This study analyzed and evaluated three major telegraphic production schemes. This second volume consists of eight appendixes which give the stimulus materials in their various reduction formats and their associated tests. For the first volume of the study see IR 001 308. (WCM)
FINAL REPORT

Project No. 10176F
Contract No. OEC-6-71-0527-(509)

May 31, 1974

Clessen J. Martin
Texas A&M Research Foundation
Texas A&M University
College Station, Texas 77843

DEVELOPMENT OF AN ANALYTICAL APPROACH
TO TELEGRAPHIC COMMUNICATION

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education
National Institute of Education
Final Report

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THE ESKIMO

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The sun was beginning to circle the horizon each day, with only an occasional loss of sight of it during the time the high mountains to the south and west blocked the view. Spring was near in the icelocked land of the Eskimo tribe. Spring, to them, was a time to make ready the rawhide thongs of the harnesses for the sled dogs, a time to sharpen the spears of the young men and clean the guns of the older men. The walrus herds would soon be on the move when the summer began to slip northward across the tundra. The life of the tribe truly depended upon the sustenance wrung from these great beasts. No seals roamed this far north into the icy Arctic Ocean. Polar bears, once a plentiful source of hide and fur and meat, were not seen so often anymore.

One of the tribe’s men, who had wandered too far south on a hunt and made unexpected contact with a Canadian fur trapper, had returned with interesting, almost unbelievable tales which he had repeated many times during the long winter night when they sat around the fires in the igloos--always the women and children to the left side of the fire and the young boys and men to the right, with the chief, Nago, and the storyteller in the place of honor at the back of the igloo opposite the entrance. (No one knew why they sat in this peculiar arrangement, just that it was "the way." Their tribal legends had no memories of the days of the dim past when they sat in this arrangement in the ẙäk-skin tents in the
winter snows of Mongolia, before the Great Migration ever began.)

The storyteller repeated, with flourishes and embroidery as time went on, the tale of nights and days spent with the trapper. Contact with the Canadians had been made before, but very seldom. Years ago some lost trappers had been set back on the trail south with an adequate supply of food provided by Nago's father and his friends, and the guns had come into possession of the tribe in the trade. Now an annual contact was made with the Eskimo merchant who ran a small trading post at a weather station of the Canadian police quite far to the south, a contact when whatever meat, hides, and furs the tribe could spare was traded for ammunition. The ammunition was too dear to be used in the hunt, except to save a life if the wounded walrus was not killed with a spear from one of the young men among the walrus hunters. This had happened occasionally.

The storyteller continued his words of the trapper and the tale he told, of the reason why the great white bears came so seldom. The trapper said there were large birds made of wood or metal, like the gun the storyteller carried. The birds were big enough to bring men from far away who came with shiny new guns and hunted and killed the white bears. They took the heads and the hides and left the meat for the wolf packs. Unbelievable!

The trapper had a box which made strange noises and had voices that came from within. The trapper had told him what he had heard the voices from the box say. The storyteller's greatest moment came when he said he spoke of a dream that was still to come, of a time when many men from far away would come to an
area north of Nago's igloos and make holes in the ground and take out a black oil that burned like walrus fat. A murmur would run through the igloo and women would stop their carving of the ivory from the walrus tusks and would hiss in dismay at the thoughts which they could not really grasp. And the storyteller would sit back on his haunches from his kneeling position and smile. And Nago would slowly shake his head in wonderment. Unbelievable!

"O'Malley, you are a damn idiot," said Johnson, the division chief, for the tenth time. They had flown from stateside to Anchorage, then continued on in an ancient cargo plane of the oil company, thundering through the sky towards the Prudhoe Bay area of the Beaufort Sea. An exploration team had discovered in this "North Slope" area of Alaska the most extensive underground oil reserves in the western hemisphere.

Johnson was upset because O'Malley was bringing only a skeleton crew for his drilling rig. Several of the rigs with the crews to operate them were being brought in other cargo planes. O'Malley had reasoned that more supplies and equipment could be packed in the space that would have been taken by extra laborers needed on the crew, the unskilled "Roughnecks" of Texas oil field jargon. O'Malley had insisted in long, loud, and profane arguments that natives in the area could be taught to do the jobs. "They are bound to be smart enough critters," he argued, "else how could they out think them walruses and bears enough to kill them and stay alive. Besides, they are used to eatin' less, livin' off the land, so to speak. We will take a
few American Roughnecks, but we can use the space saved on food and clothes for some things that may save our own hides if a real emergency comes."

But O'Malley wondered if they really could learn to do the work. Could they learn to communicate in English? (O'Malley wasn't about to learn the grunts and hisses that passed for a language among the Eskimos.) Could they follow orders without question or hesitation? Well, he would find out soon enough.

Johnson, whose division included all the oil area north of the Arctic Circle, plus Alaska and the Aleutians, was telling him that the plane would be landing in about an hour. They would come down on the snow and ice, hopefully slipping along on the skis until they came to a stop without mishap.

The contact had been made between Johnson and the tribe. The nephew of old Nago spoke for the young men in favor of the new undertaking. Nago had repeated endlessly, "We need the young men to hunt and kill the walrus for us." Aktu, the nephew, had argued, "You, Nago, and the older men will kill enough walrus for the tribe because you will shoot all of them with the guns. The oil man has told us they will give us plenty of ammunition for our guns. He has told us they will give a new rifle to you so that your gun may be given to one of the men who has none. Think of it, my uncle Nago, a new rifle for you and much ammunition. The older men can kill more than enough to give food for the winter. The younger men will work for the oil men and make money to bring to you to spend at the end of the summer when you go south to the trading post. It will be the best year we
"will ever know." Nago had shaken his head, set deep in the huge shoulders with almost no neck. "How will you young men learn the skills of the hunt if you are away working for the oil men? How will you learn to be a great hunter and chief like your father was until he was killed by the great white bear? I have been chief in your place until you were old enough to take the tribe. I have taught you to throw a spear straight and true to kill the walrus. This year I was to teach you how to shoot the bear with the gun. There is much yet to learn. You are not ready to lead the tribe. Yet I am old and the years are getting short. And now you want to leave the work for the oil men." He shook his head again.

But in the end, Nago agreed, and called the tribe together to tell them he had decided to send the young walrus hunters to work for the oil company. Aktu took them to the oil men's camp. O'Malley's theory of their intelligence soon proved true. On his inspection trips to this and other well drilling sites, Johnson found that O'Malley's Eskimo Roughnecks had quickly learned oil well work. They became quiet, efficient workers on the crew. They worked, with a steady stoicism, longer hours than any union member, American Roughneck would have considered. The drill stem, the casing, the diamond bit, the mud, the logger's cores all rapidly became a part of their life and their language. The working conditions were horrible. Johnson flew in to inspect, to replenish supplies, to bring in relief crewmen and fly out some of the crew for furloughs. Only O'Malley stayed, and worked, and cursed, and persevered.
One year--with a long recess during the worst part of the winter storms when all white men pulled back to the last, out-
post of civilization lest they perish and the Eskimo walrus
hunters went into the igloos to stay for days on end, when new,
younger storytellers took turns in the place of honor beside the old chief.

Two years--with success achieved at the first well, followed by capping and installation of the "Christmas Tree," that oddly shaped arrangement of pipes and valves that would free the oil into pipes to storage tanks or into a future pipeline leading to the south.

Three years--with another well on the way deep into the ground. Johnson knew now that O'Malley's crew with its strange team of American and Eskimo Roughnecks was the best in the divi-
sion. Aktu and his friends became as much American Roughnecks in many ways as O'Malley had been in his youth. They now ate with the crew, enjoying the hearty, fine food that oil field crews have as their only real pleasure and break in the routine of hard, unending work.

And Nago and the old men killed more walrus than ever before because they shot them, usually felling them with the first shot because the Eskimos' eyesight and sense of distance and trajectory were so keen from years of killing with only spears. The women had more ivory to carve into ornaments for themselves than ever before. And more soft walrus hides to make into the beautiful handsewn short boots. And more fur for parkas of finest quality.

Then one summer day, a portion of the drilling crew was to
leave on Johnson's plane for furlough back to Anchorage or Juneau or even to stateside for those who had a family or sweetheart waiting. Johnson paid their wages—so much money for each man! But wouldn't it be nice to take something to show of the weeks of work and life in the far north? One couldn't take a handful of snow or a pipe or valve back as a souvenir. But how about one of the ornate carved discs the Eskimo women made, or a pair of those soft, comfortable boots for a wife to slip into on a lonely evening, or a smooth parka of walrus hide, lined with polar bear fur for a sweetheart or daughter?

So the oil men asked Johnson to give Aktu some of their money to return to the tribe, buy the souvenirs from the women and bring them back to them before the plane left. To avoid trouble, the wise O'Malley had made a rule that no American could go to the distant Eskimo village.

Aktu drove a snowmobile from the oil camp the five miles to the village. He went to old Nago, as he always did when a new complication was introduced into their lives. He looked down at the lined brown face and realized the old man had grown feeble and might not be able to lead the walrus hunt the next spring. He told Nago slowly of the request of the oil men. He spoke of their love for their wives, children, and sweethearts back home. He spoke of their admiration for the beauty of the carved ivory and the fine workmanship of the boots and parkas. He unclasped his fingers and showed a palm filled with bills and coins. He spoke of the possibility of buying for the tribe
one of the new, noisy, efficient snowmobiles that would take the place of a sled and a team of troublesome, hungry dogs. He had learned to drive and maintain one during this third year with the oil men. Aktu said, "With the 'sled machine' you and I can go to the trading post once a month instead of once a year to bring back many nice things for the tribe. We might even get what you call 'the box that speaks like a man', a radio, my uncle Nago. Think how much we would enjoy listening to the radio in the igloos during the long winter storms."

Nago hesitated, wrinkled his brow even more than usual, and said for the first time, "I do not know what to do about this, young Aktu." With no further answer from Nago after a few minutes had passed, Aktu did something he had never done before. Time was slipping by and soon the plane would leave. He called the tribe together and stood before them to explain the new problem to consider, and he recommended they accept the offer of money for these items they made. And in that moment of talk, the invisible mantle of leadership slid from the shoulders of old, bent Nago and was draped around the tall young figure of Aktu, son of the chief who was killed by the great white bear.

After Nago died and Aktu became chief, he continued to work for the oil men. He appointed his older cousin, Oomiak, old Nago's son, to be leader of the hunters. He gave him the new rifle Nago had received from Johnson and the oil company. He directed Oomiak to lead the hunters well and try to make many kills because the money received from the first sale of souvenirs had enabled the tribe to purchase for each man of hunting age a
rifle from the trading post--not a fine rifle like the old chief's gift, but good enough to use on the hunt. He also directed Oomiak to keep the women and girls, and even some of the boys too young to go on the hunt, busy with the stretching and scraping and tanning of the hides and the slicing of ivory tusks into discs for carving.

And in the winter, while the storytellers told of their life with the oil men and occasionally an older man would tell the story of some exciting day of hunting, all would be keeping their hands busy. The men had learned how to do some of the sewing on the parkas and how to cut the soft hide into pieces to assemble for boots. One of the younger men, Saskoma, had gone on his first walrus hunt the past spring while just entering the threshold of manhood yet still too small to work with the well crew, he insisted on having an especially fine, unblemished walrus tusk and instead of cutting discs, Saskoma carved tiny figures the length of it showing a scene of a walrus hunt. Johnson, himself, bought it for display in his office back in Anchorage, giving the young man's father the unheard of sum of one hundred dollars for the piece that had taken the young artist three months to finish. When Johnson paid for the piece of ivory, he turned to smiling Aktu and said, "Would you do me the honor of going back to Anchorage on my plane to be with me when I place this beautiful ivory carving in my office? I want to have a company photographer take a picture of it, and of you, too, if you don't mind. And I would like to have an article written for our magazine telling of your friends who
are the only Eskimo members of an oil well Roughneck crew."

Aktu quickly told those members of the tribe who spoke no English yet what Johnson had said. He turned back to Johnson with an excitement shining from his eyes that told his answer even before he spoke the words, "I will go with you."

The plane trip turned out to be the first of a great many for Aktu. On the first trip he carried with him items for gifts to other company officers, as well as a few to sell. Johnson called to his office a friend who was owner of a store in Anchorage. When he saw the quality of the items, the friend told Aktu he would buy what he had that day and all that he could bring on the plane each trip. "If you will bring all you can make to me, I will pay you much more than the trading post can afford to pay," the friend said. "Hire as your workers all the people of your tribe," Johnson advised. "Get some of the members of the oil well crew whom you trust to join you in forming a company. Let the Americans help you by keeping written records of the orders and accounts of the store and how much money each member of the tribe should be paid for these fine items," he added.

The Eskimo-American Souvenir Company was chosen as the name for the company. Johnson had recommended to Aktu a few of the oil men who knew elementary bookkeeping and something of buying and selling operations. Eventually, Aktu made them officers in the Souvenir Company. He wanted to make O'Malley a Vice-President (with no duties) because if he hadn't "stuck out my fool neck," as he often put it, in the first place, there would never
have been a company; but O'Malley wouldn't hear of it, saying he was only a Roughneck boss, nothing more. Oomiak was made a Vice President in charge of supplying the raw materials by leading the men on their successful hunts each Spring. Young Saskoma who had proven himself such an artist was also made an officer and placed in charge of the production end of the little business, supervising how much and what kind of items should be made. Aktu insisted that all those who worked for him and all the officers of the company, including the Americans, should receive a share of the income. Aktu was President. He grew so used to the trips to Anchorage that the excitement he once felt seemed almost unreal to him. He sat and wondered at the strange turn of events that had taken him out of his life in the primitive tribe and pushed him forward into modern life, technology and business. He wondered what he was to become now that he seemed to belong to neither world.

Years passed, more than a decade went by. At the edge of Anchorage, a fine home sat among others of its kind. Central heating and electric lighting and other modern conveniences reflected the style of life of the upper middle-class Alaskan businessman. Not far from the house, at the edge of a small airstrip, a hangar housed a twin-engined plane with cargo space behind the pilot's compartment. On the side were the words, "The Eskimo-American Trading Company, Inc." These were repeated on a truck parked in a nearby garage with an auto and a snowmobile. A downtown store also had this name in lighted red neon letters.
Aktu got up from the chair where he had been reading the Anchorage newspaper and decided to take a walk outside for a breath of fresh air before he retired. He laid the paper down, not thinking of the months he had spent learning to read and write the English language years ago. As he walked out of the doorway of the house, he paused and looked down the hillside to his right. He could see the bright flickering orange flames of the gas burn-offs in the distance that marked the large oil field in Cook's Inlet. He turned his back on this and went out to the leveled area where there were the hangar and the airstrip. He stopped in front of the hangar, not remembering the weeks spent learning to pilot his first plane, which Johnson had loaned him money to buy for the Souvenir Company years ago. He was thinking and remembering events much farther in the past that moment. The stars toward the North seemed like piercing, brilliant pinpoints of fire in the deep blue velvet sky. Soon the sun would come above the horizon and Spring would return to the North, to Point McIntyre, the settlement near where the Eskimo village used to be only a lonely group of igloos. And Aktu thought and remembered a life from the past. This young business executive, dressed in an American suit topped with the latest style dacron-lined parka, wondered, with simple honesty of thought, what it would have been like to be the leader of the walrus hunt with his tribe in the Spring just once.
Spring was coming to the ice locked land of the Eskimo tribe. The walrus herds would soon be on the move, when the summer began to slip northward across the tundra. The life of the tribe in Northern-most Alaska depended upon these great beasts. Polar bears, once a plentiful source of hide and fur and meat, were not seen so often anymore.

The men of the tribe had a few guns, belonging to the older men. These had been acquired when their fathers gave some lost fur trappers food and set them on the trail back to familiar areas. A small trading post far to the south, run by an Eskimo at a Canadian weather station, was visited by Nago, the old chief, at the end of each summer. Hides and furs the tribe could spare were traded for a small amount of ammunition for the guns. They were not fired while hunting except to save a life. The walrus and bear were hunted with spears used by the younger men along with the older men who had no guns.

One of the men had a chance meeting a trapper. The trapper had a strange box that spoke with a man's voice. The trapper told the Eskimo the box said that men were coming to the area of Nago's igloos to make holes in the ground and take out a black oil that burned like walrus fat.

The tribe sat through the long winter storms in the igloos and listened to storytellers while the women carved on ivory.
discs cut from walrus tusks and made boots and parkas from the
hides.

When the men from the oil company came in their planes to
the Prudhoe Bay area of the Beaufort Sea, they planned to drill
many wells in the "North Slope" area of Alaska. An exploration
team had discovered this area had the largest oil reserves in the
western hemisphere. Several drilling rigs were being flown in,
along with the crews. Johnson, who was in charge of the division
of the oil company that included Alaska, the Aleutian Islands and
all the area north of the Arctic Circle, was angry with O'Malley,
the boss of one of the well drilling crews. O'Malley had decided
that Eskimos who were known to live in the area could be hired by
the company and taught to do the unskilled labor of the "Rough-
necks" of the crew. The company could fly in only a few Americans
for this crew instead of the dozen or so needed. O'Malley was
sure the Eskimos would be smart enough to learn to follow orders
in English and do the work, if they were smart enough to stay
alive in the north land by hunting wild animals.

Johnson contacted the tribe, offering Nago a new rifle and
all the ammunition the tribe needed or the young men could work
on the drilling crew. Aktu, the young nephew of Nago, argued
in favor of agreeing to become employees of the oil company.
Nago felt the young men were needed for the walrus hunt, and that
young Aktu should go on the hunts in order to learn enough to take
over as chief from Nago, who had been appointed to lead the tribe
after Aktu's father was killed by a great white bear while Aktu was
very young. Aktu told Nago the older men could kill enough walrus
by using only guns for the hunt, since they now had plenty of ammunition, while the younger men would make money for the tribe to buy needed things at the trading post. Finally Nago called the tribe together to tell them he had decided to let the young men work for Johnson's oil company.

Aktu and the young Eskimos went to work with the American Roughnecks. They proved O'Malley's theory of their intelligence was right. Johnson flew in for inspections, to bring supplies and relief crews, taking man away for furloughs back to Alaskan cities. He found the Eskimo Roughnecks had quickly learned the skills of oil well work, staying on the job longer hours than any American would have considered. Working conditions were horrible, with only O'Malley staying when other Americans were rotated on the job.

One year passed, with a long recess during the worst part of the winter storms. The Eskimos went back to their igloos. The young men became the storytellers with their tales of work at the drilling rig.

Two years passed, with the first well completed and capped, followed by installation of the "Christmas Tree," that oddly-shaped arrangement of pipes and valves.

Three years passed, with another well on the way deep into the earth. Johnson knew that this crew, with its strange team of Americans and Eskimos, was best in the division. Aktu and his men now ate with the crew, enjoying American food flown in for the hearty meals that an oil field crew must have to continue the hard work. Nago and the old men killed more walrus than ever.
before, usually felling them with the first shot because their eyes were so keen from years of killing only with spears. The women had more ivory to carve into ornaments for themselves, more soft walrus hide to make into the beautiful hand-sewn short boots, and more fur for parkas of finest quality. They all felt they were the richest tribe in all the north land. Only Nago wondered sometimes about what was happening to all of them, and he shook his head in bewilderment.

One summer day, some of the drilling crew was scheduled to leave on Johnson's plane for furlough. Johnson paid their wages, a great amount of money for each man. Some with no sweethearts or wives would go to an Alaskan city and spend it all and come back to work broke. Those with families would go all the way to the states, taking their money home. But they wanted souvenirs of their work in the north. They gave Johnson money to offer to Aktu for him to get the Eskimo women to sell them ivory carvings and boots and parkas to take home. They were not allowed to go to the distant Eskimo village themselves. O'Malley had remembered troubles in which he was involved as a young man on a Roughneck crew in other parts of the world when he visited the natives. He made the igloos "off limits" to the crews.

Aktu drove a snowmobile to the village to see Nago. He noticed the old man was getting very feeble. He told Nago that the American oil men wanted to buy some of the things the Eskimos made because they loved their wives and sweethearts and wanted to take them gifts. Aktu said the tribe might sell enough to some day buy a snowmobile like the one he had learned to drive and main-
tain during his third year of work. Then they could go to the trading post every month instead of once a year. He said they might buy a radio for the tribe to listen to in the igloos during the winter storms. But old Nago could no longer make a decision about something so different. He shook his head in dismay and remained silent. The plane would leave soon. Aktu did what he had never done before. He called the tribe together to tell them of the problem. He recommended they sell these items they made to the Americans. In that moment, the invisible mantle of leadership fell around Aktu’s shoulders.

