffering from his venture, for now I hated him and wished even heavier punishment for him.

I cannot remember how long had passed since our arrival on the island, but one fine day Cookling announced triumphantly: "Now the most interesting moment has arrived. All the metal's been eaten up."

In fact, we looked at all the spots where metal billets had been lying, and nothing was left. Along the shore and among the bushes could be seen empty holes.

The metal pigs, bars and rods had been turned into machines that were rushing about the island in huge numbers. Their movements had become rapid and

spasmodic. Their batteries had been charged to the limit and they were not using their power for work, but were wandering aimlessly about the beach, crawling through the bushes on the plateau, running into each other, and often into us.

As I studied them I realized Cockling had been right. The crabs really were varied. They differed from each other in size, the length of their pincers, the capacity of their workshop maws. Some were more active, others less. There were probably even more profound differences in their internal structure.

"Well," said Cockling. "It's time for them to start fighting."

"Are you serious?" I asked. "Of course, I am. It will be quite enough to give them a taste of cobalt. The mechanism is so constructed that the slightest admixture of this metal will suppress, if that is the right expression for it, their mutual respect for each other."

Next morning we went to our "ocean storeroom". From the sea-bottom we fished up the usual number of tins of food and water, and four heavy grey bars of cobalt, which Cockling had kept specially for the decisive stage of the experiment.

When he waded out on to the sand, holding the cobalt bars high in the air, he was immediately surrounded by a number of crabs. They did not cross into his shadow, but one could see that the appearance of the new metal had greatly disturbed them. I was standing at a few paces away and I observed with astonishment how some of the machines were clumsily trying to jump.

"See that! What a variety of movements! How unlike they all are! And in the civil war, we'll make them wage, the strongest and fittest will survive. And they will have even more perfect progeny."

With these words Cockling threw one bar after another into the bushes.

It is difficult to describe what followed. Several machines fell simultaneously on the bars and, jostling each other, started cutting them up with electric sparks. Others crowded behind, also trying to get hold of a scrap of metal. Some climbed on to the backs of their fellows striving to get into the middle.

"Look, there's the first battle!" exclaimed Cookling happily, clapping his hands.

Within a few minutes the place where he had thrown the metal had become the arena of a terrible battle, which more and more robots came running to join.

As parts of broken up machines and bits of cobalt entered the maws of more and more machines, they turned into savage and fearless predators that immediately attacked their fellows.

During the first stage of this war the attackers were those that had tasted cobalt. It was they that cut up the robots that had come here running from all over the island in the hope of getting the metal they needed. But as more and more crabs got a taste of cobalt, the war became fiercer. And now the new-born ones, produced in the course of the battle, joined in.

This was a remarkable generation of robots- smaller in size and extraordinarily fast moving. And I was surprised that they were able to dispense with the usual process of charging their accumulators. The solar energy absorbed by the much bigger mirrors on their backs amply sufficed. They were remarkably aggressive, and attacked several crabs simultaneously cutting up two or three at a time with their sparks.

Cookling stood in the water with an expression of infinite self-satisfaction on his

face, rubbing his hands and exclaiming: "Good, good! I can just imagine what's going to happen!"

As for me, I watched this battle of machines with deep disgust and fear. What would be born as a result of this struggle?

By midday the whole beach around our tent had become a vast battlefield. Robots had come from all over the island and fought in silence, without cries or screams, without shots or gunfire. Only the crackle of innumerable electric sparks and the clanking of the metal bodies of the machines gave this strange fight a peculiar rustling and grinding accompaniment.

Although most of the new generation now coming into being were squat and very mobile, other new types were nevertheless beginning to appear. These were very much larger than any of the rest. Their movements were slow, but one sensed their power, and they had no difficulty in coping with their dwarfish attackers.

As the sun began to set, a sudden change took place in the movements of the small machines; they all crowded together on the west side and began to move more slowly.

"The devil take it! That lot's doomed!" Cook-ling said in a hoarse voice. "They've got no accumulators. As soon as the sun sets, they'll be finished."

And so it was. As soon as the shadows cast by the bushes lengthened out sufficiently to cover the huge crowd of small robots, they stopped dead. They were no longer an army of aggressive predators, but a vast collection of lifeless metal boxes.

Colossal crabs, nearly half a man's height, came crawling slowly up to them and began to eat them up one by one. The outlines of even more enormous progeny could be seen on the platforms of their gigantic parents.

Cookling frowned. This was not the evolution he had wanted, that was clear. Slow-moving crab-robots of great size would be much too poor a weapon for sabotage behind enemy's lines!

While the giants were exterminating the dwarf generation, there was a temporary lull on the beach. I waded out of the water and Cookling followed me in silence. We made for the eastern side of the island in order to get some rest.

I was very tired and fell asleep almost as soon as I had stretched out on the warm soft sand.

I was awakened in the middle of the night by a terrible shriek. I could see nothing when I jumped up but the greyish strip of sand and the sea, which had merged with the black starry sky.

