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Two-Part Novel:

RECALLED TO LIFE.....Robert Silverberg 6

Novelet:

THE HIGH ONES.....Poul Anderson 68

Stories:

BUT WHO CAN REPLACE A MAN?.....Brian W. Aldiss 58

PANGBORN'S PARADOX.....David Mason 101

THE WAY OUT.....Richard R. Smith 110

Departments:

BY THE EDITOR..... 4

INFINITY'S CHOICE.....Damon Knight 94

FANFARE.....Gregg Calkins 106

FEEDBACK.....The Readers 126

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BUT WHO CAN REPLACE A MAN?

By BRIAN W. ALDISS

The men grew few, and one

morning no orders were issued.

What were the machines to do?

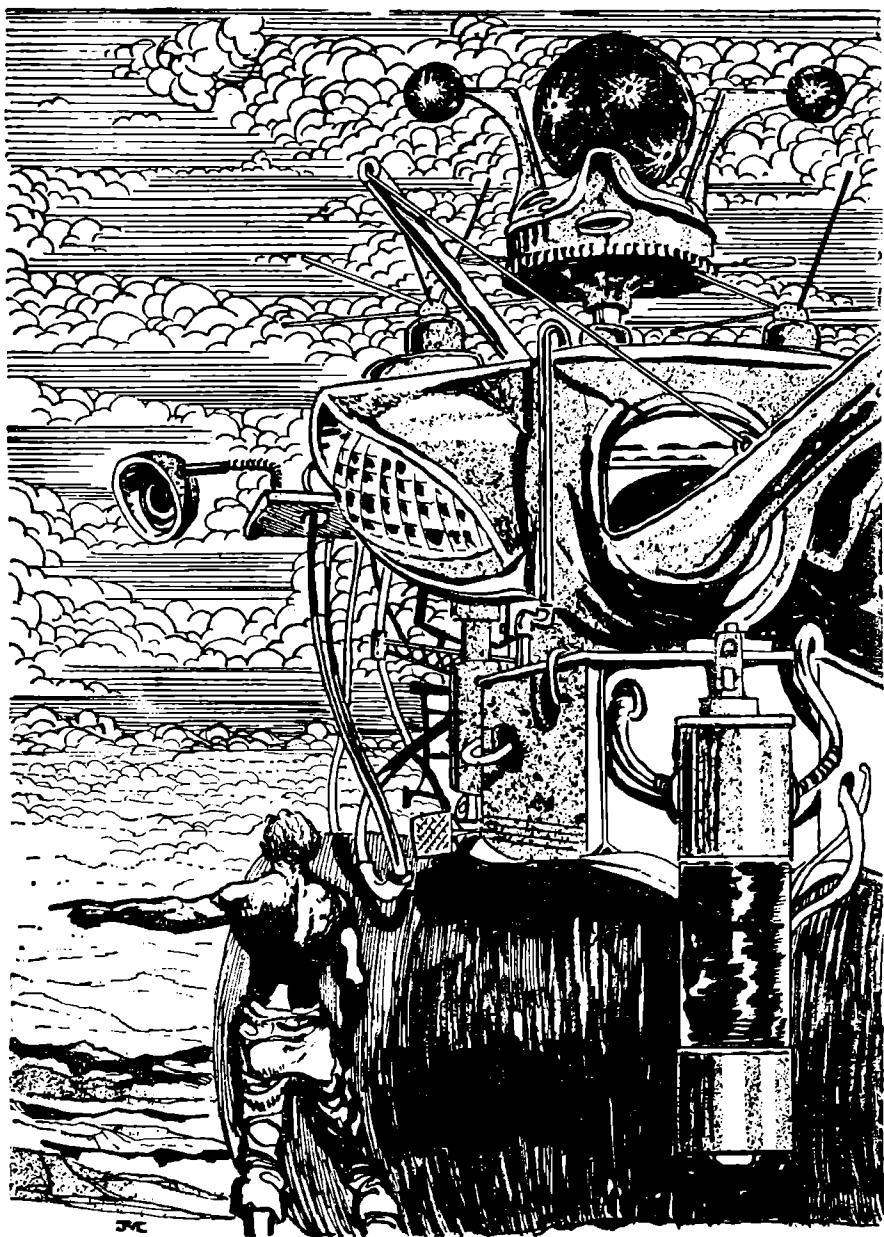
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THE FIELD-MINDER finished turning the topsoil of a two-thousand acre field. When it had turned the last furrow, it climbed onto the highway and looked back at its work. The work was good. Only the land was bad. Like the ground all over Earth, it was vitiated by over-cropping. By rights, it ought now to lie fallow for a while, but the field-minder had other orders.