Aktu worked on with the oil men after Nago died and he became chief. He appointed his older cousin, Oomiak, to be leader of the walrus hunters, giving him the new rifle Johnson and the oil company had given Nago. With the money made working for the oil company, the tribe bought more rifles for all the hunters. Many walrus were killed on each hunting trip. One young man named Saskoma went on his first hunt and the following winter carved a beautiful piece of ivory with tiny figures showing the hunt. Johnson bought it for one hundred dollars. He asked Aktu to go on the plane to Anchorage with him. Photographs would be made and an article written about the Eskimo-American crew at the oil well. Aktu carried ivory carvings, parkas and boots to give to the oil company officials as gifts, and a few extra. These he sold to a merchant in Anchorage to whom Johnson introduced him, so he could bring more of the items to sell. Johnson told Aktu to form a company, to take care of the buying and selling, using some of the American oil well crew to keep written accounts. The
Eskimo-American Souvenir Company was started; it had as officers several Americans who kept the records, Aktu as president, Oomiak as vice president in charge of the hunting, and the young man who carved the ivory hunting scene, Saskoma, as vice president in charge of production. All Eskimos who worked for the company and all the officers, including the Americans, would share in the income. Aktu made many trips to Anchorage on the oil company plane. He felt strange. He did not seem to belong to either the modern world at Anchorage or the world of his primitive tribe.

After more than a decade had passed, Aktu had learned to read and write English and to fly a plane, which Johnson loaned the company enough money to buy. Aktu had a fine home in Anchorage and a store downtown to sell the Eskimo items. The little company had grown to become the Eskimo-American Trading Company, Inc. But one night Aktu walked out of his warm home to the airstrip nearby. He walked past his hangar holding the plane, past the garage with a car, a snowmobile and a company truck. He looked at the stars and at the deep blue sky to the north and knew summer would soon come again to Point McIntyre, the North Slope settlement where the Eskimo tribe now lived. The successful young Eskimo businessman stood and looked northward and wondered what it would have been like to be the leader of the walrus hunt with his tribe just once.
Eskimo tribe, led by old Nago, lived northernmost Alaska.

Aktu, Nago's young nephew, would become chief when older.

Aktu's father killed by bear.

In summer, all men in tribe hunted walrus. Young men killed walrus with spears. Some older men had guns traded from trappers but little ammunition.

Guns never fired on hunt except to save lives. Nago visited trading post annually, getting small quantity ammunition.

Oil company division chief Johnson sent crews to begin drilling at Alaskan North Slope area on Prudhoe Bay.

O'Malley boss of one crew, brought only few American unskilled "Roughnecks," anticipated hiring Eskimo workers.

Johnson doubtful.

Johnson offered Nago new rifle, much ammunition to let young men work for oil company.

Aktu favored plan.

Nago opposed, said Aktu should go on hunts, learning to lead tribe eventually.

Aktu argued money earned by young men would buy necessities for tribe.

Nago decided to let young men work, assembled tribe and told them.
Aktu and others worked with American Roughnecks, learned new skills quickly.

Johnson flew in occasionally, bringing supplies, relief crews.

Only O'Malley stayed when other Americans had furloughs.

First year working conditions poor.

Americans left area during winter storms.

Eskimos returned to igloos.

During second year, oil well completed, capped by "Christmas Tree" arrangement of pipes, valves.

Another well begun.

After three years, Johnson knew O'Malley's American and Eskimo crew best in the division, which included Alaska, Aleutian Islands and Arctic Circle area.

Nago's tribe became richer.

Young men's earnings purchased guns, ammunition for all walrus hunters.

Many walrus killed bringing more hides for parkas, boots, more ivory from tusks for carving into ornamental discs by tribe women.

Drilling crew men leaving on furlough wanted souvenirs.

O'Malley's rules kept Americans away from Eskimo village.

Americans gave Johnson money for Aktu to take to village.

Aktu told Nago Americans wanted parkas, boots, ivory carvings for their wives, sweethearts.

Souvenir money would some day purchase snowmobile for tribe, making monthly trading post trips possible.
Nago indecisive.

Aktu called tribe together, acting as leader for first time in recommending selling items.

Nago died, Aktu chief.

Aktu worked at well, appointed cousin, Oomiak, leader of hunters.

Men, boys learned to cut hides for parkas, boots, but only women, girls carved ivory discs.

Young hunter named Saskoma carved beautiful ivory picture from whole tusk showing hunt scene.

Johnson paid one hundred dollars for carving for his office, flew Aktu to Anchorage for photographs, story for company magazine.

Aktu sold parkas, boots, ivory carving to Anchorage merchant.

Johnson suggested Aktu hire Eskimos as his workers, start souvenir company.

Some Americans in O'Malley's crew were made officer, kept written records.

Oomiak, Saskoma made vice presidents, Aktu president.

All officers paid by souvenir company.

Aktu flew many trips to Anchorage.

More than decade later, souvenir company had become Eskimo-American Trading Company, Inc., with store in Anchorage, truck, small plane.

Eskimo tribe had grown richer, moved to new settlement at North Slope, Point McIntyre.

Aktu lived in Anchorage, owned home, auto, snowmobile.
Aktu had learned reading, writing English, flying plane. Though successful businessman, he always wondered what it would have been like to lead tribe on hunt just once.
The Eskimo

Multiple Choice Test

1. The Eskimo tribe in the story lived in an area in:
   1) The Aleutian Islands
   2) the westernmost part of Alaska
   3) the northernmost part of Alaska
   4) the northernmost part of Canada

2. Before the oil company came, the Eskimo tribe was led by:
   1) a young man who was very brave at hunting
   2) an old man who had taken over when his older brother was killed
   3) a man who was more interested in carving ivory than in hunting
   4) no one, because the leader had just been killed

3. The nephew was not the leader at the time the oil company came because:
   1) his section of the family was in disgrace over what had happened to his father
   2) he had already proven himself a coward
   3) he had rejected the role of leader, saying the tribe should be a commune with no leader
   4) he was too young to be the leader

4. Aktu's father:
   1) had been killed by a bear
   2) drowned in the icy waters trying to save a friend's life
3) died during a smallpox epidemic
4) had died of old age, an honored and revered chief

5. The men of the tribe hunted:
   1) seals in the winter months
   2) great blue whales during their spring migration from
      the Arctic Ocean south to the Pacific
   3) walrus during the summer
   4) polar bears, which roamed in great packs

6. The hunting was done by:
   1) older, mature men only from the tribe, using spears
   2) young men of the tribe, using spears
   3) young men only, using high-powered rifles
   4) old and young men both, using bows and arrows

7. The guns were used sparingly because:
   1) there was very little ammunition
   2) they were unreliable, old muzzle-loaders
   3) the men did not understand how to keep them in working
      condition
   4) the men were poor marksmen with guns

8. Nago made a trip each year:
   1) to Anchorage to sell seal pelts
   2) to a distant trading post to get ammunition
   3) to a tribe fifty miles west to exchange girls as brides
   4) to the U.S. Air Force base at Klondike City to get gasoline
      for the tribe's snowmobile

9. Oil crews came to drill wells in the "North Slope" area
1) Cook's Inlet
2) Prudhoe Bay
3) Hudson's Bay
4) Bering Sea

10. The division chief of the oil company was a man named:
1) O'Malley
2) O'Rourke
3) Johnson
4) Jameson

11. The boss of one of the well drilling crews was:
1) Johnson
2) Jameson
3) O'Malley
4) O'Rourke

12. Unskilled workers on the oil wells were nicknamed:
1) Rednecks
2) Roustabouts
3) Roundheads
4) Roughnecks

13. To get the young men to work at the oil well, an offer was made of:
1) a rifle for the leader and plenty of ammunition for the tribe
2) a gun and plenty of ammunition for each older man
3) high wages for the young men, to be paid to the leader
4) an officer's job in the oil company for Aktu

14. Nago opposed the oil man's plan because:
1) he felt Aktu should go on the walrus hunts
2) a tribal taboo against working for the white men would be broken
3) the tribe would starve without the young men to hunt
4) he wanted more money than they offered

15. Aktu was in favor of working for the oil men because:
   1) the money earned would allow some of them to go to Anchorage
   2) the money earned would buy necessities for the tribe
   3) they would learn to do something beside walrus hunting, which he hated
   4) the tribe would have money to build houses to live in

16. After weighing the problems and possibilities, Nago decided:
   1) to ask the tribe for a democratic vote on the problem
   2) that they should leave their igloos and move to another area
   3) to tell the tribe he had decided to let the young men work
   4) to send the young men on the hunt and let the older men work

17. Once at work at the oil well, the Eskimos:
   1) never learned to understand instructions spoke in English
   2) learned the new skills quickly
   3) performed the work much more slowly than Johnson had hoped
   4) found they could not get along well with the Americans

18. Johnson came to the oil well site occasionally:
1) by truck, bringing more pipe, drill stem, and fuel
2) by sled, bringing the payroll money
3) by snowmobile, bringing a sled loaded with additional food
4) by plane, bringing supplies and relief crews

19. Working conditions at the well were:
   1) poor, and only O'Malley stayed without furlough
   2) good, but the young Eskimo men left to go on the hunt
   3) easy, with the Americans leaving, letting the Eskimos take over the work
   4) difficult, with most of the Americans quitting before their time on the job was over

20. During the winter:
   1) work went on a usual at the oil well because of the clearing of the summer storms
   2) supplies and equipment became dangerous to use, but work continued
   3) the onset of the rainy season turned the tundra to a sea of mud
   4) the storms forced the Americans to leave, while the Eskimos went back to their igloos

21. The second year found:
   1) drilling at a standstill because the diamond bit of the drill had to be replaced
   2) the Eskimos refusing to return to work because the hours were too long
   3) an epidemic of influenza caused the death of most of the
Americans

4) the oil well completed and another well begun

22. The "Christmas Tree" was:
   1) a small cedar tied to the top of the rig to signify the well was finished
   2) a sentimental gesture by Johnson, flown in to help the Americans celebrate in December
   3) an arrangement of pipes and valves used to cap the finished well
   4) the "Roughneck" name for the oil derrick because of the lights strung up and down it

23. After three years, Johnson knew:
   1) he was wrong in thinking the Eskimos could do the work
   2) the Eskimo-American crew was the best in the division
   3) that three dry holes proved the geologists were wrong about the oil field
   4) O'Malley was the wrong man for the division chief's job

24. Nago and the tribe:
   1) caught influenza from the Americans with many deaths resulting
   2) became richer because of what had happened for three years
   3) moved into new houses at a settlement named Point Barrow
   4) suffered from hunger because noise of airplanes had scared the walrus herds away

25. The money earned at the oil well work was:
   1) sent to Anchorage to establish a boarding school for Eskimo students
2) used to hire a teacher to come and live with the tribe
3) spent on purchasing a snowmobile for each man in the tribe
4) taken to the trading post to spend for guns and ammunition for all the walrus hunters

26. The ivory tusks of the walrus were:
   1) used for food by grinding into powder and mixing with blood
   2) hollowed out and used for storing gunpowder
   3) split and made into crude needles to use in sewing parkas
   4) cut into discs which the women carved into ornaments

27. When the oil well crew men left for furloughs, they:
   1) planned to ask Johnson for more money before they came back to work
   2) all went by truck to Sitka for a week of wild living
   3) wanted to have some souvenirs to take with them
   4) each carried a can of oil from the well to show their friends

28. O'Malley had made rules for the oil well crew to:
   1) keep the Eskimo workmen from ever eating American food
   2) prevent the Eskimo workmen from getting raises in pay
   3) prohibit visiting of the Eskimo igloo village by the Americans
   4) force the Americans to take furloughs at stated intervals

29. Johnson received money back from his American crew members:
   1) to give to Aktu to take to the village
   2) in exchange for I.O.U.'s they had given him
3) to pay off gambling debts they had incurred
4) to invest in war bonds through the payroll savings plan

30. Aktu told Nago that the Americans:
1) wanted to visit the village and make friends with the
   men and women
2) needed to see him about getting more workers for the
   well
3) were interested in buying ivory carvings, boots and
   parkas
4) had asked him to take all the Eskimo workmen to Anchorage

31. Aktu suggested that extra money received by the tribe:
1) could be put in an account set up for the tribe in a
   Swiss bank
2) would be enough to allow the tribe to build wooden
   houses
3) should be set aside for college educations for the
   young men
4) might someday be enough to purchase a snowmobile for
   tribe

32. Nago reacted to Aktu's news:
1) with complete indecision
2) by becoming angry with him
3) with total refusal to even consider the request
4) by resigning as leader in the face of such a request

33. After talking to Nago, Aktu decided to:
1) go back to Johnson and tell him of Nago's refusal
2) call the tribe together himself since Nago couldn't
   decide what to do
3) apologize to Nago for making him angry
4) beg Nago to reconsider his threat of resignation

34. In making this decision and carrying it out, Aktu:
   1) acted as leader of the tribe for the first time
   2) showed his divided loyalty between Johnson and Nago
   3) illustrated his complete loyalty to Nago, the tribe's leader
   4) by apologizing, showed the respect due an older man from a younger one

35. The leadership of the tribe changed when:
   1) Nago grew too old and feeble to lead the hunt
   2) the younger men rebelled and elected Aktu
   3) Nago died, forcing Aktu to take up his hereditary leadership
   4) Nago abdicated the leadership in favor of his son, Oomiak

36. Aktu reacted to the change in leadership by:
   1) taking the men on many successful walrus hunts
   2) asking the older men to go to work at the well, too, abandoning hunting altogether
   3) moving away from the tribe completely to live with the Americans
   4) continuing to work at the well, but appointing Oomiak to lead the hunt

37. Saskoma did not follow the usual behavior for a young man in:
   1) refusing to work at the well so he could stay home and write poetry
2) never going hunting because he had rather paint pictures of animals
3) stitching colorful designs on parkas and boots that would be sold
4) carving ivory, because this work was usually done by women and girls

38. Saskoma's work had as its subject:
1) a scene of the walrus hunt
2) the beauty of the aurora borealis (northern lights) told in verse
3) primitive geometric design inspired by the angles of the drilling rig
4) the great white polar bear in its natural setting

39. When Johnson saw Saskoma's work, he:
1) became angry because Saskoma was not doing any real work
2) offered one hundred dollars for the work
3) laughed at the primitive effort at art
4) wanted to send Saskoma to school because of his great talent

40. Johnson asked Aktu:
1) to go to Anchorage on Johnson's plane
2) to have Saskoma complete another of the same type for him
3) to pose for photographs he was taking at the oil well site
4) to dictate to him the story of his life for a magazine
to publish

41. An Anchorage merchant became involved with the Eskimos when he:
   1) agreed to Johnson's request to set up a scholarship for the talented Eskimo
   2) offered to donate a snowmobile for the tribe's use
   3) bought parkas, boots and carvings from Aktu
   4) flew in and paid them to take him along on a walrus hunt

42. Johnson told Aktu he should:
   1) come to Anchorage to work in the company office
   2) hire Eskimos of the tribe to work for Aktu
   3) learn to read and write English at the Anchorage school
   4) let Johnson teach him how to fly a plane

43. Johnson also suggested that Aktu should:
   1) buy shares of stock in the oil company
   2) open a trading post in the igloo village to sell to the well crew
   3) form a company of guides for hire to rich Americans who wanted to hunt polar bears
   4) start a company to sell Eskimo-made souvenirs

44. Americans from O'Malley's crew were:
   1) asked by Johnson to buy more of Aktu's souvenirs
   2) supposed to contact American hunters by radio, telling them of Aktu
   3) offered positions as officers, with pay, if they would write Aktu's company records
   4) instructed to buy all supplies and luxury items at Aktu's
trading post

45. Aktu, Oomiak, and Saskoma were to be:

1) officers in the souvenir company along with the Americans
record keepers
2) hunting guides for Americans who came north on vacations
3) joint owners and operators of the trading post
4) offered a bonus by Johnson for every Eskimo they re-
cruited for oil well work

46. As a result of the new company:

1) funds were available for the tribe to hire a teacher to
come to the village
2) Oomiak make monthly trips to the trading post
3) many Americans came by plane to the area to hunt
4) Aktu made many trips to Anchorage

47. After a decade and more had passed:

1) Aktu lived permanently in Anchorage
2) the oil well crews had moved away and life was as before
in the tribe
3) the young men in the tribe had moved away to other oil
well drilling sites
4) Saskoma had graduated from the University of Alaska art
institute

48. The name of the company had become:

1) Alaskan-American Trading Company, Inc.
3) Alaskan Eskimo Souvenir Company, Inc.
4) Eskimo-American Souvenir Company, Inc.
49. Aktu owned:
   1) a home, auto, and snowmobile
   2) a store in downtown Anchorage
   3) the trading post at Point McIntyre
   4) a flying service to the North Slope area

50. Aktu had learned how to:
   1) boss a drilling crew and pilot a plane
   2) fly a plane and read and write English
   3) read and write English and boss a drilling crew
   4) boss a drilling crew and drive and maintain a snowmobile

51. The Eskimo tribe, after ten years, had:
   1) learned to live on American canned meat because they
      had killed all the walrus
   2) started a trading post on the trail to Juneau
   3) moved to a new settlement, Point McIntyre
   4) struck oil on land they claimed as their own

52. Ten years after the company was formed by Aktu, it owned:
   1) the old trading post where the Eskimos used to buy
      ammunition
   2) a store in Anchorage, a truck and a plane
   3) shares in each oil company drilling wells in the area
   4) a truck for each officer in the company

53. Point McIntyre was located:
   1) on the trail halfway to Juneau
   2) on the site of the old trading post
   3) on the North Slope area, near the old village
   4) at the northwest corner of Hudson's Bay
54. After ten years, the Eskimo tribe had:

1) almost been wiped out by an epidemic brought in by the white men
2) allowed some of their young girls to marry Americans
3) lost all their money through lack of business sense
4) grown steadily richer

55. Aktu's only disappointment in life turned out to be:

1) that he had never been the leader of the tribe on a walrus hunt
2) the fact that he had never married
3) his lack of a formal education
4) the feeling that he belonged to neither the white man's nor the Eskimo's world
The following sentences describe the life of the Eskimos and the Americans during the time old Nago was chief.

56. A. All of the walrus hunters worked as O'Malley's Roughnecks.
B. Only some of the walrus hunters worked as O'Malley's Roughnecks.

57. A. All of the oil men were employees of Johnson's division.
B. Only some of the oil men were employees of Johnson's division.

58. A. Only some of the walrus hunters were Eskimos.
B. All of the walrus hunters were Eskimos.

59. A. Only some of the employees of Johnson's division were Eskimos.
B. All of the employees of Johnson's division were Eskimos.

60. A. No oil men were walrus hunters.
B. Only some of the oil men were walrus hunters.

61. A. All of the Eskimos worked as O'Malley's Roughnecks.
B. Only some of the Eskimos worked as O'Malley's Roughnecks.

62. A. Only some of the employees of Johnson's division were walrus hunters.
B. All of the employees of Johnson's division were walrus hunters.

63. A. Only some of the Eskimos were oil men.
B. No Eskimos were oil men.

64. A. Only some of O'Malley's Roughnecks were employees of Johnson's division.
   B. All of O'Malley's Roughnecks were employees of Johnson's division.

65. A. All of the oil men worked as O'Malley's Roughnecks.
   B. Only some of the oil men worked as O'Malley's Roughnecks.

The following sentences describe the life of the Eskimos and the Americans after Aktu became chief.

66. A. Only some of the Americans were officers of the Souvenir Company.
   B. All of the Americans were officers of the Souvenir Company.

67. A. All of the souvenir makers were workers for Aktu.
   B. Only some of the souvenir makers were workers for Aktu.

68. A. Only some of the oil men were souvenir makers.
   B. No oil men were souvenir makers.

69. A. Only some of the officers of the Souvenir Company were workers for Aktu.
   B. All of the officers of the Souvenir Company were workers for Aktu.

70. A. All of the souvenir makers were officers of the Souvenir Company.
   B. Only some of the souvenir makers were officers of the Souvenir Company.

71. A. All of the oil men were Americans.
B. Only some of the oil men were Americans.

72. A. Only some of the workers for Aktu were oil men.
    B. All of the workers for Aktu were oil men.

73. A. All of the oil men were officers of the Souvenir Union.
    B. Only some of the oil men were officers of the Souvenir Union.

74. A. Only some of the workers for Aktu were Americans.
    B. All of the workers for Aktu were Americans.

75. A. All of the oil men were officers of the Souvenir Union.
    B. Only some of the oil men were officers of the Souvenir Union.
APPENDIX H
VANUA LAVA ISLAND

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Vanua Lava Island

Traditional Version

Vanua Lava Island lay on the north end of the New Hebrides group in the Pacific Ocean. The two groups of natives that lived on opposite ends of the island might have been halfway around the world from each other, however. The dark skinned, fuzzy haired Mauris who inhabited the southwestern section were members of the Melanesian race. They were fierce and adventurous in nature. They built fine sailing craft of the outrigger or the catamaran type and ventured from their shores far out in the Coral Sea to make large fish catches. Their sailing sense was almost legendary. Without compasses or route finders of any sort, they returned easily to their tiny dot of land in the wide expanse of the ocean. There were nights when they steered home by the stars. By day they followed the path of the sun. But in storms or on rare days of overcast skies, they seemed to have within their brains some primitive sense of direction of the same type that carries the great schools of fish ready to spawn out of the uncharted stretches of ocean to the same rivers where they begin life. They lived a self-sufficient seashore life on the west end of the island and never ventured near the dark, brooding mountains of the inland area of the island.

These mountains, vestiges of volcanoes, were not of great height but their peaks lay in the clouds that hung over them most of the time. Deep valleys with waterfalls cut the almost
impenetrable forest and fern groves that flanked their sides.