The cry was repeated, but not so loudly, from the direction of the shrubbery. Only then did I noticed that Cookling was not with me. I rushed towards the spot from which, as I thought, his voice had come.

The sea, as usual, was very calm, and the ripples breaking on the sand were few and far between. But it seemed to me that the surface of the water was ruffled at the spot where we had deposited our food and water containers. Something was splashing and squelching there. I decided that Cookling must be there.

"What are you doing here, engineer?" I cried, approaching our under-water store.

"I'm over here!" I suddenly heard a voice calling from the right.

"Where are you, for God's sake?"

"Here," I heard him say again. "I'm up to my chin in the water; come here."

I entered the water and stumbled against something hard. It was an immense crab standing deep down in the water on its long pincers.

"Why have you got in so deep? What are you doing there?" I asked.

"They were chasing me and drove me right out here!" the fat man squeaked pitifully.

"Chasing you? Who?"

"The crabs!"

"It can't be! They're not chasing me!" • Again I stumbled against a robot in the water, but moved away from it, and finally got to the engineer. He was, indeed, chin-deep in the water.

"Tell me what happened?"

"I don't understand it myself," he said in a quavering voice. "While I was asleep, suddenly one of the robots attacked me. . . I thought it was an accident and moved away, but it came near me again and touched my face with its claw. . . Then I got up and moved away to one side. It followed me. I started running. So did the crab. Then another crab joined in. And another. A whole crowd of them. And they drove me out here..."

"Strange! That's never happened before," I said. "If they've already developed a man-hating instinct as a result of evolution, they wouldn't have spared me."

"I don't know," said Cookling in a hoarse voice. "But I'm afraid to come out on the beach."

"Nonsense," I said, and took his arm. "Walk along the shore to the east. I'll protect you."

"But how?"

"We'll come soon to our food dump and I'll get some heavy tool. A hammer or something."

"Only not a metal one," groaned the engineer. "Better take a board from one of the boxes or something made of wood."

Slowly we made our way along the shore. When we reached our dump, I left Cookling alone and waded towards the beach.

I could hear loud splashes and the familiar drone of the machines. The metal creatures had broken into the tinned stuff. They had found their way to our under-water storehouse.

"Cookling, we're lost!" I yelled. "They've eaten up all our tins!"

"Have they?" he said plaintively. "What are we to do now?"

"It's up to you to think what to do. You're responsible for this stupid venture. You've evolved the type of sabotage instrument you wanted. Now you sort out the mess."

I went round the crowd of robots and came out on the beach. There, crawling in the dark among the crabs I groped about picking up bits of meat and tinned pineapple, apples, and other things from the sand, and took them up on to the plateau. Judging by the amount of stuff lying on the beach, the creatures had worked pretty hard while we slept. I didn't find a single whole tin.

While I was occupied collecting the remnants of our provisions, Cookling remained standing up to his chin in the water about twenty paces from the shore. I

was so engrossed in what I was doing and so upset by what had happened, that I had quite forgotten about him, but very soon a piercing shriek reminded me of his existence.

"For God's sake, Bud, help me, they're after me!"

I dashed into the water, and, stumbling over the metal monsters, hurried to Cookling. About five paces from him, I stumbled against another crab. It took no notice of me.

"Why the devil do they dislike you so much? Surely you can claim to be their daddy," I said.

"I don't know," gurgled the engineer hoarsely. "But do something, Bud, to drive it away. If a taller crab than this one is born, I'm done for."

"Well, that's evolution for you. Incidentally, which part of the crab is most vulnerable? How can the mechanism be wrecked?"

"Before, it would have been enough to smash the parabolic mirror or to extract the accumulator from inside. But now I don't know. . . It'll take some special research."

"To hell with your research," I muttered through clenched teeth, and seized the crab's slender front claw that was reaching out in the direction of the engineer's face.

The robot moved back. I found the second leg and bent it as well-the tentacles twisted easily, like copper wire.

The metal creature clearly didn't like this procedure and it began to wade slowly out of the water. Cookling and I moved further along the shore.

At sunrise all the robots crawled out of the water and began sunning themselves on the beach. I succeeded in smashing the mirrors on the backs of at least fifty of the monsters with stones, and all these ceased moving.

But unfortunately that did not improve matters; they immediately fell victim to other creatures and new robots were manufactured from them with amazing speed. I hadn't the strength to smash the silicon batteries on the backs of all the machines. Several times I came into contact with electrified robots, and that weakened my resolve to try and fight them.

All this time Cookling remained standing in the sea.

Soon the war of the monsters started all over again and it seemed as though they had forgotten all about Cookling.

We left the battlefield and moved over to the other side of the island. Cookling was so numb after his long bathe, which had lasted for hours, that he lay down on the sand, stretched out and asked me, with chattering teeth, to cover him over with hot sand.