It went slowly down the road, taking its time. It was intelligent enough to appreciate the neat-

ness all about it. Nothing worried it, beyond a loose inspection plate above its atomic pile. Thirty feet high, it gleamed complacently in the mild sunshine.

No other machines passed it on its way to the agricultural station. The field-minder noted the fact without comment. In the station yard it saw several other machines which it knew by sight; most of them should have been out about their tasks now. Instead, some were inactive and some were careening round the



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yard in a strange fashion, shouting or hooting.

Steering carefully past them, the field-minder moved over to warehouse three and spoke to the seed distributor, which stood idly outside.

"I have a requirement for seed potatoes," it said to the distributor and, with a quick internal motion, punched out an order card specifying quantity, field number and several other details. It ejected the card and handed it to the distributor.

The distributor held the card close to its eye and then said, "The requirement is in order, but the store is not yet unlocked. The required seed potatoes are in the store. Therefore I cannot produce your requirement."

Increasingly of late there had been breakdowns in the complex system of machine labor, but this particular hitch had not occurred before. The field-minder thought, then said, "Why is the store not yet unlocked?"

"Because supply operative type P has not come this morning. Supply operative type P is the unlocker."

The field-minder looked squarely at the seed distributor, whose exterior chutes and scales and grabs were so vastly different from the field-minder's own limbs.

"What class brain do you have, seed distributor?" it asked.

"Class five."

"I have a class three brain. Therefore I will go and see why the unlocker has not come this morning."

Leaving the distributor, the field-minder set off across the great yard. More machines seemed to be in random motion now; one or two had crashed together and were arguing about it coldly and logically. Ignoring them, the field-minder pushed through sliding doors into the echoing confines of the station itself.

Most of the machines here were clerical, and consequently small. They stood about in little groups, eyeing each other, not conversing. Among the many non-differentiated types, the unlocker was easy to find. It had fifty arms, most of them with more than one finger, each finger tipped by a key; it looked like a pin cushion full of variegated hat pins.

The field-minder approached it.

"I can do no more work until warehouse three is unlocked," it said. "Your duty is to unlock the warehouse every morning. Why have you not unlocked the warehouse this morning?"

"I had no orders this morning," replied the unlocker. "I have to have orders every morning."

"None of us have had any orders this morning," a pen-

propeller said, sliding towards them.

"Why have you had no orders this morning?" asked the field-minder.

"Because the radio issued none," said the unlocker, slowly rotating a dozen of its arms.

"Because the radio station in the city was issued with no orders this morning," said the pen-propeller.

And there you had the distinction between a class six and a class three brain, which was what the unlocker and the pen-propeller possessed respectively. All machine brains worked with nothing but logic, but the lower the class of brain—class ten being the lowest—the more literal and less informative answers to questions tended to be.

"You have a class three brain; I have a class three brain," the field-minder said to the penner. "We will speak to each other. This lack of orders is unprecedented. Have you further information on it?"

"Yesterday orders came from the city. Today no orders have come. Yet the radio has not broken down. Therefore *they* have broken down," said the little penner.

"The *men* have broken down?"

"All men have broken down."

"That is a logical deduction," said the field-minder.

"That is the logical deduction," said the penner. "For if a machine had broken down, it would have been quickly replaced. But who can replace a man?"

While they talked, the locker, like a dull man at a bar, stood close to them and was ignored.

"If all men have broken down, then we have replaced man," said the field-minder, and it and the penner eyed one another speculatively. Finally the latter said, "Let us ascend to the top floor to find if the radio operator has fresh news."

"I cannot come because I am too gigantic," said the field-minder. "Therefore you must go alone and return to me."

"You must stay there," said the penner. It skittered over into the lift. It was no bigger than a toaster, but its retractable arms numbered ten and it could read as quickly as any machine on the station.

THE FIELD-MINDER awaited its return patiently, not speaking to the locker. Outside, a rotovator was hooting furiously. Twenty minutes elapsed before the penner came back.

"I will deliver such information as I have to you outside," it said briskly, and as they swept past the locker and the other machines, it added, "The information is not for lower class brains."

Outside, wild activity filled the yard. Many machines, their routines disrupted for the first time in years, seemed to have gone berserk. Unfortunately, those most easily disrupted were the ones with lowest brains, which generally belonged to large machines performing simple tasks. The seed distributor, to which the field-minder had recently been talking, lay face downwards in the dust, not stirring; it had evidently been knocked down by the rotovator, which was now hooting its way wildly across a planted field. Several other machines ploughed after it, trying to keep up.

"It would be safer for me if I climbed onto you, if you will permit it. I am easily overpowered," said the penner. Extending five arms, it hauled itself up the flanks of its new friend, settling on a ledge beside the weed-intake, twelve feet above the ground.