On the north and eastern end of the island a high plateau ended in cliffs overlooking the ocean. Almost no beaches were on this side of the island. There was one cove where the largest river made a natural harbor that had a deep enough channel to permit a freighter to come in once a month for trading at the small settlement named Fort Patterson. The light bronze skinned natives were a happy-go-lucky people. Members of the Polynesian race, this group called the Keries, worked hard but happily to gather coconuts, which they split and dried to make copra. Bags of copra were traded for the necessities of life when the ship docked. Occasionally they harvested vanilla pods from the few trees that grew on the extensive plateau or cut down a sandalwood tree. They trimmed the fragrant wood to lengths with their primitive adzes and carried them into the settlement to be sold to the traders.

The war in the Pacific came to this island in easy stages. The Japanese army and navy flowed outward after December, 1941, but never came south of the Solomon Islands, so the New Hebrides were untouched by Japanese occupation. The peace and quiet were shattered as soon as the Allied offensive began to get underway. Daily air strikes from bases on New Zealand, and later from the base on New Caledonia, caused the natives to learn to live with the sound of aircraft overhead. The pace of the war quickened as decisions were made in Admiral Halsey's headquarters to build forward bases as the attack moved toward the Solomon Islands, with the objective of capturing the key island of
Guadalcanal as the first step in the island hopping strategy that would eventually lead to recapture of Philippines.

One day a seaplane, a Navy PBY, landed offshore, then taxied in close and signaled for a native canoe to come out. A Naval lieutenant and the District Officer of the New Hebrides British Colonial Administrative Service came ashore and went to see the missionary on the island. After a conference of about an hour, the two men were taken back to the plane which left. The missionary had learned that the Navy had plans to build a supply depot for their PBY's at the harbor. A squadron of Patrol Torpedo boats would also be quartered at the Port. So the missionary went to the chiefs of the Keries and told them simply that many men with white faces like his own were coming to their island.

The Navy construction battalion, the famous "Sea-Bees," moved in within a week, and by the end of two weeks the buildings were up and usable. The Sea-Bees left as quickly as they had come and the permanent base complement of Navy men moved in. Captain Morrison was the base commander.

He soon contacted the missionary to confer with him about the natives. He wished to avoid trouble, he explained, but he also knew there was bound to be some changes in their previous way of life. He knew of the traditional South Sea native's attitude toward private property. Experience had taught him that anything not nailed down or locked up would just be "taken" by the natives if they had some use for the item. "Let's hire some of them to work at the base. I know they have no need for money, so we will pay them in whatever supplies you think they
can put to sensible use in their way of life," the Captain suggested. The missionary said that a personal relationship should be established between the Captain and the main chief, Tomana, as well as with the other chiefs and the men of the Keri group. He suggested that all hiring be done by the Captain alone, and that the Captain only should pay for their services in whatever goods they decided the natives could use. They would work alongside the American Navy men and together would form the Naval Shore crew.

The months went by with very little trouble. The native workers were not expected to do very much hard labor—the wonderful machines of the Navy accomplished much of the lifting and stacking and transporting. But the natives were useful to carry out small jobs and bring items from one place to another, if you were not in too much of a hurry for anything. For the work of the men their chiefs received items such as lengths of cloth or iron pots in which their women could cook the taro and breadfruit or simple hammers and chisels to replace their crude adzes used in shaping their canoes. They also were given shirts, trousers and caps that were no longer usable for Navy personnel but were highly prized by the Keries. The prosperity of their way of life was accepted by the child-like Polynesians as if it had always been and would always continue to be.

The war moved northward as the Allied offensive became greater in scope. Guadalcanal was captured in a very costly Naval and Marine operation. Other islands were soon taken; new bases were built on Bouganville and New Georgia in the Solomons
far north of Vanua Lava. The old base had ceased to be of any further use, so the day came when the Navy moved out, leaving only empty sheds and idle broken-down machinery that was not worth repairing. Captain Morrison shook the hands of the missionary and the chiefs and told them good-bye and that he would someday come back to see them again. The missionary and the captain knew that the future would take him so far away that he would never return to this remote corner of the world, but the Keri chiefs believed him when he gripped their hands and said, "I'll come back again someday, my friends."

Vanua Lava Island is almost the same as it always was. The blue waters of the Coral Sea still wash ashore over the beaches of the southwestern end of the island. The fuzzy haired, dark skinned Mauris still venture out from shore to catch fish in their fast outrigger craft. Only an occasional airplane passes high in the sky over their cluster of huts. They still superstitiously stay away from the dark, high mountains that loom in the distance. Their life was changed little at all when a distant war brought the strange white faced men to the other end of the island, for they never were aware of what went on there. They saw an occasional giant ship in the distance in the Coral Sea, but they turned their boats away from these monsters in fear and dread. Except for this, their old way of life was changed none at all.

Not so with the Polynesians. Some of Keries worked much less than they used to at gathering coconuts to split and dry for copra. A few worked hardly at all, and spent their days
sitting on the cliffs staring out toward the far distant horizon of the Pacific. The missionary, Father Beddington, began to get alarmed at the lethargy that had come to many of the Keri men. The bags of copra were fewer in number each month that passed. When the freighter docked, each visit found the natives with less to trade for things they needed. The chisels the Navy captain had given them were dull with use, but there were no files to sharpen them. Some of the iron kettles had cracked from misuse, but none could be replaced with so little copra to trade. Father Beddington wondered if soon the freighter would call less often than once a month. In his puzzlement over the situation, he sought out the main chief, Tomana. "There is nothing wrong with the people," answered Tomana to the missionary's questions. "They are not sick. They are not unhappy. They are only waiting for the great Navy to come back again so our life will be good once more."

What he had learned from Tomana upset Father Beddington. He hurried back to the chapel and began to ring the bell. When most of the natives with whom he had some influence had gathered, the Anglican missionary tried to tell them that the Navy had gone for good. "They will not return, my friends; not next month or even next year," he explained, sadly shaking his head. There was some wailing among a few of those present at this news. Those who had become baptized Christians were willing to accept Father Beddington's words as the truth. After they left the chapel, they talked among themselves and soon many of them returned to working at the coconut harvest in the same manner they had before the Navy ever came. Some men even trekked off into the highlands to fell a sandalwood tree.
so they would have its wood trimmed before the next freight arrived.

Not so with Tomana. He came to Father Beddington's compound in anger and refused to sit beside him on the long veranda. "How could you tell the people something that is so wrong? Haven't you yourself promised us that if we live good lives your Christ-man will return in a second coming and all his people will be rewarded. I believe, sir, that you are wrong about the Navy men. I believe that if we are good and if we wait for them and watch for them and sing songs of praise for them, they, too, will return in a second coming to Vanua Lava." Thus spoke Tomana. Nothing Beddington could say could change his attitude. Tomana left the veranda, walked out of the compound, and from that day on, he never came to the chapel when Father Beddington rang the bell for ser-vices.

Tomana's influence was great and many other men and all the Keri chiefs joined him and sent no more to the chapel. They sat for long days on the cliffs, watching, waiting, building fires at night, occasionally singing songs--native songs, Christian hymns, and a crude version of Anchors Aweigh that had been taught them by one irreligious Chief Petty Officer. Tomana spoke to the troup. He said they were Christians no more. He told them to call themselves the Chosen Ones, a name he remembered from one of the Bible stories he earlier had learned. He said they would work no more to harvest coconuts or to make copra to trade, but would spend their days waiting for the first sight of the returning Navy.

Father Beddington sick with a recurrence of malaria a few weeks later and was taken away on the freighter. The most devoted
native of the Christian flock, Pona, was left in charge with strong admonitions to never fail to have a Sunday service in the chapel. The faithful Christians continued to work each day getting copra ready for the next visit of the freighter; on Sunday they gathered when the bell rang to sit together and to sing hymns and listen to young Pona haltingly try to retell the stories of Christianity that he had learned from the good Anglican Father. Some of the Christians secretly believed the myth Tomana told of the second coming of the Navy, but they continued in their daily work and did not go to the cliffs.

One day, Tomana had an idea. Perhaps they had not been good enough yet to make the great Navy return to their island. Maybe what was needed was something more tangible of their desire. He gave an order and four of the chiefs left to go to the mountains to haul back large brownish-red rocks of basalt. With great effort, these were brought to the crest of the highest cliff. The copra workers in the village heard of this latest activity and three who secretly believed that Tomana was right slipped out to join the group on the cliffs to satisfy their curiosity about what was going on. When Tomana ordered the four chiefs who had brought the rocks to stack them into a tall pile, the three men from the village joined in and helped because they were stronger than those of the Chosen Ones who had sat around for weeks doing little in the way of physical work. Tomana then turned and spoke to the men and the chiefs as the last rock was put in place. "We have built an altar to the Navy. Let us now build a fire on the altar for them to see their way back to us."
At the base toward the seaward side, a fire was made, to be kept going by Tomana and the other Keri chiefs. Surely now the great Navy would see this outward sign of the inward grace of the Chosen Ones and would return again to Vanua Lava. Every day Tomana climbed to the lower rocks of the altar, stood beside the fire and shouted a prayer of supplication out across the rolling swells of the ocean: "Great God Navy, do not forsake us, come again, we beseech thee." And the other men of the Chosen Ones murmured, "Amen."
Vanua Lava Island
Medium-Telegraphic Version

Vanua Lava Island lay on the north end of the New Hebrides group in the Pacific Ocean. Two groups of natives lived on opposite ends of the island. The southwestern section was inhabited by natives of the Melanesian race. The dark skinned, fuzzy haired Mauris built fine sailing craft and ventured far out in the Coral Sea to catch fish. They lived a self-sufficient seashore life, never going near the mountains of the inland area of the island. These mountains, once volcanos, were not very high. Deep valleys and waterfalls cut the almost impenetrable forest that flanked their sides.

On the northern and eastern end of the island a high plateau ended in cliffs above the ocean. There were almost no beaches. Where the largest river made a natural harbor, there was one channel deep enough to permit passage of a freighter which came once a month to trade at Port Patterson. The natives were light bronze skinned, of the Polynesian race. These people, called the Keries, worked hard but happily gathering coconuts, which were split and dried to make copra. Bags of copra were traded for needed items when the freighter docked. Occasionally they cut down a sandalwood tree that grew on the plateau. The fragrant wood was trimmed with primitive adzes and carried into the settlement to be sold to the traders.

The Japanese never came far enough south to occupy Vanua Lava. The first the natives knew of the war was when the World War II
allied offensive got underway. Peace and quiet were shattered by daily flights of planes from the new base on New Caledonia. The natives learned to live with the sound of aircraft overhead. Unknown to them decisions were being made in Pacific Naval Headquarters relative to the need for forward bases to support the attack on Guadalcanal.

One day a Navy PBY seaplane landed, bringing a Naval lieutenant and the District Officers of the British Colonial Service. They went to see the Anglican missionary on the island, talked about an hour, then were taken back to the plane, which left. The missionary had learned of Navy plans to build a supply depot for PBY's at the harbor. A squadron of patrol torpedo boats would also be quartered there. The missionary went to the chiefs of the Keries to tell them many white men were coming to their island.

The Navy construction battalion, the famous "Sea-Bees," came within a week, spent two weeks constructing buildings, and left as quickly as they had come. The permanent base complement of Navy men moved in.

The base commander was Captain Morrison. He soon contacted the missionary to confer with him about the natives. He knew there would be some changes in their previous way of life and wished to avoid trouble. The captain suggested, "Let me hire some of them to work at the base. I know they have no need for money, so we will pay them in whatever supplies you think they can use in their way of life." The captain decided the natives would work with the Navy men and together they would form the
Naval Shore Station crew under his command.

Months went by with very little trouble. The men and machines of the Navy did most of the hard work but the natives were useful in carrying out small jobs. For the men's work, the main chief, Tomana, received lengths of cloth, or iron pots for the women to use in cooking taro and breadfruit, or hammers and chisels to replace their crude adzes. They also were given shirts, trousers and caps that were not good enough to be worn by Navy men. These were highly prized by the Keri men. The prosperity of their new way of life was accepted by the child like Polynesians as if it would never end.

As the allied offensive became stronger, new bases were built in the Solomon Islands far north of Vanua Lava and the old base ceased to be needed. The Navy moved out, leaving only empty sheds and broken machinery. Captain Morrison shook hands with the missionary and the chiefs, telling them he would someday return to see them. The missionary and the captain knew that, in reality, he would never return to this remote corner of the world. But the Keri chiefs believed him when he told them good-bye and said, "I will come back, my friends."

Some Keri men had continued to work as they always had while the Navy was there, gathering coconuts and making copra. Others who had been hired by Captain Morrison worked at this old task much less than they used to before the Navy came. A few would not work at all now but spent their days sitting on the cliffs, staring out across the Pacific. Father Beddington, the missionary, began to get alarmed at what was happening. When the freighter
docked, each monthly visit found the natives with less copra to trade. He wondered if soon the freighter would call less often. In his puzzlement, he sought out Tomana and questioned him. "There is nothing wrong with the people," answered Tomana. "They are not sick. They are not unhappy. They are only waiting."
"Waiting?" repeated Father Beddington. "Yes, waiting for the great Navy to come back so our life will be good once more."

Father Beddington was upset over this. He hurried back to the chapel and rang the bell to call together the natives with whom he had some influence. He tried to tell them the Navy was gone for good and would not return next month or even next year. Those who were now baptized Christians believed Father Beddington's words as the truth. They talked among themselves later. Soon more men returned to harvesting coconuts in the old way.

Tomana, however, came to Father Beddington and angrily said he thought the missionary was wrong about the Navy. He reminded Father Beddington of his teaching that Christ would return in a second coming to reward the faithful Christians. "I believe if we are good and watch for them and sing songs of praise, the Navy men will make a second coming to Vanua Lava," said Tomana. Father Beddington could not change Tomana's mind.

Tomana influenced all the chiefs and some of the men to join him on the cliffs. He said they were no longer Christians. He called them the Chosen Ones. They waited on the cliffs, built fires at night, and did no work.

Father Beddington grew ill and had to leave the island. His most faithful native Christian, young Pona, continued to hold ser-
vices in the Chapel. Some of the Christian men secretly believed the myth Tomana told about the Navy's return.

Tomana decided they needed to build an altar to show the greatness of their desire. He ordered four chiefs to haul basalt stones from the mountains. Three Christian Keri men who secretly believed Tomana went to the cliffs out of curiosity. They helped the four chiefs, who were weak from not eating or working regularly, to lift the stones into place. Tomana commanded them to light a fire that would be kept burning all the time by the chiefs. Every day Tomana shouted out across the ocean a prayer begging the Great God Navy to return.
Vanua Lava Island

Highly-Telegraphic Version

Vanua Lava Island at north end of New Hebrides Group in Pacific Ocean.

Two groups of natives lived on island, separated by mountains, deep forest.

Southwestern side held Mauris, dark skinned, fuzzy haired Melanesian. Mauris built sailing craft, fished far out in Coral Sea.

Never went near mountains.

North and east were plateau, high cliffs over Pacific Ocean, no beaches.

One harbor with deep channel allowed monthly freighter to dock at Port Patterson to trade.

Bronze skinned Polynesian natives, called the Keries, harvested coconuts.

These happy, hard working people split coconuts, dried them to make copra.

Bags of copra traded for necessary items when freighter came.

Japanese never occupied island in World War II.

American Navy came to build supply depot for PBY seaplanes and patrol torpedo boats.

Naval Shore Station commanded by Captain Morrison.

Anglican missionary on Vanua Lava conferred with Morrison about Keri natives.
Captain decided to hire some Keri men to work with Americans. Together formed Shore Station crew, all under Morrison's command. Main Keri Chief, Tomana, paid for men's labor, receiving lengths of cloth, iron pots for cooking taro and breadfruit, hammers and chisels. Discarded Navy trousers, shirts, caps given to Keri men. Polynesians accepted prosperity as if it would never end.


Morrison shook hands with chiefs, missionary, said he would some day return. Morrison, missionary knew he would not but chiefs believed his words. Keri men not hired by Morrison had continued harvesting coconuts, making copra during Navy stay. Some who worked for Navy returned to this work, but with apathy. A few would not work at all, sat on cliffs all day staring out across Pacific.

Father Beddington, the missionary, alarmed at this. Less copra made to trade. Freighter might come less often. He asked Tomana what was wrong.

Tomana said idle Keri men on cliffs watched for Navy to return.
Wanted easy way of life again.

Tomana's words upset Father Beddington.

He rang Chapel bell, addressed assembled Christian Keries.

Told them Navy would never return.

Most believed his words, but were sad.

Many more men returned to harvesting coconuts.

Tomana angrily accused missionary of being wrong.

He said missionary had told Christian Keries Christ would return if they were faithful and good.

Tomana believed if Keri men were faithful and good, Navy would return and reward them.

Father Beddington grew ill, left Vanua Lava.

Young Pona, faithful native Christian, continued holding Chapel services.

Some Christian Keri men secretly believed in Tomana's Navy myth, but stayed at work.

Tomana took all other chiefs, Keri men who believed in him to cliffs.

Tomana said they were no longer Christians, named them Chosen Ones.

Chosen Ones did not work, ate little, sat and watched for Navy.

Tomana decided an altar needed to prove their desire.

Four chiefs sent to haul basalt rock from mountains.

Three Christian Keri men came to cliffs, curious about rocks.
Helped four chiefs, who were weak from little food, no work, lift stones in place.
Tomana commanded fire be built, kept burning all time.

Each day Tomana shouted prayer across ocean, begging Great God Navy to return.
Vanua Lava Island

Multiple Choice Test

1. Vanua Lava was:
   1) the name of a volcano on New Caledonia
   2) a type of garment worn by men of the Melanesian race
   3) an island in the New Hebrides Group
   4) a small atoll of the Caroline Islands

2. The two groups of natives were separated by:
   1) the wide expanse of the Coral Sea
   2) a great river filled with dangerous rapids
   3) a shark filled lagoon and hazardous coral reefs
   4) mountains and deep forests

3. The two groups of natives were of the:
   1) Indonesian and Polynesian races
   2) Polynesian and Melanesian races
   3) Melanesian and Micronesian races
   4) Micronesian and Indonesian races

4. In appearance, the Mauris were:
   1) fuzzy haired and short in stature
   2) dark skinned and fuzzy haired
   3) very tall, with dark skin
   4) short in stature with long, dark hair

5. The main occupations of the Mauris were:
   1) building sailing craft and fishing
   2) fishing and gathering coconuts
3) gathering coconuts to make copra and hunting wild pigs
4) hunting wild pigs and planting taro and manioc gardens

6. The Mauri natives:
1) sailed along the beaches on both ends of the island
2) never went near the mountains
3) traveled by sailing craft to trade at other islands
4) made occasional raids for slaves on the north end of the island

7. The north and east sections were:
1) cut by many deep, fast rivers rushing out to sea
2) mainly a plateau, with high cliffs over the Pacific Ocean
3) forests inhabited by a race of fierce headhunters
4) a high plateau, rolling down to beaches on the Pacific

8. Port Patterson was situated:
1) at the one harbor with a deep channel
2) on the far eastern tip of the plateau
3) on a small peninsula jutting out from the northern end of the island
4) at the mouth of the delta of one of the largest rivers

9. At Port Patterson:
1) the natives maintained a trading post to barter carved sandalwood for lengths of cloth
2) a couple of derelict Irish beachcombers had a bar and trading post
3) there was a Catholic mission chapel
4) a freighter came to trade once a month
10. The natives of the north and east were:
   1) bronze skinned, fat and good natured
   2) light skinned, lazy and undependable
   3) dark skinned, fierce and adventurous
   4) bronze skinned, happy and hard working

11. The Keri natives' main occupation was:
   1) harvesting coconuts to make into copra
   2) building sailing craft and fishing
   3) hunting wild pigs and gathering coconuts
   4) gardening, with extensive crops of taro, pineapple and coconuts

12. The Keries maintained their way of life by:
   1) sailing with shiploads of home grown food to trade at the next island
   2) trading pigs they had hunted and killed to the Mauris
   3) working for wages by loading copra at the dock at Port Patterson
   4) trading bags of copra for needed items from the freighter

13. The American Navy:
   1) chased the Japanese off the island in an easy battle
   2) moved in to build a supply depot
   3) sent in a construction battalion to build an airfield
   4) installed a secret hidden base for patrol torpedo boats

14. Captain Morrison:
   1) contacted Tomana, the main chief, before the Navy came
   2) was commander of the PBY wing to be served by the shore station
3) commanded the Naval Shore Station

4) was in charge of taking the sick missionary off the island

15. Captain Morrison talked over the problem of the Navy men on the island with:

1) the Anglican missionary
2) the main chief, Tomana
3) the missionary from the Catholic chapel
4) all the Keri chiefs

16. The captain decided to:

1) build a high fence around the station keep the natives out
2) send the natives to live on the other end of the island
3) hire some Keri men to work with the Americans
4) ask the chief to send all the native women to a distant island named Bali H'ai

17. The shore station crew was:

1) made up of Navy seamen with native servants they hired
2) part American civilians, part natives and part Navy men commanded by Morrison
3) made up jointly of some Keri men and Navy men all under Morrison's command
4) the Navy men and a few natives, with the natives answerable to their chiefs only