After that I returned to our original camp site to fetch our clothes and what was left of our provisions. There I discovered that the tent had been destroyed; the metal pegs that had been driven into the sand had disappeared, and so had the metal rings where the guy ropes had been fastened to the tent.

Under the tarpaulin I found our clothes, but even here again one could see the traces of the crabs' search for metal. Every metal hook, button and buckle had disappeared, leaving behind shreds of scorched cloth.

Meanwhile the battle of the robots had shifted from the shore to the interior of the island. From the plateau I could see, more or less in the centre of the island, several

monsters almost as tall as men standing on their pincers among the bushes. Slowly, two by two, they moved to opposite sides, and then rushed at each other with terrific speed. A metallic clanging accompanied the encounter. Behind the slow movements of these giants, there was obviously immense power and weight.

Before my eyes several machines were knocked over and forthwith cut to pieces.

But I was sick to death of watching these battle scenes between mad machines; so, loading myself with everything I could find on our old camp site, I slowly made my way back to Cookling. The sun was beating down mercilessly and before reaching the spot where I'd buried him in the sand, I took several dips in the sea.

I was just approaching the mound under which Cookling, exhausted after his nocturnal bathing, was sleeping, when an enormous crab appeared from behind the shrubs on the plateau.

It was taller than me. Its claws were long and massive, and it moved in a series of awkward hops, with its body leaning bent forward in a peculiar way. Its front, working, tentacles were incredibly long and trailed on the sand. The maw of its workshop was particularly hypertrophied, and took up nearly half the body.

The "ichthyosaurus", as I called it to myself, slid clumsily down on to the beach, and began to sway slowly in all directions, as if scanning the locality. Automatically I brandished the tent at it, as one does at a cow that gets in one's way. But it took no notice of me whatsoever, and in a strange oblique way, describing a wide detour, it approached the mound of sand under which Cook-ling lay sleeping.

If I had realized the monster was making for him, I would have rushed to his aid immediately; but the direction in which the machine was moving seemed so vague that I thought at first it was going into the sea. And it was only when, having just touched the water with its feet, it turned abruptly and moved rapidly towards Cookling that I dropped the things I was carrying and ran forward.

The "ichthyosaurus" stopped by him and squatted slightly. I saw the ends of its long tentacles working in the sand just by his face.

The next moment the heap had become a great sand cloud. Cookling had jumped up as though stung and, panic-stricken, was trying to break away from the monster.

But it was too late.

The slender tentacles had wound themselves tightly round his thick neck and were lifting him up, towards the mouth of the machine. Cookling hung helplessly in -the air, his arms and legs dangling grotesquely.

Though I detested him with all my heart, nevertheless I could not allow him to perish in a fight with an irrational metal freak. Without thinking I seized the tall claws of the crab and pulled with all my strength. But I might as well have tried to pull over a steel post driven deep into the ground. The "ichthyosaurus" did not even budge.

I reached up and got on its back. For an instant Cookling's distorted face came level with mine. "His teeth!" suddenly crossed my mind. "His stainless steel false teeth!"

I struck the parabolic mirror, shining in the sunlight, as hard as I could with my fist.

The crab spun round as it stood. Cookling's livid face and bulging eyes were now level with the mouth of the workshop. Then something horrible happened. An

electric spark struck his forehead and temples. The crab's tentacles suddenly relaxed, and the heavy lifeless body of the creator of this iron plague crashed down on the sand.

While I was burying him, several huge crabs were chasing each other over the island, taking absolutely no notice either of me or the corpse.

I wrapped it in the canvas of the tent and buried him in a shallow grave in the sand in the middle of the island and did so with no feeling whatsoever of regret. My parched mouth was gritty with sand and I was inwardly cursing the dead man for his horrible invention. From the point of view of Christian ethics, I committed a terrible sacrilege.

After that I lay motionless on the beach for several days on end, watching the horizon where the "Dove" should appear. Time dragged with agonizing slowness and the pitiless sun seemed to have stopped above my head. From time to time I crawled down to the water and dipped my scorched face in it.

To forget my hunger and terrible thirst I tried to think of abstract things. I thought of how many able people in our days had used the powers of reason to do harm to others. Cookling's invention, for instance. I was sure it could have been used to good purpose-in metal-mining, possibly. The evolution of these creatures could have been so directed that they might have performed that function with the utmost proficiency. I came to the conclusion that if the machine had been perfected properly it would not have degenerated into a gigantic clumsy monster.

One day a great round shadow fell across me. I raised my head with difficulty and looked to see what had come between me and the sun. I found that I was lying between the tentacles of an enormous giant of a crab which had come down to the water's edge and seemed to be watching the horizon and waiting for something.

Then I began to have hallucinations. In my fevered brain the gigantic crab became a vat of fresh water raised so high that I couldn't reach the top.

I came to on board the schooner. When Captain Gale asked me whether they should take aboard the huge, strange-looking mechanism lying on the beach, I answered that for the present it was quite unnecessary.