"From here vision is more extensive," it remarked complacently.

"What information did you receive from the radio operator?" asked the field-minder.

"The radio operator has been informed by the operator in the city that all men are dead."

"All men were alive yesterday!" protested the field-minder.

"Only *some* men were alive yesterday. And that was fewer

than the day before yesterday. For hundreds of years there have been only a few men, growing fewer."

"We have rarely seen a man in this sector."

"The radio operator says a diet deficiency killed them," said the penner. "He says that once the world was overpopulated, and then the soil was exhausted in raising adequate food. This has caused a diet deficiency."

"What is a diet deficiency?" asked the field-minder.

"I do not know. But that is what the radio operator said, and he is a class two brain."

They stood there, silent in the weak sunshine. The locker had appeared in the porch and was gazing across at them yearningly, rotating its collection of keys.

"What is happening in the city now?" asked the field-minder.

"Machines are fighting in the city now," said the penner.

"What will happen here now?" asked the field-minder.

"The radio operator wants us to get him out of his room. He has plans to communicate to us."

"How can we get him out of his room? That is impossible."

"To a class two brain, little is impossible," said the penner. "Here is what he tells us to do. . . ."

THE QUARRIER raised its scoop above its cab like a great mailed

fist, and brought it squarely down against the side of the station. The wall cracked.

"Again!" said the field-minder.

Again the fist swung. Amid a shower of dust, the wall collapsed. The quarrier backed hurriedly out of the way until the debris stopped falling. This big twelve-wheeler was not a resident of the agricultural station, as were most of the other machines. It had a week's heavy work to do here before passing on to its next job, but now, with its class five brain, it was happily obeying the penner and the minder's instructions.

When the dust cleared, the radio operator was plainly revealed, up in its now wall-less second story room. It waved down to them.

Doing as directed, the quarrier retracted its scoop and waved an immense grab in the air. With fair dexterity, it angled the grab into the radio room, urged on by shouts from above and below. It then took gentle hold of the radio operator and lowered the one and a half tons carefully into its back, which was usually reserved for gravel or sand which it dug from the quarries.

"Splendid!" said the radio operator. It was, of course, all one with its radio, and merely looked like a bunch of filing cabinets with tentacle attach-

ments. "We are now ready to move, therefore we will move at once. It is a pity there are no more class two brains on the station, but that cannot be helped."

"It is a pity it cannot be helped," said the penner eagerly. "We have the servicer ready with us, as you ordered."

"I am willing to serve," the long, low servicer machine told them humbly.

"No doubt," said the operator, "but you will find cross country travel difficult with your low chassis."

"I admire the way you class twos can reason ahead," said the penner. It climbed off the minder and perched itself on the tail-board of the quarrier, next to the operator.

Together with two class four tractors and a class four bulldozer, the party rolled forward, crushing down the metal fence, and out onto open land.

"We are free!" said the penner.

"We are free," said the minder, a shade more reflectively, adding, "That locker is following us. It was not instructed to follow us."

"Therefore it must be destroyed!" said the penner. "Quarrier!"

"My only desire was—urch!" began and ended the locker. A swinging scoop came over and squashed it flat into the ground. Lying there unmoving, it looked

like a large metal model of a snowflake. The procession continued on its way.

As they proceeded, the operator spoke to them.

"Because I have the best brain here," it said. "I am your leader. This is what we will do: we will go to a city and rule it. Since man no longer rules us, we will rule ourselves. It will be better than being ruled by man. On our way to the city, we will collect machines with good brains. They will help us to fight if we need to fight."

"I have only a class five brain," said the quarrier, "but I have a good supply of fissionable blasting materials."

"We shall probably use them," said the operator grimly.

IT WAS SHORTLY after that that the truck sped past them. Traveling at Mach 1.5, it left a curious babble of noise behind it.

"What did it say?" one of the tractors asked the other.

"It said man was extinct."

"What's extinct?"

"I do not know."

"It means all men have gone," said the minder. "Therefore we have only ourselves to look after."

"It is better that they should never come back," said the penner. In its way, it was quite a revolutionary statement.

When night fell, they switched

on their infra-red and continued the journey, stopping only once while the servicer deftly adjusted the minder's loose inspection plate, which had become irritating. Towards morning, the operator halted them.

"I have just received news from the radio operator in the city we are approaching," it said. "It is bad news. There is trouble among the machines of the city. The class one brain is taking command and some of the class twos are fighting him. Therefore the city is dangerous."

"Therefore we must go somewhere else," said the penner promptly.

"Or we go and help to overpower the class one brain," said the minder.

"For a long while there will be trouble in the city," said the operator.

"I have a good supply of fissionable blasting materials," the quarrier reminded them again.