18. The natives who were employed:

1) received from their chief, Tomana, the items the Captain paid
2) were paid in silver coin only by the Navy for whom they
were servants

3) soon were unhappy because they wanted more pay
4) received strings of seashells, used as money in the islands

19. The items given by Morrison consisted of:
   1) lengths of cloths, glass beads, hammers and chisels
   2) cooking pots, mirrors, lengths of cloth
   3) lengths of cloth, cooking pots, hammers and chisels
   4) cooking pots, hammers and chisels, chewing gum and Coca Cola

20. The attitude of the natives was:
   1) the inconvenience of the Navy could be endured for a little while
   2) to grab all the good things they could while it all lasted
   3) the Americans were ruining their lovely island
   4) the new prosperous way of life would go on forever

21. Items highly prized by the Keri native men were:
   1) old blue denim fatigue clothes and sailor hats
   2) American guns to use in hunting wild pigs
   3) discarded Navy shirts, caps, trousers
   4) cast-off Navy shoes to protect their feet from the sharp coral reef

22. The American Navy moved northward, building new bases:
   1) in the Society Island Group
   2) on New Guinea
   3) at Ratonga in the Cook Islands
4) in the Solomon Islands

23. The base commanded by Morrison:
   1) was "put in mothballs" to be reopened at a later date
   2) was useless now so the Navy moved out
   3) was still needed for patrol torpedo boats but not for the PBYs
   4) would be left intact, but a new crew would be sent in

24. Morrison shook hands with:
   1) each Navy man of the command he was leaving
   2) the missionary and the Keri chiefs
   3) Tomana and the missionary
   4) the missionary, but only bowed low to the chiefs

25. Morrison told them he would:
   1) some day return
   2) come back after the war to start a trading business
   3) return on his private yacht when the war was over
   4) never see them again but would write about them in a book

26. After talking to Morrison, the chiefs:
   1) believed he would never sail all the way around the world
   2) believed his words when he said he would return
   3) didn’t think he really wanted to come back
   4) were even more confused about the strange war they didn’t understand

27. The Keri men who were not employed by Morrison:
   1) had quit working at the old tasks to work as servants for the Navy officers
2) had continued at their work, harvesting coconuts and making copra
3) were jealous of those who were chosen to work
4) were happy they did not have to do the hard work for the Navy so they spent their days idle on the cliffs

28. After Morrison left, the natives employed by him:
1) went back to the old work apathetically, except for a few men
2) promoted themselves to chief status because they were so rich
3) all refused to go back to the old hard way of life
4) had enough money to spend when the freighter came to trade

29. A few of the native men who had worked for Morrison:
1) got in their sailing craft and followed the Navy to the next base
2) went to Morrison's replacement to ask for work but were refused
3) went after the women to bring them back from the other island
4) would not work at all but sat on the cliffs, looking out to sea

30. Father Beddington was:
1) a friendly Navy Chaplain who gave the natives old clothes
2) a Navy Petty Officer who was father of children born to four native women
3) the friendly Irish Catholic priest at the chapel
4) the sympathetic Anglican missionary

31. Father Beddington grew alarmed because:
   1) some of the men sat on the cliffs idle, instead of working
   2) the natives wore so little clothing
   3) the women were brought back to the island before they were sure the Navy had gone for good
   4) with fewer men working there was less copra to trade

33. As a result of this problem:
   1) some other items to trade must be found till the coconut trees could be replanted
   2) the freighter might come to the island less often
   3) abandoned gardens would have to be replanted
   4) there was less room for gardens, so they might have to take some of the land belonging to the fierce Mauris

34. Father Beddington decided he had better:
   1) talk to the Keri women to get the truth of what was going on
   2) call the chiefs together and ask them some questions
   3) ask Tomana what was wrong
   4) find the young Christian native named Pona and question him

35. Father Beddington learned that these men he was worried about:
   1) stopped coming to chapel because they were back worshipping their old nature gods
   2) were unhappy with their wives because the women liked the American men better
3) were sitting on the cliffs to watch for the Navy's return
4) did not work because most of them wanted to leave the island now

36. These men were behaving in this manner because:
   1) they wanted the easy way of life to come back
   2) the chiefs had been unfair in dividing the items the men earned from the Navy
   3) they missed the chewing gum, Coca Cola, and other good food
   4) life was too quiet and boring on the island now after the exciting times when the Navy was there

37. Father Beddington's next action was to:
   1) ring the bell to assemble the natives because he was upset
   2) go to the cliffs and talk the men into returning to work
   3) send a radio message to Morrison, asking him for advice
   4) ring the bell for a prayer service to ask for divine guidance

38. Those to whom Beddington talked were:
   1) only the chiefs, since ordinary Keri men were not allowed to come into the chapel
   2) the British government officials who governed the island group
   3) those of the Keries who were Christians
   4) the Naval officers responsible for closing the shore station
39. Father Beddington told them in plain words:
   1) that the Navy would never return to the island
   2) of the desperate situation of near starvation on the island
   3) of the possibility that the freighter might stop coming
   4) that they should work harder because they would be better Christians and would be rewarded when Christ returned

40. After Father Beddington told them this:
   1) they all sat in stunned silence and disbelief, then quietly left
   2) many grew angry and stood up in the chapel and shouted at him
   3) most believed his words, but were saddened by them
   4) they all believed him and were happy at what he told them

41. As a result of Father Beddington's words:
   1) many more men returned to work harvesting coconuts
   2) the British decided to send in emergency food supplies
   3) the Keri chiefs angrily denounced him and all quit working
   4) the Keri women cried because they were sure now the Navy men would never return

42. Tomana came to the missionary and:
   1) asked him quietly to forgive him of his foolish action and talk
2) sternly ordered him to leave the island
3) angrily accused him of being wrong in what he said
4) told him with great dignity that he, Tomana, would no longer be a Christian

43. Tomana reminded the missionary of:
1) the times he had nursed him when the white man was sick with malaria
2) the story he had told them of the Good Samaritan
3) the fact that he could order all natives to stop coming to the chapel
4) Father Beddington's teaching that Christ would return if they were faithful and good

44. Tomana told Father Beddington he believed:
1) if they sent a request to the Naval Headquarters, the Navy might return
2) there was no truth in the Christian teachings
3) the Navy would return if the Keri men were faithful and good
4) the Navy would return because they left so much machinery behind

45. After some time had passed, Father Beddington:
1) realized fewer natives were coming to chapel each Sunday
2) saw one of his best Christians, Pona, go back to idol worship
3) grew sick with malaria and was confined to his house
4) grew ill and left the island
46. The young man named Pona:

1) was the leader of a group wanting to return to the old way of worship
2) was a faithful Christian and tried to hold services in Father Beddington's place
3) though faithful as a Christian, was not smart enough to lead worship services
4) led the Sunday service in the chapel, even though he felt he was no longer a good Christian because he believed Tomana

47. Tomana decided on taking direct action to carry out his beliefs, so he:

1) took all the chiefs into the mountains to build an altar
2) took other chiefs and some Keri men who believed him to the cliffs
3) forced all the men to quit working
4) forced all the natives to stop going to the chapel

48. Tomana told his followers:

1) they were no longer Christians
2) they could still be Christians if they chose
3) anyone who worshipped the old nature gods could not be a true Christian
4) he alone would take all the blame if he sinned because he alone was no longer a Christian

49. Tomana decided to call his followers:

1) the Navy Worshippers
2) the Chosen Ones
3) the Chosen Few
4) the Cargo Worshippers

50. Those who were in Tomana's group:
1) did a great deal of feasting on the food the women brought them
2) did not work and ate little food
3) had little to eat because the other Keries treated them as outcasts
4) worked hard each day building a chapel of their own out of basalt rocks

51. Tomana's group spent most of their time:
1) singing and watching for the Navy's return across the ocean
2) working feverishly to finish the chapel before the Navy returned
3) singing, watching for the Navy, and laying up hidden stores of food to have a great feast when they returned
4) in prayer and silent contemplation, with self-denial

52. Back in the village of the Keries:
1) all the women had to do the work after the men left
2) the freighter came one final time, then left because there was no more copra
3) most of the men secretly believed as Tomana, but kept going to the chapel out of fear
4) some of the men secretly believed Tomana's word, but stayed at work
53. Tomana decided that what they needed was:

1) a larger chapel because extra men had joined them
2) an altar of stones in the chapel they had built
3) an eternal flame to burn to show their desire for the return of the Navy
4) an altar on the cliffs to prove their desire

54. Tomana ordered:

1) four chiefs to go to the mountains and haul back rocks
2) three or four men from the village be captured and made to work hauling the rocks they needed
3) all the men to go after the rocks, since chiefs did no hard physical work
4) all his followers to go get one large basalt rock each

55. The Keries in the village heard of this new activity and:

1) all the wives of Tomana's followers went out to watch
2) five of the Keri men went to help in the activity
3) all the Christian Keries went to the chapel to pray about the great sin that was being committed
4) three Keri men went to the cliffs, curious about the rocks

56. The men from the Keri village:

1) aided the four chiefs to bring the stones back from the mountain
2) helped the four chiefs lift the stones in place
3) joined the other men in bringing the heavy stones down the mountainside
4) watched the men stack the heavy stones while the chiefs stood off and prayed

57. The chiefs were suffering from:
   1) weakness because they had never been allowed to work in their lives
   2) little strength because they were fasting to make the altar more holy
   3) weakness because of little food and no work
   4) lack of energy because they had kept watch night and day for three months with only a little sleep

58. Tomana next commanded:
   1) a fire to be built and kept burning all the time
   2) a torch to be burned on each side of the altar
   3) candles to be made and lit on the altar
   4) a fire to be built each night to guide the Navy back to the island

59. Every day, Tomana:
   1) climbed to the mountain top to shout prayers to the heavens
   2) went into the chapel and quietly prayed
   3) shouted a prayer out across the ocean
   4) stood long hours in silent prayer in front of the altar

60. Tomana's prayer was directed to:
   1) the Christian God
   2) all the old Nature Gods
   3) the Great God Navy
   4) the great new Navy God named Morrison
Vanua Lava Island
Set Relations Test

The following sentences describe the life on Vanua Lava while the Navy was on the island.

61. A. All of the coconut harvesters were members of the Shore Station crew.
    B. Only some of the coconut harvesters were members of the Shore Station crew.

62. A. All of the Navy men were under the command of Captain Morrison.
    B. Only some of the Navy men were under the command of Captain Morrison.

63. A. Only some of the coconut harvesters were Polynesians.
    B. All of the coconut harvesters were Polynesians.

64. A. Only some of those under the command of Captain Morrison were Polynesians.
    B. All of those under the command of Captain Morrison were Polynesians.

65. A. No coconut harvesters were Navy men.
    B. Only some of the coconut harvesters were Navy men.

66. A. All of the Polynesians were members of the Shore Station crew.
    B. Only some of the Polynesians were members of the Shore Station crew.

67. A. Only some of those under the command of Captain Morrison were Polynesians.
Morrison were coconut harvesters.

B. All of those under the command of Captain Morrison were coconut harvesters.

68. A. Only some of the Polynesians were Navy men.

B. No Polynesians were Navy men.

69. A. Only some of the members of the Shore Station crew were under the command of Captain Morrison.

B. All of the members of the Shore Station crew were under the command of Captain Morrison.

70. A. All of the Navy men were members of the Shore Station crew.

B. Only some of the Navy men were members of the Shore Station crew.

The following sentences describe the life on Vanua Lava after the Navy left the island.

71. A. Only some of the Christians were altar builders.

B. All of the Christians were altar builders.

72. A. All of the Keri chiefs were believers of the Navy myth.

B. Only some of the Keri chiefs were believers of the Navy myth.

73. A. Only some of the coconut harvesters were Keri chiefs.

B. No coconut harvesters were Keri chiefs.

74. A. Only some of the altar builders were believers of the Navy myth.

B. All of the altar builders were believers of the Navy myth.

75. A. All of the Keri chiefs were altar builders.

B. Only some of the Keri chiefs were altar builders.
76. A. All of the coconut harvesters were Christians.
   B. Only some of the coconut harvesters were Christians.

77. A. Only some of the believers of the Navy myth were coconut harvesters.
   B. All of the believers of the Navy myth were coconut harvesters.

78. A. All of the coconut harvesters were altar builders.
   B. Only some of the coconut harvesters were altar builders.

79. A. Only some of the Christians were Keri chiefs.
   B. No Christians were Keri chiefs.

80. A. Only some of the believers of the Navy myth were Christians.
   B. All of the believers of the Navy myth were Christians.
APPENDIX I
MAMBO AND YAM

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In the year 1800 on the continent of Africa, two unfriendly nations existed, the nation of Mambo and the nation of Yam. The Nile River separated these two nations. They often fought wars over business, with Yam being the richer of the two. Yam was rich in wood, ivory, leopard skins, ostrich feathers and eggs, baboons, and dogs. Yam traded these goods and foods all over the continent and became very wealthy.

King Koko, the leader of the military minded nation of Mambo, began to make plans for the defeat of Yam. Koko was a military man and most of his subjects were brave, strong, expert warriors; no Mambo citizens were merchants. They liked war so much that they often would fight another tribe's battles for money and glory. They never lost.

However, Koko was getting old and his body was tired and ached from his numerous war wounds. If he defeated Yam, he would become very rich and he would control thousands of people. Koko then could rest his battle weary body and live in luxury, enjoying very much personal wealth and power; he would be the most powerful ruler on the continent.

King Koko felt that the time for war against Yam was suitable because his Mambo warriors did not like King Lester of Yam. Lester was a popular ruler whose subjects loved him; he was an excellent hunter and warrior; he was rich and handsome. Koko
knew that his warriors would welcome the chance to defeat Lester. Their dislike and jealousy of Lester plus their greed for the wealth of Yam was more than enough reason for them to fight a war against Yam land.

However, there was a small band of expert Mambo warriors who knew about Koko’s plans and they did not like them. These Mambo warriors compared Koko to Lester and they decided Lester was the kind of king they would like to serve and they welcomed the chance to be traitors to Koko. As a result, they were secretly meeting with a small group of Yam merchants who agreed to pay them money and supply them with weapons so they could help defend Yam. These merchants also wanted to be trained as warriors. Thus the Pro Lester Union consisted of a small number of Yam merchants and small number of traitor Mambo warriors. It was a rather odd looking group with a small number of strong, fierce looking warriors trying to teach weak, fat looking merchants how to throw spears, shoot arrows, and chop up an enemy with an axe. The training periods never lasted more than twenty minutes because the merchants became very tired and needed to rest. Nevertheless, these men were serious about becoming warriors and they vowed to fight and die to the last man for good King Lester, their noble ruler.

Meanwhile, in Yam land, life was peaceful and happy as usual for most of the people. Lester and his followers never thought much about war because they were too busy trading the plentiful goods of Yam all over the continent. Most of Lester’s followers were merchants; none of them were expert warriors. This
business made them wealthy and happy.

Thus the stage was set. King Koko prepared his army for war and the most important preparation was the worship of Solmambo, the sun god. The witch doctor, robed in white, looked directly into the sun at high noon and chanted in a low voice. All the warriors had to do the same and any warrior who fainted from the heat or who could not look into the sun was killed. This happened because the witch doctor told the king that the sun god was giving him a sign as to who were the unworthy warriors; since they were unworthy and would not receive divine assistance in battle, the witch doctor killed them. He executed fifty warriors that afternoon.

The Mambo warriors then painted their faces with the blood of goats; this gave them courage. Although this may have given the Mambo warriors courage, some historians believe that it did much to frighten the enemy. A blood streaked face with hate filled eyes screamed and charged for the kill. This could scare anyone!

Now that the warriors were ready to fight, they picked up their spears and climbed into their war canoes to paddle down the river to the land of Yam. It is interesting to point out that the paddles were also the spears of the warriors. These spears were medium length poles with wide iron tips that came to a very sharp point. These spears were heavy and well balanced. When thrown, it would fly straight to its target. This weapon was also a club in close fighting because of its heaviness. The wide iron tip had very sharp edges so it also
was a sword or double edged axe. This one weapon was very valuable because of its many uses: a paddle, a spear, a club, a sword.

As the war canoes came near Yam, the lookouts of King Lester shouted the alarm. Immediately there was confusion and noise. There was the unusual sound of Yam musicians beating drums, blowing ram horns, and shaking rattles. They were also doing a native tribal dance. This religious ceremony was going to chase away any evil spirits lurking about who might hinder or harm Lester during the battle. All the Lester Followers, consisting of the Yam merchants and other Yam subjects and the Pro Lester Union, prepared to meet the invaders.

The traitor Mambo warriors who had joined with the Yam merchants to form an army came running (and some panting) to meet the invaders. Lester entered the battle with his camel cavalry. These warriors wielded sharp-edged heavy pieces of iron that could cut off an enemy's head with a single stroke. However, King Lester and his forces were losing the battle. One reason was the fact that the fat Yam merchant-warriors were no match for the tough expert warriors of Mambo. Lester's army was also small; he was outnumbered by five to one. King Lester's heavy iron swords were difficult to use whereas King Koko's spears could be used with ease in many different ways. Koko's weapon was simple and effective.

Nevertheless, the battle continued with the battlefield being a mass of men, spears, camels, swords, screams, and blood. Lester decided that the only way he could win would be to fight
Koko in personal combat and kill him. Lester saw Koko and charged at him with his sword so he could cut his head off. But before he could strike, Koko sent his spear into Lester's chest. Koko threw the spear so hard that it came out through Lester's back. After this the Yam warriors fled in terror; they became helpless cowards without their leader. Mambo had won the battle.

King Koko's toothless mouth widened into a big grin and he was proud of his victory. He now was the master of seven thousand prisoners, two hundred thousand cattle and sheep, and the business wealth of Yam. As a result of this victory the original social structure of Mambo remained the same with the largest number of Mambo citizens still being expert warriors. This was necessary because Koko needed a large military force to keep the Yam inhabitants under control and to protect his new found wealth.

But what of Yam? After its defeat its social structure changed; all the people of Yam and the traitor Mambo warriors became slaves of King Koko. They no longer performed the same occupations as they had when they were free and happy, and now all of their work was for their new ruler. The once prosperous people of Yam were now miserable slaves without any pride or satisfaction in their work.

However, there was an interesting legend that came out of this war. After King Koko killed King Lester, some of Lester's faithful subjects succeeded in rescuing his dead body and secretly burying it to prevent the traditional burning up of
killed enemy leaders that the Mambo warriors liked to perform. These Yam subjects never revealed their deed but instead they claimed that some friendly spirits had taken the seriously wounded Lester away to safety so he could recover and return to free his people. This is known as the Lester Legend. It is no comfort to Koko that a rather sizable number of Yam slaves believe this legend and he is beginning to wonder about it himself. He feels certain that he killed Lester but his dead body has never been found.

But if Koko knew about the Freedom Group, he wouldn't worry about the legend much. The Freedom Group is made up of some Legend Believers and the traitor Mambo warriors who fought for Lester but really don't believe the legend. This group is secretly hiding weapons in the jungle, keeping the Lester Legend alive, and planning for the overthrow of Koko. They are very active. From time to time Koko finds a skull in front of his hut or a dead Mambo warrior. Shipments of goods to other nations often never reach their destinations. Koko's food often contains poison; he lost fifteen food tasters in one week; needless to say he has a loss of appetite. Koko is grouchy, irritable, and suspicious. His relation with his troops is becoming unfriendly because he blames them for not keeping control of the slaves. He sometimes thinks they are plotting against him with the slaves. The future for Koko is not promising. Perhaps his victory was not so sweet after all.
Mambo and Yam

Medium-Telegraphic Version

In the year 1800 on the continent of Africa, two unfriendly nations existed, Mambo and Yam. The Nile River separated them. Yam was richer.

King Koko began to plan the defeat of Yam. Koko was a military man; most of his subjects were expert warriors; none were merchants. They liked war and often fought another tribe’s battles for money and glory.

However, Koko was getting old. If Koko conquered Yam, he would be rich and control thousands of people, he could rest his body, live in luxury, enjoy personal wealth and power; and be the strongest ruler on the continent.

felt the time for war against Yam was suitable because his Mambo warriors disliked King Lester of Yam. Koko knew his warriors would welcome the chance to defeat Lester and his followers because of their dislike and jealousy of Lester plus their greed for the wealth of Yam.

However, a small band of expert Mambo warriors disliked Koko’s plans. These Mambo warriors compared Koko and Lester and Lester was the kind of king they wanted to serve; they would be traitors to Koko. As a result this small band of traitor Mambo warriors secretly met with a small group of Yam merchants who agreed to pay them money and supply them with weapons so they would defend Yam. The small group of Yam merchants also wanted
to be trained as warriors. Thus, a small band of strong, fierce, traitor Mambo warriors and a small group of weak, fat merchants formed the Pro Lester Union.

Lester and his followers never thought much about war because they were too busy trading the plentiful goods of Yam all over the continent. Most of Lester's followers were merchants; none were expert warriors.

King Koko prepared his army for war and most important was the worship of Solmambo, the sun god. The witch doctor looked directly into the sun at high noon and chanted; all the Mambo warriors did the same; any who fainted from the heat or looked away from the sun were killed. The witch doctor executed fifty warriors. The Mambo warriors also painted their faces with goat's blood for courage.

Now that the Mambo warriors were ready to fight, they climbed into their war canoes and paddled down the river toward Yam. The paddles were also the spears of the warriors. These spears were heavy and well balanced; they could be used as clubs in close fighting due to their heaviness. The wide iron tips had very sharp edges so they could also be used as a sword or double edged axe.

When the war canoes approached Yam, Lester's lookouts shouted the alarm. Yam musicians beat drums, blew ram horns, and shook rattles while doing a native tribal dance. This religious ceremony was to chase away any evil spirits who might harm Lester during the battle. All the Lester Followers, consisting of all Yam merchants and other Yam subjects and the
Pro Lester Union prepared to meet the invaders.

King Lester lead his camel cavalry into the battle. However, Lester and his forces were losing the battle. The fat merchant warriors were no match for the tough expert Mambo warriors; Lester's army was outnumbered by five to one; Lester's cavalry wielded heavy iron swords which were difficult to use.
Lester decided he could win only if he could fight Koko in personal combat and kill him. Lester charged at Koko with his sword but before he could strike, Koko sent his spear in Lester's chest with such force that it came out through Lester's back. Mambo had won the battle.

King Koko was proud of his victory; he was now the master of seven thousand slaves, two hundred thousand cattle and sheep, and the business wealth of Yam. The original social structure of Mambo remained the same with most of the Mambo citizens still being expert warriors because Koko had to keep the Yam citizens under control and protect his wealth. However, the social structure of Yam changed; all of the Yam people and the traitor Mambo warriors were now slaves of King Koko.

After King Koko killed King Lester, some of Lester's faithful subjects succeeded in rescuing his dead body and secretly burying it to prevent the traditional burning up of killed enemy leaders that the Mambo warriors liked to perform. These Yam subjects never revealed their deed but instead they claimed that some friendly spirits had taken the seriously wounded Lester away to safety so he could recover and return to free his people. This is known as the Lester Legend.
It is no comfort to Koko that a rather sizable number of Yam slaves believe this legend and he is beginning to wonder about it himself. He feels certain that he killed Lester, but his dead body has never been found.

But if Koko knew about the Freedom Group, he wouldn't worry about the legend so much. The Freedom Group is made up of some Legend Believers and the traitor Mambo warriors who fought for Lester but don't believe the legend. This group is secretly hiding weapons in the jungle, keeping the Lester Legend alive, and planning for the overthrow of Koko. From time to time Koko finds a skull in front of his hut or a dead Mambo warrior. Shipments of goods to other nations often never reach their destinations. Koko's food often contains poison. Koko is grouchy, irritable, and suspicious. His relation with his troops is becoming unfriendly because he blames them for not keeping control of the slaves. He sometimes thinks they are plotting against him with the slaves. The future for Koko is not promising. Perhaps his victory was not so sweet after all.
Mambo and Yam

Highly-Telegraphic Version

In Africa, in 1800, the Nile River separated two unfriendly nations, Mambo and Yam.

Mambo: ruled by old military man, King Koko, who planned to conquer Yam for its riches.

Most subjects were expert warriors; none were merchants. 'Warriors fought other tribes' wars for money and glory and were greedy for Yam's riches.

But small group of expert Mambo warriors disliked Koko's plan, decided to be traitors and serve Lester.

Met secretly with small group of Yam merchants.

Pro Lester Union was formed by this small group of warriors and small group of weak, fat Yam merchants whose purpose was to train to defend Yam.

Koko prepared Mambo army for war by:

First, worship of Solmambo, their sun god.

Witch doctor and warriors looked directly into sun at high noon and chanted; witch doctor executed fifty warriors who couldn't do this.

Next, painting warriors' faces with goat's blood for courage.

Mambo warriors, ready to fight, paddled canoes to Yam.

Paddles could be used in many ways: spear, club, sword or double edged axe because of sharp edges.

Lester's lookouts shouted alarm as canoes approached.
Yam musicians beat drums, blew ram horns, shook rattles, and did tribal dance to chase away evil spirits who might harm Lester during Battle.

Lester Followers, made up of all Yam merchants and other Yam subjects and the Pro Lester Union, met the invaders. Lester led his camel cavalry into battle, but fat merchants, outnumbered five to one, were no match for expert warriors.

Heavy iron sword of Lester's people difficult to use so Lester decided to win by killing Koko.

When Lester charged Koko, Koko sent his spear through Lester's chest, killing him and winning the battle.

Koko, proud of victory, now owned seven thousand slaves, two hundred thousand cattle and sheep, and business wealth of Yam.

After battle, Mambo becomes rich but social structure remains same with most people being expert warriors.

Yam changes; all Yam people and traitor Mambo warriors become slaves of Koko.

But there's legend that friendly spirits have taken seriously wounded Lester away to recover and he will come back to free his people.

This Lester Legend is told by his faithful subjects who secretly buried his dead body.

Many Yam slaves believed this legend.

Some of these legend believers and the traitor Mambo warriors, who don't believe the legend, form the Freedom Group to overthrow Koko.
Sometimes, Koko finds a skull in front of his hut or poison in his food.

He is grouchy and suspicious.

His relation with his troops is becoming unfriendly.

Victory may not be so sweet after all.
In year 1800, on continent of Africa, two unfriendly nations existed, Mambo and Yam. Nile River separated them. Yam was richer.

King Koko began to plan defeat of Yam. Koko was a military man; most his subjects were expert warriors; none merchants. They liked war and fought another tribe's battles for money and glory.

Koko was getting old. If Koko conquered Yam, he would be rich, control thousands people; could rest his body, live in luxury, enjoy personal wealth and power; and be the strongest ruler on the continent.

Koko felt the time for war against Yam was suitable because his warriors disliked King Lester, Yam. Koko knew his warriors would welcome the chance to defeat Lester followers because of their dislike, jealousy of Lester plus their greed for the wealth of Yam.

A small band of expert Mambo warriors disliked Koko's plans. Warriors compared Koko and Lester, and Lester was the kind of king they wanted to serve; they would be traitors to Koko. Result: this band of traitor warriors secretly met with a small group of Yam merchants who agreed to pay them money and supply them with weapons so they could defend Yam. The small group of Yam merchants wanted to be trained as warriors.
A small band of strong, traitor Mambo warriors and a small group of weak, fat merchants formed the Pro Lester Union.

Lester and his followers never thought much about war because they were too busy trading the goods of Yam over the continent. Most Lester's followers were merchants; none were expert warriors.

King Koko prepared his army for war and most important was worship of Solmambo, sun-god. The witch doctor looked into the sun at noon and chanted; all the Mambo warriors did the same; any who fainted from heat or looked away from the sun were killed. Witch doctor executed fifty warriors.

The Mambo warriors painted their faces with goat's blood for courage.

The Mambo warriors were ready to fight; they climbed into their war canoes and paddled down the river toward Yam. The paddles were the spears of the warriors. Spears were heavy and well balanced; they could be used as clubs in fighting due to their heaviness. The wide iron tips had sharp edges so they could be used as a sword or double edged axe.

When war canoes approached Yam, Lester's lookouts shouted the alarm. Musicians beat drums, blew horns, and shook rattles while doing a native tribal dance. This religious ceremony was to chase away spirits who might harm Lester during the battle. All Lester Followers, consisting of Yam merchants and other Yam subjects and the Pro-Lester Union prepared to meet the invaders.

King Lester lead his camel cavalry into battle. Lester and his forces were losing the battle. The merchant warriors were no match for the tough expert Mambo warriors; Lester's army was
outnumbered five to one; Lester's cavalry wielded iron swords which were difficult to use.

Lester decided he could win if he could fight Koko in combat and kill him. Lester charged Koko with his sword; before he could strike, Koko sent his spear in Lester's chest with such force that it came out through Lester's back. Mambo won the battle.

King Koko was proud of victory; he was master of seven thousand slaves, two hundred thousand cattle and sheep, and the business wealth of Yam. The social structure of Mambo remained same with most the Mambo citizens still being expert warriors because Koko had to keep the Yam citizens under control and protect his wealth.

The social structure of Yam changed; all the Yam people and the traitor Mambo warriors were now slaves of King Koko.

After Koko killed Lester, some of Lester's subjects succeeded in rescuing his dead body and burying it to prevent the traditional burning up of killed enemy leaders that the Mambo warriors liked to perform. Yam subjects never revealed their de; instead they claimed some friendly spirits had taken the seriously wounded Lester away to safety so he could recover and return to free his people. This is known as Lester Legend. It is no comfort to Koko that a number of Yam slaves believe this legend; he is beginning to wonder about it himself. He feels certain he killed Lester but his body has never been found.

If Koko knew about the Freedom Group, he wouldn't worry about the legend much. The Freedom Group is made of some Legend Believers and traitor Mambo warriors who fought for Lester but don't believe the legend. This group is hiding weapons in the jungle, keeping the
Lester Legend alive, and planning the overthrow of Koko. Time to time, Koko finds a skull in front of his hut or a dead Mambo warrior. Shipments goods to other nations often never reach their destinations. Koko's food contains poison. Koko is grouchy, irritable, suspicious. His relation with troops is becoming unfriendly; he blames them for not keeping control of the slaves. He sometimes thinks they are plotting against him with slaves. Future for Koko is not promising. His victory was not so sweet after all.
In 1800, continent Africa, two unfriendly nations existed, Mambo and Yam. Nile River separated. Yam richer.

King Koko began plan defeat Yam. Koko was military man; most subjects expert warriors; none merchants. They liked war; fought tribe's battles for money, glory.

Koko was old. If Koko conquered Yam, he would be rich, control people; rest body, live luxury, enjoy wealth, power; be the strongest ruler on the continent.

Koko felt time for war against Yam suitable his warriors disliked King Lester. Koko knew his warriors would welcome chance to defeat Lester followers because their dislike Lester plus greed for wealth of Yam.

A band of Mambo warriors disliked Koko's plans. Warriors compared Koko and Lester; Lester was the king they wanted to serve; they be traitors Koko. This band of warriors met with group of merchants who agreed to pay money and supply them with weapons so they would defend Yam. Group of Yam merchants wanted to be trained warriors. A band of traitor Mambo warriors and a group of merchants formed the Pro Lester Union.

Lester and followers never thought about war because they were busy trading goods Yam over the continent. Lester's followers were merchants; none were warriors.

King Koko prepared his army for war; important worship of
Solmambo, sun-god. Witch doctor looked into the sun and chanted; Mambo warriors did same; any who fainted from heat or looked away from sun were killed. Witch doctor executed warriors. Mambo warriors painted faces with blood for courage.

Warriors were ready to fight; they climbed into canoes and paddled down river toward Yam. Paddles were spears of the warriors. Spears were heavy, balanced; could be used as clubs in fighting due to heaviness. Iron tips had sharp edges; could be used as a sword or double-edged axe.

When canoes approached Yam, Lester's lookouts shouted alarm. Musicians beat drums, blew horns, shook rattles, doing a dance. This ceremony was to chase spirits who might harm Lester during battle. Lester Followers, of Yam merchants, Yam subjects, the Pro Lester Union, prepared to meet the invaders.

Lester lead his cavalry into battle. Lester, his forces were losing battle. Merchant warriors were no match for Mambo warriors; Lester's army outnumbered five to one; Lester's cavalry wielded swords, were difficult to use. Lester: he could win if he could fight Koko in combat, kill. Lester charged Koko with sword; before could strike, Koko sent his spear in Lester's chest, force it came Lester's back. Mambo won battle.

Koko was proud of victory; he was master of slaves, two thousand cattle and sheep, and business wealth of Yam. Social structure of Mambo remained same with Mambo citizens being warriors because Koko had keep Yam citizens under control and
protect his wealth. Structure of Yam changed; the Yam people and the traitor Mambo warriors were slaves of Koko.

Koko killed Lester, Lester's subjects succeeded rescuing his body and burying it to prevent the burning of killed enemy leaders that the Mambo warriors liked to perform. Subjects revealed; instead claimed some spirits had taken the wounded Lester away to safety so he could recover and return to free his people. This is known Lester Legend. It is no comfort to Koko that number of slaves believe this legend; he is beginning to wonder. He feels he killed Lester; his body never been found.

If Koko knew the Freedom Group, he wouldn't worry legend. The Freedom Group is made Legend Believers and warriors who fought for Lester but don't believe legend. Group is hiding weapons in jungle, keeping the Legend alive, planning the overthrow of Koko. Time, Koko finds skull in front of his hut or dead Mambo warrior. Shipments goods never reach destinations. Koko's food poison. Koko--grouchy, irritable, suspicious. Relation with troops is unfriendly; blames them, not keeping control of the slaves. He thinks they are plotting against him, slaves. Future Koko is not promising. Victory was not sweet after all.
Mambo and Yam

50% Subjective Deleted Version


Koko plan defeat Yam. Koko military man; subjects warriors; none merchants. They liked war; fought tribe's; glory.

Koko old. Koko conquered Yam, be rich; control people; rest body; live luxury; enjoy wealth, power; be ruler continent.

Koko felt war against Yam suitable; warriors disliked Lester. Koko knew warriors would welcome chance to defeat Lester because dislike plus greed for wealth.

Band warriors disliked Koko's plans. Warriors compared Koko/Lester, Lester was king they wanted serve; traitors. Band warriors met with group merchants who agreed pay money and supply weapons so would defend Yam. Group merchants formed the Pro Lester Union.

Lester followers never thought about war; they were trading goods Yam continent. Lester's followers were merchants; warriors.

Koko prepared army--war; important worship of Solmambo, god. Witch doctor looked into sun, chanted; warriors did same; fainted heat or looked away sun were killed. Doctor executed warriors. Warriors painted faces, blood for courage.

Warriors ready fight; climbed into canoes and paddled
down toward Yam. Paddles were spears, warriors. Spears—
heavy, balanced; could be used clubs fighting; heaviness.
Tips—sharp edges; could be used as a sword or edged axe.

Canoes approached, lookouts shouted alarm. Musicians;
drums, blew horns, shook rattles, doing dance. This cer-
emony was chase spirits harm Lester battle. Lester Follow-
ers—merchants, subjects, Pro Lester Union—prepared to meet
the invaders.

Lester lead cavalry battle. Lester forces were losing.
Merchant warriors were no match for Mambo warriors; Lester's
outnumbered; Lester's cavalry wielded swords difficult use.
Could win if he could fight Koko combat. Lester charged
with sword; before strike, Koko sent spear in Lester's chest,
force came. Won battle.

Koko was proud of victory; he master of slaves, cattle,
sheep, and wealth of Yam. Structure Mambo remained; Mambc
citizens warriors; Koko had keep Yam citizens under control
and protect wealth. Structure Yam changed; Yam people, Mambo
warriors, were slaves of Koko.

Koko killed Lester, subjects rescuing his body, burying
it to prevent burning of killed enemy leaders warriors liked
perform. Claimed spirits had taken the wounded Lester safety
so he could recover, return to free his people. This Lester
Legend. Is no comfort to Koko that number slaves believe
legend; he is wonder. He killed Lester; his body never found.

If Koko knew Group, he wouldn't worry legend. The Free-
dom Group is Legend Believers and warriors, fought Lester,
don't believe. Group is hiding weapons jungle; keeping Legend, planning overthrow Koko. Koko finds skull in front hut or dead warrior. Shipments goods never reach destinations. Food poison. Koko--grouchy, suspicious. Relation troops unfriendly; blames them, not keeping control slaves. Thinks plotting against him, slaves. Future, Koko promising. Victory was not sweet.
Mambo and Yam

Multiple Choice Test

1. In 1800 two unfriendly nations existed in:
   1) South America
   2) Africa
   3) Europe
   4) North America

2. These two nations often fought wars over:
   1) a border dispute
   2) political viewpoints
   3) business
   4) religion

3. King Koko of Mambo was a:
   1) military minded man
   2) peace loving man
   3) a generous man
   4) a satisfied man

4. Among Mambo's subjects, there were very many:
   1) priests
   2) merchants
   3) warriors
   4) sailors

5. Koko and his followers earned money from other tribes by:
   1) trading with them
   2) fighting their battles
3) selling them slaves
4) protecting their camel caravans

6. Koko was getting old and tired so he planned:
   1) to take a vacation
   2) to defeat Yam
   3) to retire as ruler of Mambo
   4) to sign a treaty with Yam

7. Koko would become very rich if he:
   1) signed a treaty with Yam
   2) defeated Yam
   3) sold slaves to Yam
   4) fought a war for Yam

8. The Mambo warriors did not like King Lester of Yam because:
   1) Lester's subjects loved him
   2) Lester was an excellent hunter
   3) Lester was rich
   4) all of the above are true

9. The Mambo warriors were willing to fight Yam because:
   1) they wanted the wealth of Yam
   2) they did not like any Yam citizens
   3) they wanted to live in Yam
   4) none of the above

10. A small band of Mambo warriors decided:
    1) to help Lester in case of war
    2) to reveal Koko's plans to Lester
    3) to trade with some Yam merchants
    4) to work for peace
11. The Pro Lester Union consisted of a small group of Yam merchants and:
   1) Lester's warriors
   2) some traitor Mambo warriors
   3) some Mambo merchants
   4) all of the above

12. The Yam merchants of the Pro Lester Union were learning:
   1) how to become warriors
   2) how to become spies
   3) how to make weapons
   4) all of the above

13. Most of Lester's followers were:
   1) merchants
   2) warriors
   3) union members
   4) musicians

14. The Mambo army prepared for war by:
   1) dancing and shaking rattles
   2) painting their faces with goat's blood for courage
   3) beating drums and singing
   4) none of the above

15. Some historians believe that the Mambo warriors frightened their enemies because of:
   1) their goat blood painted faces
   2) their terrible war cries
   3) their muscular bodies
   4) their war knowledge
16. The Mambo witch doctor killed fifty Mambo warriors because:
   1) they were religiously unworthy
   2) they were weak
   3) they were old
   4) they were traitors

17. The Mambo warriors had spears that were also:
   1) canoe paddles
   2) clubs
   3) swords
   4) all of the above

18. The Mambo warriors had an advantage in the war because:
   1) they had a versatile weapon
   2) the Yam citizens were cowards
   3) Lester was not a good warrior
   4) all of the above

19. King Lester's lookouts announced the beginning of the war by:
   1) sending mirror signals
   2) shouting loudly
   3) setting a fire
   4) waving red flags

20. The Yam musicians danced and played music on seeing war canoes:
   1) to encourage King Lester's warriors for fighting
   2) to welcome the coming of the brave warriors
   3) to chase away any evil spirits that might harm Lester during the battle
   4) to show power and to frighten the enemy
21. The unusual sounds of the Yam musicians as the canoes approached were:
   1) ram horns blowing, drums beating, and rattles shaking
   2) whistles blowing and drums beating
   3) copper horns, drums beating
   4) drum beats and bell ringing

22. Lester's cavalry was:
   1) horses
   2) camels
   3) elephants
   4) donkeys

23. King Lester's weapons were:
   1) sharp pointed heavy daggers
   2) sharp edged light knives
   3) sharp pointed light arrows
   4) sharp edged heavy pieces of iron

24. The proportion of King Lester's warriors to King Koko's warriors was:
   1) one to two
   2) five to one
   3) one to one
   4) one to five

25. Who was losing the battle?
   1) King Lester and his followers
   2) Lester's lookouts who used the spears
   3) King Koko and his followers
   4) Koko's warriors who used the swords
26. King Lester's warriors were different from King Koko's warriors because most were:
   1) expert warriors
   2) nonexpert warriors
   3) disloyal warriors
   4) all of the above

27. King Koko's weapons were:
   1) simple and effective
   2) heavy and complicated
   3) effective but not simple
   4) none of the above

28. Lester's plan to get rid of Koko was to:
   1) bribe one of Koko's warriors to kill him
   2) ask one of Koko's servants to poison his food
   3) fight Koko in personal combat and kill him
   4) say religious prayers for spirits to hinder and harm Koko

29. Lester was killed:
   1) by Koko's warriors
   2) by Koko's spear
   3) by Lester's warriors
   4) by committing suicide

30. Lester's followers after his death:
   1) became more fierce
   2) became more courageous
   3) became hopeless cowards
   4) none of the above
31. At the end of the battle Koko was:
   1) unsatisfied with his victory and his new wealth
   2) unsatisfied with his new found wealth
   3) unsatisfied with his victory, but proud of his new found wealth
   4) proud of his victory and his new found wealth

32. The new found wealth of King Koko after the battle was:
   1) seven hundred slaves and two hundred cattle and sheep
   2) seven hundred thousand slaves and two hundred cattle and sheep
   3) seventy slaves and two hundred thousand cattle and sheep
   4) seven thousand slaves and two hundred thousand cattle and sheep

33. After the battle, the people of Yam were:
   1) slaves for their new ruler
   2) more prosperous than ever
   3) merchant warriors
   4) unhappy but proud of their occupations

34. Lester's dead body was buried by:
   1) Koko's warriors
   2) Lester's subjects
   3) Lester's merchants
   4) Koko's merchants

35. The rumor about Lester after his death was that:
   1) the doctor of King Koko was treating him of his wounds
   2) he was treated by some friendly spirits of his serious wounds
3) he was a guest at one of the neighboring tribes
4) he was burned up by King Koko's warriors

36. The rumor of Lester's return was told by:
   1) Lester legend believers
   2) Koko's doctor
   3) neighboring tribes
   4) Koko's food tasters

37. The attitude of King Koko about the rumor of Lester's return was that he:
   1) felt indifferent since there was not too much harm in it
   2) discouraged the rumor to avoid the annoyance of his slaves
   3) felt uneasy about the increasing number of believers of this rumor
   4) none of the above

38. The behavior of the Freedom Group was characterized by:
   1) negotiating with other tribes to invade Koko
   2) telling lies about Koko
   3) planning the overthrow of Koko
   4) helping slaves escape to other countries

39. The relationship between Koko and his troops was:
   1) respect and loyalty
   2) friendly
   3) unfriendly
   4) none of the above

40. After victory, Koko became:
1) rested and at peace with the world
2) unable to control his troops
3) irritable and suspicious
4) weak and senile
Mambo and Yam

Set Relations Test

The following sentences describe the life in Mambo and Yam before the battle.