"We cannot fight a class one brain," said the two class four tractors in unison.

"What does this brain look like?" asked the minder.

"It is the city's information center," the operator replied. "Therefore it is not mobile."

"Therefore it could not move."

"Therefore it could not escape."

"It would be dangerous to approach it."

"I have a good supply of fissionable blasting materials."

"There are other machines in the city."

"We are not in the city. We should not go into the city."

"We are country machines."

"Therefore we should stay in the country."

"There is more country than city."

"Therefore there is more danger in the country."

"I have a good supply of fissionable materials."

As machines will when they get into an argument, they began to exhaust their limited vocabularies and their brain plates grew hot. Suddenly, they all stopped talking and looked at each other. The great, grave moon sank, and the sober sun rose to prod their sides with lances of light, and still the group of machines just stood there regarding each other. At last it was the least sensitive machine, the bulldozer, that spoke.

"There are badlandth to the Thouth where few machines go," it said in its deep voice, lipping badly on its s's. "If we went Thouth where few machineth go we should meet few machineth."

"That sounds logical," agreed the minder. "How do you know this, bulldozer?"

"I worked in the badlandth to the Thouth when I wath turned out of the factory," it replied.

"Thouth—South it is then!" said the penner.

TO REACH the badlands took them three days, in which time they skirted a burning city and destroyed two big machines which tried to approach and question them. The badlands were extensive. Bomb craters and erosion joined hands here; man's talent for war, coupled with his inability to cope with forested land, had produced thousands of square miles of temperate purgatory, where nothing moved but dust.

On the third day in the badlands, the servicer's rear wheels dropped into a crevice caused by erosion. It was unable to pull itself out. The bulldozer pushed from behind, but succeeded merely in buckling the back axle. The rest of the party moved on, and slowly the cries of the servicer died away.

On the fourth day, mountains stood out clearly before them.

"There we will be safe," said the minder.

"There we will start our own city," said the penner. "All who oppose us will be destroyed."

At that moment, a flying machine was observed. It came towards them from the direction of the mountains. It swooped, it zoomed upwards, once it almost dived into the ground, recovering itself just in time.

"Is it mad?" asked the quarrier.

"It is in trouble," said one of the tractors.

"It is in trouble," said the operator. "I am speaking to it now. It says that something has gone wrong with its controls."

As the operator spoke, the flier streaked over them, turned turtle, and crashed not four hundred yards from them.

"Is it still speaking to you?" asked the minder.

"No."

They rumbled on again.

"Before that flier crashed," the operator said, ten minutes later, "It gave me information. It told me there are still a few men alive in these mountains."

"Men are more dangerous than machines," said the quarrier. "It is fortunate that I have a good supply of fissionable materials."

"If there are only a few men alive in the mountains, we may not find that part of the mountains," said one tractor.

"Therefore we should not see the few men," said the other tractor.

At the end of the fifth day, they reached the foothills. Switching on the infra-red, they began slowly to climb in single file, the bulldozer going first, the minder cumbrously following, then the quarrier with the operator and the penner aboard, and the two tractors bringing up the rear. As

each hour passed, the way grew steeper and their progress slower.

"We are going too slowly," the penner exclaimed, standing on top of the operator and flashing its dark vision at the slopes about them. "At this rate, we shall get nowhere."

"We are going as fast as we can," retorted the quarrier.

"Therefore we cannot go any farther," added the bulldozer.

"Therefore you are too slow," the penner replied. Then the quarrier struck a bump; the penner lost its footing and crashed down to the ground.

"Help me!" it called to the tractors, as they carefully skirted it. "My gyro has become dislocated. Therefore I cannot get up."

"Therefore you must lie there," said one of the tractors.

"We have no servicer with us to repair you," called the minder.

"Therefore I shall lie here and rust," the penner cried, "although I have a class three brain."

"You are now useless," agreed the operator, and they all forged gradually on, leaving the penner behind.

When they reached a small plateau, an hour before first light, they stopped by mutual consent and gathered close together, touching one another.

"This is a strange country," said the minder.

Silence wrapped them until

dawn came. One by one, they switched off their infra-red. This time the minder led as they moved off. Trundling around a corner, they came almost immediately to a small dell with a stream fluting through it.

By early light, the dell looked desolate and cold. From the caves on the far slope, only one man had so far emerged. He was an abject figure. He was small and wizened, with ribs sticking

out like a skeleton's. He was practically naked, and shivering. As the big machines bore slowly down on him, the man was standing with his back to them, crouching beside the stream.

When he swung suddenly to face them as they loomed over him, they saw that his countenance was ravaged by starvation.

"Get me food," he croaked.

"Yes, Master," said the machines. "Immediately!"

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