41. A. All of the expert warriors belonged to the Pro Lester Union.
    B. Only some of the expert warriors belonged to the Pro Lester Union.

42. A. All of the merchants were Lester Followers.
    B. Only some of the merchants were Lester Followers.

43. A. Only some of the expert warriors were Mambo citizens.
    B. All of the expert warriors were Mambo citizens.

44. A. Only some of the Lester Followers were Mambo citizens.
    B. All of the Lester Followers were Mambo citizens.

45. A. No expert warriors were merchants.
    B. Only some of the expert warriors were merchants.

46. A. All of the Mambo citizens belonged to the Pro Lester Union.
    B. Only some of the Mambo citizens belonged to the Pro Lester Union.

47. A. Only some of the Lester Followers were expert warriors.
    B. All of the Lester Followers were expert warriors.

48. A. Only some of the Mambo citizens were merchants.
    B. No Mambo citizens were merchants.

49. A. Only some of the members of the Pro Lester Union were
Lester Followers.

B. All of the members of the Pro Lester Union were Lester Followers.

50. A. All of the merchants were members of the Pro Lester Union.

B. Only some of the merchants were members of the Pro Lester Union.

The following sentences describe the life in Mambo and Yam after the battle.

51. A. Only some of the Mambo citizens belong to the Freedom Group.

B. All of the Mambo citizens belong to the Freedom Group.

52. A. All of the legend believers are slaves.

B. Only some of the legend believers are slaves.

53. A. Only some of the expert warriors are legend believers.

B. No expert warriors are legend believers.

54. A. Only some of the members of the Freedom Group are slaves.

B. All of the members of the Freedom Group are slaves.

55. A. All of the legend believers belong to the Freedom Group.

B. Only some of the legend believers belong to the Freedom Group.

56. A. All of the expert warriors are Mambo citizens.

B. Only some of the expert warriors are Mambo citizens.

57. A. Only some of the slaves are expert warriors.

B. All of the slaves are expert warriors.
58. A. All of the expert warriors belong to the Freedom Group.
   B. Only some of the expert warriors belong to the Freedom Group.

59. A. Only some of the Mambo citizens are legend believers.
   B. No Mambo citizens are legend believers.
APPENDIX J
HEMISPHERE DEFENSE

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In the atmosphere of isolationism that prevailed until 1940, the United States had limited its overseas deployment to the Panama Canal and to the island fortress of Hawaii, sending only token forces to defend the Philippines. In July 1939, only 3,991 Army air personnel were overseas. Then, the German victories in Europe transformed hemisphere defense from a dead issue to a national watchword. The Nazi slogan, "Tomorrow the World," became credible enough to make the United States anxious to bolster its Atlantic defenses.

There were two possible routes for a German invasion of the Western Hemisphere. One was the island bridge formed by Iceland, Greenland, and Newfoundland across the North Atlantic. The second was from Africa to the corner of Brazil that jutted out into the Atlantic within 1,900 miles of the great base at Dakar in French West Africa. The Caribbean also required attention, not because of any real prospect of invasion, but because it could not be closed to German raiders until air and sea bases were built on the island chain that guarded its entrance.

The United States took a tremendous step toward defense of both the North Atlantic and the Caribbean with the famous "destroyers for bases deal," announced by President Roosevelt on September 3, 1940. Under this agreement the British
received 50 old destroyers, which they urgently needed, and, in return, gave to the United States 99-year leases on eight bases in British possessions in the Western Hemisphere. As a result, by the end of 1941 the Army Air Force had squadrons or detachments on reconnaissance duty at Gander in Newfoundland and at four bases on British islands in the Caribbean. A base in Dutch Guiana was also acquired and occupied by agreement with the Dutch government-in-exile.

Greenland lay outside the American sphere of defense until March 1941 when Germany extended the combat zone to include both Iceland and Greenland. Then the United States extended its hemisphere defense area to include Greenland, and on April 9 the Danish minister in Washington signed an agreement giving the United States the right to build bases there. The Army Air Forces found promising sites for airfields at Narsarssuak on the southern tip of Greenland and at a point on the west coast just within the Arctic Circle.

The War Department gave this construction such high priority that in spite of great difficulties the field at Narsarssuak was well advanced by the end of the year. The base was also carefully stocked with supplies, an important consideration, for, as the commander wrote, "Nothing is available locally except drinking water and sand and rocks." As yet the air garrison consisted only of aviation engineers plus a few weather and communications men.

Iceland had been occupied by the British in May 1940, but as the war went on they grew increasingly anxious to withdraw
their garrison for use elsewhere. Therefore, in July 1941, at
the request of both England and the Icelandic government,
which in May had declared its independence of German-occupied
Denmark, the United States sent a brigade of Marines to Iceland
to replace the British. On July 25 the air echelon of the Army
Air Force's 33d Pursuit Squadron, equipped with 30 P-40s, moved
to the island by aircraft carrier. There it operated with
Royal Air Force units under combat conditions.

In the Caribbean the greatest progress in air defense
between 1939 and 1941 took place on the island of Puerto Rico.
An emergency strip at Borinquen Field was transformed with haste
and efficiency into a major air base, and another good airfield,
Losey, was also completed before 1942. By the spring of 1941,
air strength on the island had been built up to a composite
wing. There were some 300 Army aircraft in the Caribbean area
just before Pearl Harbor, but 183, including all the heavy
bombers (8 B-17s) and most of the best fighters (P-40s), remained
bunched around the Panama Canal at France, Albrook, and Howard
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It was fitting that Andrews should be the first air officer to
hold a theater command.

On November 1, 1940, air units in Hawaii were organized into
the Hawaiian Air Force under the Hawaiian Department. At the end
of the year the new air force had only 117 aircraft—none of
recent vintage—but it grew rapidly thereafter. By December 6,
1941, the islands had the greatest air strength of any comparable
area either in the United States or its oversea possessions--231 military planes of which about half were modern. Among them were 12 B-17Ds, which had been sent to Hawaii in the belief that their long range would make them particularly valuable in defense of the islands. The 19th Bombardment Group, under the command of Lt. Col. Eugene L. Eubank, had flown 21 of the big planes without accident from California to Oahu on May 13-14, setting a record for mass overwater flights.

On the eve of hostilities the Hawaiian Air Force, under Maj. Gen. Frederick L. Martin, included the 18th Bombardment Wing, at Hickam Field outside Honolulu, and the 14th Pursuit Wing, at Wheeler Field about 15 miles from Hickam. One pursuit squadron was training at Haleiwa, a small outlying field.

Until the summer of 1941, American plans called for no more than a holding action in the Philippines. Up to November 1940 the air defense of the islands was in the hands of one squadron of aged bombers and 28 obsolete P-26s. Some reinforcements did arrive during the next six months, and a Philippine Department Air Force was organized on May 6, 1941.

In a radical change of policy, the United States decided in June to garrison the Philippines strongly and to base a large number of heavy bombers there. On July 26, General Marshall ordered the mobilization of the Philippine army and the creation of a new command, the United States Army Forces in the Far East, to direct the forces of both the Philippine Commonwealth and the Philippine Department. Gen. Douglas MacArthur, already on the scene, was recalled to active duty
to head the new command. On August 4 the Philippine Department Air Force became the Air Force, United States Army Forces in the Far East.

As the Japanese became increasingly aggressive in south-east Asia during the summer and fall of 1941, the Army Air Force hurried substantial air reinforcements to MacArthur. Among them was the 14th Bombardment Squadron, commanded by Maj. Emmett O'Donnell, Jr., which set out on September 5 from Hickam Field to the Philippines via Midway, Wake, New Guinea, and Australia. A week later all nine of its B-17s landed safely at Clark Field, Manila, after one of the most remarkable flights of the prewar period. The 19th Bombardment Group took off from California in 26 B-17s on October 22, followed the route pioneered by O'Donnell's squadron, and arrived at Clark Field on November 6. By December the Army Air Force had about 265 combat planes in the Philippines, but the only first-line aircraft were 35 B-17s and 107 P-40s. Of these, 31 P-40s were not yet in combat units.

Headquarters Army Air Force decided to reorganize its forces in the Philippines in keeping with its projected strength and sent a senior officer, Maj. Gen. Lewis H. Brereton, to serve as MacArthur's air commander. Brereton assumed his new post on October 7, and on November 16 his command was reorganized and redesignated as the Far East Air Force.

Brereton inherited a multitude of problems and deficiencies. He had no money for building dispersal areas for the B-17s at Clark Field. Revetments had been authorized so late and were built so slowly that only two were ready by December.
Uncamouflaged, the big planes could be seen from the air as far as 25 miles away. Brereton, concerned about their exposed position, sent 16 of them south on December 5 to a sod field under development at Del Monte on the island of Mindanao. The air warning system was operating 24 hours a day in December, but its communications were both inefficient and unreliable. Also, not more than two radar warning sets were in operation, one at Iba, and one outside Manila. Pursuit pilots could not go much higher than 15,000 feet without oxygen, but only Nichols Field had even a small supply of it.

Marshaled in ominous readiness on Formosa, the Japanese had more than 150 short-range Army planes and 300 first-line naval aircraft, including 184 Zero fighters. Wonderfully maneuverable, these fast-climbing planes could reach a speed of 350 miles an hour and were heavily armed with two 22-mm. cannons and a pair of machine guns. Veiled in more than oriental secrecy, the Zero was little known in the United States and was to be a most disagreeable surprise to American pilots.

The logical route for a Japanese invasion of the Western Hemisphere was via the Aleutians and through Alaska. Before air units could be deployed to Alaska, suitable airfields had to be built. The territory had none worthy of the name in 1939. Funds for a base near Anchorage, disapproved by the House appropriations committee in the spring of 1940, were hastily provided after the German blitz. Work then began almost immediately on what later became Elmendorf Field. In all of Alaska, at the beginning of the war, the Army Air Force had only 32
aircraft—all out of date—in three squadrons commanded by the 28th Composite Group.
Hemisphere Defense

10% Subjective Deleted Version

In atmosphere of isolationism that prevailed until 1940, the United States had limited oversea deployment to the Panama Canal and island fortress of Hawaii, sending only token forces to defend the Philippines. In July 1939, 3,991 Army Air personnel were overseas. German victories in Europe transformed hemisphere defense from a dead issue to a national watchword. Nazi slogan, "Tomorrow the World," became credible enough to make the United States anxious to bolster Atlantic defenses.

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On eve of hostilities the Hawaiian Air Force, under Gen. Martin, included 18th Bombardment Wing at Hickam Field, Honolulu, and the 14th Pursuit Wing, Wheeler Field, 15 miles from Hickam. One pursuit squadron was training at Haleiwa, outlying field.
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As Japanese became aggressive in southeast Asia during summer, fall 1941, the Army Air Force hurried substantial air reinforcements to MacArthur. The 14th Bombardment Squadron, commanded by Emmett O'Donnell, Jr., set out September 5 from Hickam Field to the Philippines via Midway, Wake, New Guinea, and Australia. Week later, all nine of B-17s landed at Clark Field, Manila, after one of most remarkable flights of prewar period. 19th Bombardment Group took off from California in B-17s, October 22, followed route pioneered by O'Donnell's squadron, arrived at Clark Field November 6. December, Army Air Force had 265 combat planes in Philippines, but only first-line aircraft were 35 B-17s and 107 P-40s. These, 31 P-40s were not in combat units.
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Marshaled in readiness on Formosa, Japanese had 150 short-range Army planes and 300 naval aircraft, including 184 Zero fighters. These planes could reach speed of 350 miles an hour and were armed with two 22-mm. cannons and pair of machine guns. Veiled oriental secrecy, the Zero was little known in United States and was to be a disagreeable surprise to American pilots.

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Iceland had been occupied by British in May 1940, but as war went grew increasingly anxious to withdraw garrison for use elsewhere. Therefore, in July 1941, at the of both England and the Icelandic governmet, which its independence German-occupied Denmark, the United States sent a brigade Marines to Iceland replace the British. On July 25 air echelon of the Army Air Force's 33d Pursuit, equipped 30 P-40s, moved island by aircraft carrier. It operated with Royal Air Force under combat conditions.

In the the greatest progress in air defense 1939 took place on the island of Puerto Rico. An emergency strip at
Borinquen Field was transformed with haste into a major air, another good airfield, Losey, was also completed 1942. By spring of 1941, air strength the had been built up to composite wing. Were some aircraft in the Caribbean area before Pearl Harbor, but, including the heavy bombers (8 B-17s) and most of the best fighters (P-40s), remained bunched around the Panama Canal at Albrook, Howard Fields. When the Caribbean Defense Command was set the spring of 1941, Maj. Gen. M. Andrews its commander. It was fitting Andrews should be the first to hold a theater command.

November 1, 1940, units in were organized into Hawaiian Air Force under the Hawaiian Department. At the end of the the new Force had only 117 aircraft--of recent vintage--but it grew thereafter. By December 1941, islands had the greatest air strength any in the United States or its oversea possessions--231 military planes of about half were modern. Them were 12, which had been sent Hawaii the belief that their long range make them valuable in defense of the islands. The 19th Bombardment, the Lt. Col. Eugene L. Eubank, had 21 of the planes without accident from California to Oahu on May 13-14, setting a record for mass flights.

On the eve hostilities the Hawaiian Air Force, under Maj. Gen. Frederick L., included the 18th Bombardment, at Field Honolulu, and the 14th Pursuit Wing, Wheeler Field about miles Hickam. One pursuit squadron was training at a small field.

Until the of American plans called for more a holding action in the Philippines. Up November 1940 the air defense
of the was hands of one of aged bombers and 28 obsolete P-26s. Some did the next six months, and a Philippine Department Force was organized on May 6, 1941.

In a radical change of policy, United States decided in to garrison the Philippines strongly and to a large number heavy there. On July, General ordered the mobilization of Army the creation of a new command, United States Army Forces in the Far East, direct the forces of both the Philippine Commonwealth and the Department. Douglas MacArthur, already on, was re-called to active duty to head the new command. August the Department Air Force became the Air, United States Army Forces in the Far East.

As Japanese became increasingly aggressive in southeast during the summer of 1941, the Air Force hurried substantial air reinforcements to MacArthur. Them was the squadron, commanded by Maj. Emmett, Jr., which set out on September 5 from Hickam Field the Philippines via Wake, New Guinea, and Australia. A later all nine of its B-17s landed safely Clark Field, Manila, after of remarkable flights of the prewar period. The 19th Group took off from California in on October 22, route pioneered by O'Donnell's squadron, and at Clark Field on November 6. By December Air had about 265 combat planes in the Philippines, but only first-line aircraft were B-17s and 107 P-40s. These, P-40s were not yet in combat units.

Headquarters Army Air Force to reorganize its forces the Philippines in with projected and sent senior officer, Maj. Gen. Lewis H., to serve as MacArthur's air commander. Brereton
assumed his post on October, and on November 16 his command reorganized and redesignated as Far East Force.

A multitude of problems and deficiencies. He no money for building dispersal areas for B-17s at Field. Revetments been so late and were so slowly that only two were by December. Uncamouflaged, big planes could be seen the air as far as miles away. Brereton, about their position, sent 16 of them south on December to sod field under Del Monte on the island of Mindanao. The air warning was 24 hours day in December, but its communications were both inefficient, unreliable. Not than two warning sets were in operation, one at Iba, and outside Manila. Pursuit pilots go much higher than 15,000 feet without oxygen, but only Nichols Field small supply of it.

In ominous readiness on Formosa, the Japanese had 150 Army planes and 300 first-line aircraft, including 184 Zero fighters. Maneuverable, these fast-climbing could reach a speed of miles hour and were heavily armed two 22-mm. cannons and a of machine guns. Veiled in more than secrecy, the Zero was little known the United States and be most disagreeable surprise to American pilots.

Logical route for Japanese invasion the Western Hemisphere was the Aleutians and through Alaska. Air units could be deployed to Alaska, suitable airfields to built. The territory worthy of the name in 1939. Funds for base near, disapproved by appropriations committee in spring of 1940, were hastily provided after the German blitz. Work began almost immediately on what later Elmendorf Field. In all of Alaska, at the beginning
of, the Army Force had only 32 aircraft—all out of date—three commanded the Composite Group.
Hemisphere Defense
30% Randomly Deleted Version

In atmosphere isolationism that prevailed until 1940, United its oversea deployment to Panama and to the island Hawaii, sending only token forces to defend Philippines. July 1939, only Air personnel were overseas. German victories in Europe transformed hemisphere from a dead to a watchword. Nazi slogan, "the World," credible enough make the United States anxious to its defense.

There were two routes German invasion of Western Hemisphere. Was the bridge formed by Iceland, Greenland, and North Atlantic. The second was from to corner of Brazil jutted into the Atlantic 1,900 miles great base at Dakar, French Africa. Caribbean also required, not of any of invasion, but because could closed German raiders until air and sea bases were on the island chain that guarded entrance.

United took tremendous step toward of both the North and the with the famous "destroyers for bases," President Roosevelt on September 1940. Under this agreement 50 old destroyers, which they urgently needed, return, to the leases eight bases in British possessions in the Western Hemisphere. As a, the end 1941 the Army Air Force had or detachments on reconnaissance duty at Gander in Newfoundland, four in the Caribbean. A base in Dutch Guiana also agreement with the Dutch government-in-exile.

Greenland lay the American sphere defense until March,
Germany extended combat to include Iceland and Greenland. The States hemisphere area include Greenland, and on 9 Danish minister in Washington signed an the United States right to build bases there. Air found promising sites airfields at Narsarssuak, the southern of Greenland, and at a the west coast just within the Circle.

The War Department this construction such of great difficulties that at Narsarssuak was well advanced by the of the year. The base also carefully stocked with supplies, important, for, the wrote, "Nothing is locally except drinking water and rocks." As yet air consisted only of aviation few weather and communications men.

Had been occupied the in May 1940, but the war they grew increasingly anxious withdraw their garrison use elsewhere. Therefore, July 1941, at the request both England, Icelandic government, in had declared independence of German-occupied Denmark, the United a brigade of Iceland to replace the British. July 25 air echelon of the Air 33d Pursuit Squadron, with 30 P-40s, to the island carrier. There with Air Force units under combat conditions.

The Caribbean progress in defense between 1939 and took place on the island Puerto Rico. An emergency strip at Field was transformed with haste efficiency into, and another good, Losey, also completed before 1942. The of, air strength on island had been built up to composite wing. There were some 300 Army aircraft in the Caribbean area Pearl Harbor, but, including all heavy bombers (8 B-17s) and most the best fighters
(P-40s), around the Panama at, Fields. When the Caribbean Defense Command was set up in the 1941, Frank became its commander. It was fitting that Andrews should the first officer a command.

1, 1940, in Hawaii were organized into Hawaiian Force under the Hawaiian Department. At end the year the new Air Force had only 117--none of vintage--but thereafter. By December 6, 1941, the the greatest air of comparable in the States or oversea possessions--planes of which about half were modern. Among them were 12 B-17Ds, had sent to Hawaii in the belief long range would them particularly defense the islands. The 19th Group, under the command of Lt. Col. Eugene L. Eubank, flown 21 of the big planes without accident California-Oahu, May, for overwater flights.

On eve of hostilities the Hawaiian Air Force, under Gen. L. Martin, Wing, at Hickam Field outside Honolulu, and the 14th Pursuit, at about 15 from Hickam. Pursuit squadron was training at a small field.

The summer of plans for no more than a holding action in Philippines. Up to November 1940 the of the islands was hands of squadron of aged bombers, 28 P-26s. Arrive during the next six, and a Philippine Department Force was organized on May 1941.

In a radical change policy, the United in to garrison the Philippines strongly base large number heavy bombers there. On 26, Marshall the of the Philippine Army and the creation of new command, the States Army Forces in the Far, direct of both Philippine Commonwealth and the Department. Douglas MacArthur,
already the scene, was to duty head the new command. On August 4 the Philippine Force became the United States Forces in the East.

As the Japanese increasingly southeast Asia during the summer and fall of 1941, the Force hurried reinforcements MacArthur. Among was the 14th Bombardment Squadron, by Maj. Emmett, Jr., which September 5 Hickam Field to the Philippines- Midway, Guinea, and Australia. A week, all nine of landed safely at Field, Manila, after of most remarkable flights of period. The 19th Bombardment Group off from California in 26 B-17s on 22, by squadron, and at Clark Field November 6. December Army Force had about 265 planes Philippines, but the only first-line aircraft were 35 B-17s, P-40s. Of these, 31 were not combat units.

Headquarters Army decided reorganize its forces Philippines in keeping with strength sent a senior officer, Gen. Lewis H. Brereton, to serve as air commander. Brereton assumed his post on October 7, November 16 his command reorganized and redesignated the Air Force.

Inherited multitude of problems and deficiencies. Had no money for areas for the at Clark Field. Revetments had been so and built so slowly only two were by December. Uncamouflaged, planes seen from the air as far 25 miles away. Brereton, their position, sent 16 of them south on 5 to a sod under development at Del the of Mindanao. Air warning system was operation hours a in December, its communications were and unreliable. Also, not more radar warning were in operation, one at Iba, outside
Manila. Pursuit could not go much than 15,000 feet, but only Field had even a supply it.

Marshaled ominous readiness Formosa, the Japanese had more than 150 planes and 300 first-line aircraft, Zero fighters. Wonderfully, these fast-climbing a of 350 miles and were heavily armed two 22-mm. cannons and a pair of guns. Veiled in more than secrecy, the Zero was known in States and was be most surprise American pilots.

The route a invasion of the Western Hemisphere was via Aleutians through Alaska. Before could be to, suitable airfields had to be built. The territory worthy of name in 1939. For a near Anchorage, disapproved the House appropriations committee in the of 1940, hastily provided the blitz. Work then almost immediately on became Elmendorf Field. In all of Alaska, at the of, the Army Air Force had only 32--date--three squadrons commanded by the 28th Group.
Hemisphere Defense

40% Randomly Deleted Version

In the atmosphere of that until 1940, the United had limited to the Canal and to island, sending token defend the Philippines. In, only 3,991 Army personnel overseas. Then, the in from a issue to a national watchword. Nazi, "Tomorrow World," became credible to make anxious to bolster Atlantic Defenses.

There possible for invasion of the Western Hemisphere. One was the island by Iceland, across North Atlantic. The was from the corner Brazil jutted out into the within of base in French West Africa. The Caribbean attention, not of any real prospect of, but it not to German until air and bases built island chain its entrance.

United States a tremendous step of North Atlantic and Caribbean with famous "destroyers deal," announced Roosevelt September 3, 1940. This British received 50 old destroyers, which they needed, in return, the States 99-year on bases British the Western Hemisphere. By the end of the Air had or detachments reconnaissance duty at Gander in and bases on islands the Caribbean. Guiana was also and occupied by agree- ment the Dutch government-in-exile.

The American of defense March when Germany extended combat zone to include both Greenland. The States extended its hem- isphere defense area to, on April the Danish in Washington
signed agreement United to build there. The Air found promising sites airfields the southern tip Greenland at point on the just within the Circle.

The Department such high priority that in spite difficulties at Narsarssuak was well advanced end the year. The also carefully stocked with, important consideration, the, "Nothing is available except drinking water, sand, rocks." Air only of engineers plus a few weather and men.

Had occupied British in May 1940, the west on they anxious to withdraw for use elsewhere. In July 1941, at the request England and, May declared German-occupied Denmark, United States a of Marines to Iceland to replace the British. July 25 the air echelon Army Air Force's 33d, with P-40s, moved to the carrier. There it operated Air under combat conditions.

In the Caribbean the air defense between 1941 took on the Puerto Rico. An emergency at was transformed with and a major air base, and another good, also 1942. By the of, air strength island up to a composite wing. There were some aircraft in the Caribbean area just, 183, all the heavy most best fighters, remained bunched the Panama Canal, Albrook, and Howard Fields. Caribbean Defense Command was in the of, Maj. Frank Andrews became its commander. It Andrews should be first officer to hold a command.

On November, units in Hawaii were into under the Hawaiian Department. At the end year the New Force 117 aircraft--recent vintage--but it thereafter. By December, the the greatest air strength of any comparable in the United States its oversea--
planes about were modern. Among them were 12 B-17Ds, been sent Hawaii in the belief long range make in the islands. The Group, command Lt. Col. Eugene Eubank, flown 21 of big planes without accident from to May 13-14, setting for flights.

On the eve of hostilities Air Force, Frederick L., included Bombardment, Hickam Field outside, the 14th Pursuit Wing, about 15 miles from Hickam. One pursuit squadron Haleiwa, a small field.

Summer of, American plans called for than a holding in Philippines. Up November of the the hands squadron of aged bombers and 28 obsolete P-26s. Some reinforcements arrive six months, a Air Force was organized on May 1941.

In change of, the United States decided June to the Philippines to base large number there. On 26, Marshall ordered of Philippine army and the creation of new command, the United Army East, the of both Philippine Commonwealth, the Philippine Department. Already on scene, was to to head the new command. August 4 the Philippine Department Air became Air, Forces the Far East.

The Japanese became aggressive in southeast during the and fall of 1941, the Air air MacArthur. Among them was the 14th Bombardment, commanded Major, set on 5 Hickam Field Philippines via Wake, New, and Australia. A week all nine B-17s Clark Field, after one of most flights the prewar period. 19th off from in 26 B-17s October, followed the O'Donnell's squadron, and arrived at on November 6. By December the Army Air Force had about 265 combat planes the, but only P-40s.
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Headquarters Army Air Force reorganize the Philippines in keeping with its projected sent a senior, Maj. Gen. Lewis, serve commander. On October, and on 16 his command was re-organized and redesignated Far East Force.

Brereton a of problems, deficiencies. No money for the B-17s at Clark Field. Revetments had been so slowly that only were ready by December. Big could be seen the air as 25 miles away. Concerned about their, of them south 5 to a sod under development at Monte the island Mindanao. The air system 24 in December, but its communications were and unreliable. Also, not more than two warning sets were in operation, outside Manila. Pursuit pilots not go much feet without oxygen, but had even supply of it.

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There for German the Western Hemisphere. One was bridge, Newfoundland the North Atlantic. The second to the corner into the Atlantic within miles the at West Africa. Also required, not of any real of, it not until air and bases were on the island its entrance.

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War this construction such high priority spite the Narsarsuak well advanced end of year. The base was carefully stocked, an important, for, "Nothing locally, water and rocks." Yet garrison consisted engineers plus weather and men.
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On 1, 1940, air units under the Hawaiian Department. End
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A radical policy, in to garrison the Philippines base a
large number there. Marshall the mobilization of the Philippine army and creation a new, Army in the Far, the Philippine and the Department. MacArthur, already, recalled active duty head new command. August 4 Department Air the Air Force, States Far East.

Japanese became increasingly aggressive Asia during the summer of, Army substantial air MacArthur. Was the 14th, commanded by O'Donnell, Jr., out from to Midway, Wake, New Guinea, and Australia. A week later, Manila, after of remarkable flights of the prewar period. Bombardment took off from in B-17s on October 22, the O'Donnell's, and on 6. By Army had in the, but the first-line 35 B-17s and P-40s. 31 were yet in units.

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Brereton inherited multitude deficiencies. He money building dispersal at Clark Field. Authorized late and were slowly that were by December. Uncamouflaged, the be seen from as 25 away. About their exposed, sent 16 south a field under at Monte on the Mindanao. Warning system was 24 hours a day, but inefficient, unreliable. Also, than two warning, one at Iba, outside Manila. Pursuit could not 15,000 without oxygen, only Field had a it.

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Logical route for an invasion via the Alaska. Air be deployed to Alaska, airfields built. Territory none worthy of 1939. Funds for, disapproved committee in the spring of 1940, were German blitz. Work then on what Field. In, war, Army Air had only aircraft—all out of—three by the 28th Group.
Hemisphere Defense

Multiple Choice Test

1. The United States had limited its oversea deployment just prior to 1940 primarily because:
   1) of limited access to foreign locations for bases
   2) of possible invasion of the United States by opposing forces
   3) of an atmosphere of isolationism
   4) of a lack of forces

2. Just prior to 1940, United States forces in the Philippines were:
   1) non-existent
   2) of only a token number
   3) short of fighter planes
   4) short of long range bombers

3. German victories in Europe in 1939-1940:
   1) increased the isolationist position of the United States
   2) transformed hemisphere defense into a national watchword
   3) increased the interest of the United States in both the Atlantic and Pacific coastal defenses
   4) caused little action on the part of the United States

4. The Caribbean required attention:
   1) because of a possible German invasion in that area
2) because of possible use as a stepping stone for German forces to invade the southern shores of the United States from their bases in Argentina

3) because of a possible German attack on the Panama Canal

4) to close the area to German raiders

5. Possible routes for a German invasion of the Western Hemisphere numbered:

1) five
2) four
3) two
4) three

6. Under the "destroyers for bases deal," the British received:

1) 50 destroyers
2) 50 destroyers and 4 battleships
3) 40 destroyers and 10 cruisers
4) 99 destroyers

7. With the "destroyers for bases deal," the United States took:

1) a financial loss
2) a step toward defense of both the North Atlantic and the Caribbean
3) a step toward defense of both the Aleutians and Alaska
4) bases in southern England

8. As a result of the "destroyers for bases deal," by the end of 1941 the Army Air Force had squadrons or detachments on reconnaissance duty at:

1) several bases in Dutch Guiana
2) several bases in Newfoundland
3) Gander base and four bases in the Caribbean
4) eight bases in the North Atlantic area

9. Greenland laid outside the American sphere of defense until:
   1) the Danish government gave the United States permission to build bases there
   2) recognition of its strategic location along a possible German invasion route prompted its inclusion
   3) Nazi Germany expanded its combat zone to include Greenland and Iceland
   4) the government of Greenland requested assistance in combating German raiders

10. Following permission to build bases in Greenland, the Army Air Force found promising sites for airfields:
    1) at Dakar and Clark
    2) at two locations on the southeast coast of Greenland
    3) just outside the Arctic Circle and on the east coast of Greenland
    4) on the southern tip and the west coast of Greenland

11. The War Department gave construction of the base at Narsarssuak:
    1) little attention
    2) priority
    3) few funds
    4) unsatisfactory support

12. At the completion date, the base at Narsarssuak was occupied by:
    1) one squadron of P-40s and several obsolete P-26s
2) one pursuit squadron
3) aviation engineers and a few communications and weather personnel
4) by the Army Air Force's 33d Pursuit Squadron

13. The base at Narsarssuak was:
1) critically short of supplies
2) readily accessible for supplies
3) carefully stocked with supplies
4) self-sufficient regarding supplies

14. The United States sent forces to Iceland to replace:
1) American troops
2) British and Icelandic troops
3) Icelandic troops
4) British troops

15. The United States sent troops to Iceland in the form of
1) a brigade of Marines
2) an armored brigade
3) a brigade of light infantry
4) a regiment of armored cavalry

16. In the Caribbean area, an emergency strip was transformed with haste into a major airbase at:
1) Albrook Field
2) Borinquen Field
3) Losey Field
4) Howard Field

17. The first air officer to hold a theater command was:
1) Gen. Douglas MacArthur
2) Gen. Lewis H. Brereton
4) Maj. Gen. Frederick L. Martin

18. By December 6, 1941, the air strength of the Hawaiian islands was:
1) insufficient in relation to other United States possessions
2) comparable to that of most United States overseas possessions
3) comparable only to the air strength of the Caribbean Defense Command
4) comparable to any other area, either in the United States or any of its overseas possessions

19. In the Caribbean, the greatest progress in air defense between 1939 and 1941 took place:
1) in Dutch Guiana
2) in Panama
3) in Puerto Rico
4) in the Dominican Republic & Cuba

20. Just before Pearl Harbor the majority of the Army aircraft in the Caribbean, including all the heavy bombers, were bunched around:
1) the island of Puerto Rico
2) the Panama Canal
3) Losey and Borinquen Fields
4) the major base at Dakar

21. The first commander of the Caribbean Defense Command was:
1. Maj. Gen. Frederick L. Martin
3. General Marshall

22. By the spring of 1941, air strength on the island of Puerto Rico had been built up to:
   1) six squadrons (three pursuit and three bomber)
   2) an air wing
   3) a composite wing
   4) eight squadrons (five pursuit and three bomber)

23. The air echelon of the Army Air Force's 33d Pursuit Squadron moved to Iceland:
   1) by flying via Andrews Air Base, Toronto, and Gander Field
   2) by flying non-stop from Andrews Air Base
   3) by aircraft carrier
   4) escorting a bomber squadron

24. By December 6, 1941, the Hawaiian Air Force had 231 planes of which:
   1) few were modern
   2) about half were modern
   3) all were modern
   4) all were obsolete

25. The 19th Bombardment Group, under the command of Lt. Col. Eugene L. Eubanks, flew from California to Oahu:
   1) and set a record for mass overwater flights
   2) with one severe air catastrophe
3) with several minor accidents
4) and established a route for future overwater flights from California to Oahu

26. Among the military planes of the Hawaiian Air Force were 12 B-17Ds, sent to the Hawaiian islands in the belief:
1) that their superior bomb load capacity would give the islands a greater striking ability
2) that their long range would be valuable for the defense of the islands
3) that no other area had a real need for them
4) that the islands were short on bombers for sufficient defense

27. In a radical change of policy, the United States decided in June 1941 to garrison the Philippines:
1) strongly, with a large number of fighter-bombers
2) with a composite wing of fighters and bombers
3) strongly, with a large number of heavy bombers
4) with a small ground detachment in support of a fighter squadron

28. Until the summer of 1941 American plans for the Philippines called for:
1) a systematic retreat
2) a weak defense and eventual evacuation
3) a holding action
4) a gradual reinforcement to the strength of a combat division with air support attached

29. Up until November 1940, the air defense of the Philippine
islands was in the hands of:

1) a squadron of aged bombers and several obsolete P-26s
2) one squadron of aged fighter-bombers
3) a composite wing of aged bombers and fighters
4) one squadron of new B-17Ds

30. The purpose of the creation of the new command, The United States Army Forces in the Far East, was to direct the forces:

1) of Hawaii and the Philippines
2) of the Philippine Commonwealth
3) of Okinawa, the Philippines, and Hawaii
4) of the Philippine Commonwealth and the Philippine Department

31. The substantial reinforcement in air assets to the United States Forces in the Far East in the summer and fall of 1941 was prompted by:

1) the capture of Wake Island and New Guinea by the Japanese
2) general Japanese aggressiveness in southwest Asia
3) Japanese raids and feints toward the Philippines
4) the invasion of the island of Mindanao by the Japanese

32. The commander of the United States Army Forces in the Far East, recalled to active duty to accept the position, was:

1) Gen. Douglas MacArthur
2) Maj. Gen. Brereton
3) Gen. Frederick L. Martin
4) Gen. Curtis LeMay
33. A remarkable flight was recorded from Hickam to the Philippines via Midway, Wake, New Guinea, and Australia by:
   1) Lt. Col. Eugene L. Eubanks' 19th Bombardment Group
   2) Maj. Emmett O'Donnell, Jr. and the 14th Bombardment Squadron
   3) Maj. Gen. Frederick L. Martin and the 18th Bombardment Wing
   4) the 14th Pursuit Squadron

34. By December 1941 first-line aircraft of the Army Air Force in the Philippines consisted of:
   1) 50 B-17s and 66 P-40s
   2) 63 B-17s and 44 P-40s
   3) 85 B-17s and 106 P-40
   4) 35 B-17s and 107 P-40s

35. The creation of the Far East Air Force was a result of:
   1) reorganization of forces in Hawaii, New Guinea, and the Philippines
   2) reorganization of Headquarters, United States Army Air Force
   3) reorganization of forces in Hawaii and the Philippines
   4) reorganization of forces in the Philippines

36. To command the Far East Air Force, Headquarters Army Air Force appointed a:
   1) Lieutenant General
   2) Major General
   3) Brigadier General
   4) General
37. Pursuit pilots could not go without oxygen at heights much more than:

1) 12,000 feet
2) 10,000 feet
3) 15,000 feet
4) 18,000 feet

38. Brereton, the commander of the Far East Air Force, had no money for:

1) supplies for outfitting B-17s
2) repairing aircraft
3) building dispersal areas for B-17s at Clark Field
4) camouflage nets to hide his bombers

39. The communications of the air warning system for the Far East Air Force were:

1) reliable but of poor quality
2) operating 24 hours a day with proficiency
3) inefficient and unreliable
4) inefficient but reliable for important information

40. Brereton, concerned about the exposed positions of his bombers (B-17s), sent:

1) 16 planes south to a point about 25 miles from Clark Field
2) 16 planes south to the island of Mindanao
3) 16 planes south to Nichols Field
4) 16 planes south to Clark Field

41. Radar warning sets of the Far East Air Force during late 1941 were operating at:
1) Nichols Field and Clark Field
2) Nichols Field and Del Monte
3) Manila
4) Iba and just outside Manila

42. While marshalled in ominous readiness on Formosa, the Japanese had:
1) both short-range army planes and first-line naval aircraft
2) land-based, long-range bombers and short-range army aircraft
3) numerous Zeros and obsolete naval aircraft
4) only Zeros and first-line naval aircraft

43. The capabilities of the Zero fighter were:
1) well known by American pilots
2) relatively unknown by American pilots
3) to be a pleasant surprise to American pilots
4) inadequate for aerial combat

44. The Zero fighter was armed with:
1) two cannons and three machine guns
2) four cannons
3) four machine guns
4) two cannons and two machine guns

45. The Zero fighter was:
1) heavily armed
2) slightly armed
3) moderately armed
4) fast but unmaneuverable
46. The logical route for a Japanese invasion of the Western Hemisphere was:

1) by way of the Philippines, Hawaii, and into southern California
2) via the Aleutians and Alaska
3) along the southern route by way of New Guinea, Wake, and Hawaii
4) across mid-Pacific utilizing their aircraft carrier fleet

47. The Zero fight could reach a speed of:

1) 450 mph
2) 375 mph
3) 350 mph
4) 300 mph

48. In 1939 the territory of Alaska had:

1) no major airfield
2) one major airfield
3) several airfields
4) no suitable airfields

49. Funds for a base near Anchorage, initially disapproved, were provided after:

1) a large influx of aircraft into Alaska
2) the German blitz in Europe
3) the weather cleared to enable outdoor construction
4) the attack on Pearl Harbor

50. At the beginning of the war, the aircraft in Alaska:

1) were all modern
2) consisted of both modern and obsolete factions
3) were all out of date
4) were all new fighters
APPENDIX K

JAPAN: A TIME OF DECISION

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The change of climate has been momentous--and probably unavoidable. For Japan's single-minded pursuit of economic growth during the years since World War II has finally made it the first non-nuclear--and non-Western--nation to attain true superpower status. As a result, Japan has a new sense of pride and self-confidence, and a distinct feeling that the U.S. is no longer its oyabun (parent figure). But as it lets go of the apron strings, the prospect of setting out on its own has also left Japan beset by confusion and doubt.

Whatever Japan's ultimate course turns out to be, it is already clear that its gaze is no longer fixed exclusively on Washington. Hirohito's eighteen-day trip--the first overseas

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tour by a reigning Japanese monarch in the 2,600 years of imperial rule—exemplifies this outward-bound spirit. After their brief meeting with President and Mrs. Nixon at Elmendorf Air Force Base outside Anchorage, Hirohito and Empress Nagako planned to visit seven European countries, including private visits to the royal families of Denmark and Holland, "rest stops" in France and Switzerland and official state visits to Belgium, West Germany and Britain. Significantly, it was this part of the Emperor's trip that was planned first; the meeting with Mr. Nixon was squeezed into the itinerary as a crisis-inspired afterthought.

The U.S., however, has had trouble getting used to the idea that Japan is an independent-minded superpower. The off-hand way in which President Nixon treated Japan when he announced his China trip and his new economic policy last summer showed that America was slow on the uptake. But the Japanese were no longer willing to endure slights from Washington quietly. In the aftermath of the "twin shocks," 54 per cent of the people questioned by a public-opinion poll in Tokyo and Osaka decided that Japan should "quit depending on the U.S. and go its own way." That is exactly what the Japanese did. They pointedly dragged their heels on cooperating with Washington's "two Chinas" policy in the United Nations. And they resisted the Nixon economic policy so stubbornly that, last week, the Administration decided to make a quiet threat; unless Japan voluntarily restricted more of its exports to the U.S., Washington would impose limits of its own under the Trading With the Enemy Act.
Japan, of course, is still far from becoming an enemy of the U.S., and even many Administration officials felt that the none-too-subtle warning to Japan last week amounted to conspicuous overkill. Even so, the island nation presents the U.S. with the gravest commercial challenge it has ever faced. From the rubble of World War II, Japan has vaulted into the No. 3 spot among industrial nations—with a big leg-up from the U.S. Now the newly rich nation threatens to move in on its faltering benefactor. Japan exports 30.7 per cent of its goods to the United States, and the American deficit in trade with Japan last year ran to a staggering $2.8 billion.

Pride: The people of Japan take pride in such statistics, for, more than most nations, they are fascinated with rank. "The Japanese are constantly watching the scoreboard to see if they have overtaken yet another country in some field of national endeavor," reports Newsweek's Tokyo bureau chief, Bernard Krisher. "When Japan surpassed Great Britain in gross national product, it was a cause for great rejoicing, and when Japanese life expectancy reached the same level as the U.S., France and Germany in 1965, the story was splashed across front pages everywhere. Sekai-ichi (best in the world) is a phrase that stirs the deepest emotions in Japan."

The country's dramatic commercial success has revived the traditional Japanese pride in nationality, which took such a beating during the early postwar years. In a poll conducted eighteen years ago, only 20 per cent of the Japanese questioned said that they felt superior to Westerners; by 1968, the figure
had risen to 47 per cent, and it must surely be higher by now. The Japanese were even able to extract a kind of perverse comfort from President Nixon's monetary policy, for to them it was living proof that, after all those years of eating humble pie, the yen was finally stronger than the dollar.

Traditions: This resurgent pride is already showing up in everyday life. Although the Japanese are known as indefatigable tourists overseas, millions more of them are trooping back to their own countryside, lured in part by an aggressive "Discover Japan" campaign waged by the National Railways. There is a growing taste for nostalgic reminders of a time when life was simpler and people put stock in traditional values; the growing popularity of the Emperor and the widespread interest in his trip to the West are signs of this mood. And clothes-conscious young men and women are beginning to kick the Western fashion habit in favor of more traditional dress. "I respect the Japanese blood," declares Kansai Yamamoto, a successful young designer who concentrates on purely native motifs. "Many Japanese still have a deep-rooted subconscious desire to admire anything European or American. I deny it. I feel we are the same, completely equal: the capable are capable, regardless of whether they are Chinese, American or Japanese."

Although most Japanese are still unfailingly polite to visitors from overseas, they seem to be less interested than they once were in speaking to them. Not a single important member of the Cabinet--including Foreign Minister Takeo Fukuda--is able to carry on a conversation in English, or any other alien tongue,
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So far, Japan's ego trip has not led to a revival of militarism. In fact, the country's 238,980-man Self-Defense Forces are undermanned and poorly equipped, and in labor-short Japan they are at a disadvantage in competing with industry for new recruits. Although some elements of Japanese society would like to rearm in earnest, most of the people still heartily endorse the constitutional provision that prohibits the creation of any aggressive military potential (page 38).

Those sentiments could always change, but for now the Japanese are convinced that the adding machine is mightier than the sword. They had discovered that there is more than one path to national greatness and feel, as Columbia University sociologist Herbert Passin puts it: "Why be the weakest of the nuclear powers when we can be the strongest of the non-nuclear powers? Adds a Japanese defense expert: "We would have to be
provoked to the point of real national humiliation before we would rearm seriously. The heart of the matter is that we are still involved in the historic experiment of being a rich nation with a weak military." One of the best indications of just how far that experiment has gone is the fact that, last year, Japanese businesses spent $2.7 billion on expense-account entertaining--$1.1 billion more than the country spent for defense.

Fear: Americans have watched all this with growing apprehension. "Something has to be done to prevent the 

1.00 from eating us alive, one top U.S. business executive howled a while ago. Such illtempered outbursts are still relatively rare in the U.S., and there is little sign of any return to the "yellow peril" scare of a generation ago. But in business, government and labor circles, there is rapidly increasing respect for "Japan, Inc."--tinged with a dab of fear.

Executives who deal with Japanese businessmen report that success has made them more self-confident, and tougher bargainers. "It's the same kind of evolution that German businessmen went through after the war," remarks a corporate officer. "At first they said, 'Introduce me as a European.' Then when their country got back on its feet they wanted to be called Germans again."

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Already, many Americans think they can see the handwriting on the wall. One of the more persuasive prophets of potential disaster is Peter G. Peterson, President Nixon's assistant for international economic affairs. Peterson puts on a chart show that White House aides describe as stunningly effective. "It is not a flamboyant presentation," says an Administration official, "but it leaves you at the end with a real whack." The charts portray Japan booming while the U.S. heads down into an untenable international economic position, one that President Nixon believes could disrupt the entire scheme of American foreign policy.

Aid: As the Administration sees it, the time has come for Washington to call in some of its debts. The U.S. wants Japan to adjust its currency in order to give the dollar more leverage in the international marketplace. It wants Tokyo to hold down its exports to the U.S. and lower the barriers against American exports to Japan and against U.S. capital investment there. Most of all, it wants Japan to shoulder some of America's burdens in Asia. "We hope that the Japanese will spend a hell of a lot more on defense and a hell of a lot more on economic aid. But persuasion and appeals have not worked with the Japanese, and so the time has come to crack down hard on them."

But it is far from certain that Japan is psychologically ready to take on the responsibilities of superpower status. Throughout the postwar era, Japanese foreign policy has been a happo bijin (eight-sided beauty), an attempt to be all things to all men. Last week's decision on co-sponsoring Washington's
China resolutions in the U.N. was a classic example of this delicate art form. After long and painful debate, the Cabinet abandoned its usual search for consensus and allowed Prime Minister Eisaku Sato to settle the issue entirely on his own. Sato chose to go along with the U.S., which produced a sigh of relief in Washington and probably enhanced the chances for Senate ratification of the treaty restoring Okinawa to Japanese rule. But many members of the Cabinet broke with tradition to criticize Sato openly for the move—a gesture that undoubtedly pleased mainland China. Since Sato is expected to resign soon anyway, his unpopular decision was regarded as a final sacrificial act that enabled Japan to show a beautiful face to both Washington and Peking.

Bonds: The post-Sato era will probably see Japan take a more independent line in foreign affairs, in order to protect its national interests and get along with China. Although this will inevitably mean a loosening of Japan's strong bonds with the U.S., many people in both countries understand that the process cannot be allowed to go too far. "I think all Americans...realize that a close and friendly relationship between Japan and the United States is vital to building the peaceful and progressive world both of us want for all mankind," President Nixon said last week. From the other side, 85-year-old Taizo Ishizaka, former chairman of Toshiba and a top spokesman for Japanese industry, avowed: "Without the U.S. Japan cannot live. If the U.S. has a cold, Japan will catch pneumonia."

But despite all the friendly rhetoric, the Japanese still
have no really clear idea of where they will turn at this crossroads in their history. "Right now," says a leading Tokyo journalist, "we are in search of individual and national identity." That search is more a question of spirit than politics. "It is not a matter of whether Japan is going left or right, but whether she will move inward or outward," says a Western diplomat stationed in Tokyo. "Since the war, there has been more and more outward-consciousness; the Japanese have moved into the world. But there has also been a countertrend: 'We Japanese against the gaijin (foreigners).' They have never resolved this paradox. They have never made up their minds whether they want to be one more member of the world community or retreat into their shell." In short, Japan still has to decide whether a superpower can also be a global dropout.
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But it is far certain that Japan is ready take responsibilities superpower status. Postwar era, Japanese foreign policy has been happy baijin (eight-sided beauty), attempt be all things all men. Last week's decision co-sponsoring Washington's China resolutions U.N. was classic example this delicate art form. Long and painful debate, Cabinet abandoned its usual search consensus and allowed Prime Minister Eisaku Sato settle issue his own. Sato chose go U.S., which produced sigh relief Washington and enhanced chances Senate ratification treaty restoring Okinawa Japanese rule. But many members Cabinet broke tradition
criticize Sato move—gesture that pleased mainland China. Since Sato is expected resign, his unpopular decision was regarded final sacrificial act enabled Japan show beautiful face both Washington and Peking.

Bonds: Post-Sato era will see Japan take independent line foreign affairs, order protect its national interests and get China. Although this will mean loosening Japan's strong bonds U.S., many people both countries understand that process cannot be allowed go. "I think all Americans...realize that close and friendly relationship Japan and United States is vital to building peaceful and progressive world both us want all mankind," President Nixon said last week. Other side, 85-year-old Taizo Ishizaka, former chairman Toshiba and top spokesman Japanese industry, avowed: "U.S., Japan cannot live. If U.S. has cold, Japan will catch pneumonia."

But all friendly rhetoric, Japanese have clear idea where they will turn this crossroads their history. Says leading Tokyo journalist, "We are search individual and national identity." That search is question spirit than politics. "It is matter whether Japan is going or, but whether she will move or," says Western diplomat stationed Tokyo. "War has been more and more outward-consciousness; Japanese have moved world. But has been countertrend: 'We Japanese gaijin (foreigners).' They have made their minds whether they want be one more member world community or retreat their shell." Short, Japan has decide whether superpower can be global dropout.
Its Superpower Role Stirs New Pride--and Tensions

Had happened only year, meeting President States Emperor Japan would have been regarded more ritual gesture friendship. Was year. Weekend, encounter Richard Nixon, Emperor Hirohito bleak airfield looked attempt patch differences two allies.

Change climate has been. Japan’s pursuit growth years War II has made non-nuclear--non-Western--nation attain status. Result, Japan has sense pride self-confidence, feeling U.S. is its oyabun (figure). Lets go apron strings, prospect setting out own has left Japan beset confusion doubt.

Ultimate course turns be, is clear its gaze is fixed Washington. Trip--tour Japanese monarch years rule--exemplifies outward-bound spirit. Brief meeting President Nixon, Elmendorf Force Base, Anchorage, Hirohito Nagako planned visit seven countries, including visits families Denmark, Holland, "rest stops" France, Switzerland, official visits Belgium, West Germany, Britain. Was part trip was planned; meeting Nixon was squeezed itinerary crisis-inspired afterthought.

U.S. has had trouble used idea Japan is independent-minded superpower. Offhand way President Nixon treated Japan announced his trip, his policy last summer showed America was slow uptake.

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Japan, course, is far becoming enemy U.S., many officials felt warning Japan last week overkill. Nation presents U.S. commercial challenge has faced. Rubble World War II, Japan has vaulted No. spot industrial nations--leg-up U.S. Rich nation threatens move benefactor. Japan exports cent goods United States, deficit trade Japan year ran billion.

Pride: People Japan take pride statistics, most nations, are fascinated rank. "Are watching scoreboard to see have overtaken another country some field endeavor," reports Newsweek's chief, Bernard Krisher. "Japan surpassed Britain gross product, was cause rejoicing, Japanese expectancy reached level U.S., France, Germany 1965, story was splashed front pages. Sekai-ichi (best world) phrase stirs emotions Japan."

Country's dramatic success has revived traditional Japanese pride nationality, took such beating years. Poll eighteen years, 20 per cent Japanese said felt superior Westerners; 1968, figure had risen 47 per cent, must be higher now. Japanese were able extract kind perverse comfort Nixon's monetary policy, was living proof, all years eating humble pie, yen was dollar.
Traditions: Resurgent pride is showing life Japanese are known indefatigable tourists overseas, millions are trooping own countryside, part "Discover" campaign waged National Railways. There is growing taste reminder: time life was simpler people put stock values, popularity Emperor widespread interest his trip West are signs. Clothes-conscious men, women are beginning kick fashion habit favor more traditional dress. "Respect Japanese blood," declares Kansai Yamamoto, successful young designer concentrates motifs. "Many Japanese have deep-rooted desire admire anything European. Deny. Feel are same, equal: capable are capable are Chinese, American, Japanese."

Most Japanese are polite visitors overseas, seem be interested were speaking. Single member Cabinet--Foreign Minister Takeo Fukuda--is able carry conversation English, other tongue, matter. Number executives, government officials, many grew influence, have bothered master languages. Do speak English may find disadvantage, are viewed suspicion their fellow countrymen. Foreigners visit Japan are expected know language suffer consequences. New highway signs are Japanese days, Corp. has discontinued information service avalanche protests, ground other countries make provision outsiders.

Far, Japan's trip had led revival militarism. Fact, 238,980-man Self-Defense Forces are, Japan are disadvantage competing industry new recruits. Some elements society would like rearm earnest, most people endorse provision prohibits creation any aggressive military potential (page 38).

Sentiments could change, now Japanese are machine is sword.
Had discovered is more path national greatness, feel Columbia sociologist Herbert Passin puts: "Be weakest powers can be strongest non-nuclear powers?" Adds Japanese defense expert: "Would have been provoked point humiliation would rearm. Heart matter is are involved historic experiment being rich nation military." One indications experiment has gone is fact, year, Japanese businesses spent $2.7 billion entertaining--$1.1 billion more country spent defense.

Fear: Americans have watched all growing apprehension. "Something has be done prevent Japs eating," top U.S. executive howled while. Such illtempered outbursts are U.S., is sign any return yellow peril scare generation. Business, labor circles, is increasing respect "Japan, Inc."--tinged dab fear.

Executives deal businessmen report success has made self-confident, tougher bargainers. "Same kind evolution businessmen went the war." remarks officer. "First said, 'Introduce European.' Country got feet wanted be called Germans." Japanese earn high marks their business skills, executives are aware industries run their American competitors. Managers labor towns Detroit praise quality Japanese workmanship, get think workers song line starts.

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All rhetoric Japanese have clear idea will turn crossroads
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Japan: A Time of Decision

10% Frequency Deleted Version

Its Superpower Role Stir New Pride—and Tensions

If it had happened only year ago, meeting between President United States and an Emperor Japan would have been regarded as little more than a ritual gesture friendship. But that was year ago. By last weekend, historic encounter between Richard Nixon and Emperor Hirohito on bleak Alaskan airfield looked more like symbolic attempt to patch up bitter differences between two allies.

Change climate has been momentous—and probably unavoidable. For Japan's single-minded pursuit economic growth during years since World War II has finally made it first non-nuclear—and non-Western—nation to attain true superpower status. As result, Japan has new sense pride and self-confidence, and a distinct feeling that U.S. is no longer oyabun (parent figure). But as it lets go apron strings, prospect setting out on its own has also left Japan beset by confusion and doubt.

Whatever Japan's ultimate course turns out to be, it is already clear that its gaze is no longer fixed exclusively on Washington. Hirohito's eighteen-day trip—first overseas tour by reigning Japanese monarch in 2,600 years imperial rule—exemplifies this outward-bound spirit. After their brief

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meeting with President and Mrs. Nixon at Elmendorf Air Force
Base outside Anchorage, Hirohito and Empress Nagako planned to
visit seven European countries, including private visits to royal
families Denmark and Holland, "rest stops" in France and Switzer-
land and official state visits to Belgium, West Germany, and
Britain. Significantly, it was this part Emperor's trip that
was planned first; meeting with Mr. Nixon was squeezed into
itinerary as crisis-inspired afterthought.

U.S., however, has had trouble getting used to idea that
Japan is an independent-minded superpower. Offhand way in
which President Nixon treated Japan when he announced his China
trip and his new economic policy last summer, showed that America
was slow on uptake. But Japanese were no longer willing to
endure slights from Washington quietly. In aftermath "twin
shocks," 54 per cent people questioned by public-opinion poll in
Tokyo and Osaka decided that Japan should "quit depending on U.S.
and go its own way." That is exactly what Japanese did. They
pointedly dragged their heels on cooperating with Washington's
"two Chinas" policy in United Nations. And they resisted Nixon
economic policy so stubbornly that, last week, administration
decided to make quiet threat: unless Japan voluntarily restricted
more its exports to U.S., Washington would impose limits its own
under Trading With Enemy Act.

Japan, course, is still far from becoming an enemy U.S.,
and even many Administration officials felt that none-too-subtle
warning to Japan last week amounted to conspicuous overkill.
Even so, island nation presents U.S. with gravest commercial
challenge it has ever faced. From rubble World War II, Japan has vaulted into No. 3 spot among industrial nations—with big leg-up from U.S. Now newly rich nation threatens to move in on its faltering benefactor. Japan exports 30.7 per cent its goods to United States, and American deficit in trade with Japan last year ran to staggering $2.8 billion.

Pride: People Japan take pride in such statistics, for, more than most nations, they are fascinated with rank. "Japanese are constantly watching scoreboard to see if they have overtaken yet another country in some field national endeavor," reports Newsweek's Tokyo bureau chief, Bernard Krisher. "When Japan surpassed Great Britain in gross national product, it was cause for great rejoicing, and when Japanese life expectancy reached same level as U.S., France and Germany in 1965, story was splashed across front pages everywhere. Sekai-ichi (best in world) is phrase that stirs deepest emotions in Japan."

Country's dramatic commercial success has revived traditional Japanese pride in nationality, which took such beating during early postwar years. In poll conducted eighteen years ago, only 20 per cent Japanese questioned said that they felt superior to Westerners; by 1968, figure had risen to 47 per cent, and it must surely be higher by now. Japanese were even able to extract kind perverse comfort from President Nixon's monetary policy, for to them it was living proof that, after all those years eating humble pie, yen was finally stronger than dollar.

Tradition: This resurgent pride is already showing up in everyday life. Although Japanese are known as indefatigable
tourists overseas, millions more them are trooping back to their own countryside, lured in part by an aggressive "Discover Japan" campaign waged by National Railways. There is growing taste for nostalgic reminders a time when life was simpler and people put stock in traditional values; growing popularity Emperor and widespread interest in his trip to West are signs this mood. And clothes-conscious young men and women are beginning to kick Western fashion habit in favor more traditional dress. "I respect Japanese blood," declares Kansai Yamamoto, successful young designer who concentrates on purely native motifs. "Many Japanese still have deep-rooted subconscious desire to admire anything European or American. I deny it. I feel we are same, completely equal: capable are capable, regardless whether they are Chinese, American, Japanese."

Although most Japanese are still unfailingly polite to visitors from overseas, they seem to be less interested than they once were in speaking to them. Not single important member Cabinet--including Foreign Minister Takeo Fukuda--is able to carry on conversation in English, or any other alien tongue, for that matter. Remarkable number middle-level business executives and government officials, many whom grew up under strong American influence, also have not even bothered to master foreign languages. And those who do speak English may find it distinct disadvantage, for they are often viewed with suspicion by their fellow countrymen. Increasingly, foreigners who visit Japan are expected to know language or suffer consequences. New highway signs are exclusively in Japanese these days, and Japan Telephone
Corp. has discontinued its English-language information service, despite an avalanche of protests, on the ground that other countries make no such provision for outsiders.

So far, Japan's ego trip has not led to revival of militarism. In fact, the country's 238,980-man Self-Defense Forces are undermanned and poorly equipped, and in labor-short Japan they are at a disadvantage in competing with industry for new recruits. Although some elements of Japanese society would like to rearm in earnest, most people still heartily endorse constitutional provision that prohibits creation of any aggressive military potential (page 38).

Those sentiments could always change, but for now Japanese are convinced that adding machine is mightier than sword. They had discovered that there is more than one path to national greatness and feel, as Columbia University sociologist Herbert Passin puts it: "Why be weakest nuclear powers when we can be strongest non-nuclear powers?" Adds Japanese defense expert: "We would have to be provoked to point real national humiliation before we would rearm seriously. Heart matter is that we are still involved in historic experiment being rich nation with weak military." One best indication of just how far that experiment has gone is fact that, last year, Japanese businesses spent $2.7 billion on expense-account entertaining—$1.1 billion more than the country spent for defense.

Fear: Americans have watched all this with growing apprehension. "Something has to be done to prevent Japs from eating us alive," one top U.S. business executive howled while ago. Such illtempered outbursts are still relatively rare in U.S.,
and there is little sign any return to "yellow peril" scare a generation ago. But in business, government and labor circles, there is rapidly increasing respect for "Japan, Inc."—tinged with dab fear.

Executives who deal with Japanese businessmen report that success has made them more self-confident, and tougher bargainers. "It's same kind evolution that German businessmen went through after war," remarks corporate officer. "At first they said, 'Introduce me as European.' Then when their country got back on its feet they wanted to be called Germans again." Japanese earn high marks for their business skills, and U.S. executives are also acutely aware that many Japanese industries simply run more efficiently than their American competitors. Managers in such tough labor towns as Detroit praise quality Japanese workmanship, and they get positively misty-eyed when they think loyal Japanese workers singing company song before assembly line starts up.

Already, many Americans think they can see handwriting on wall. One more persuasive prophets potential disaster is Peter G. Peterson, President Nixon's assistant for international economic affairs. Peterson puts on chart show that White House aides describe as stunningly effective. "It is not flamboyant presentation," says an Administration official, "but it leaves you at end with real whack." Charts portray Japan booming while U.S. heads down into an untenable international economic position, one that President Nixon believes could disrupt entire scheme American foreign policy.
Aid: As Administration sees it, time has come for Washington to call in some its debts. U.S. wants Japan to adjust its currency in order to give dollar more leverage in international marketplace. It wants Tokyo to hold down its exports to U.S. and lower barriers against American exports to Japan and against U.S. capital investment there. Most all, it wants Japan to shoulder some America's burdens in Asia. "We hope that Japanese will spend a hell lot more on defense and hell a lot more on economic aid. But persuasion and appeals have not worked with Japanese, and so time has come to crack down hard on them."

But it is far from certain that Japan is psychologically ready to take on responsibilities superpower status. Throughout postwar era, Japanese foreign policy has been hoppo bijin (eight-sided beauty), an attempt to be all things to all men. Last week's decision on co-sponsoring Washington's China resolutions in U.N. was classic example this delicate art form. After long and painful debate, Cabinet abandoned its usual search for consensus and allowed Prime Minister Eisaku Sato to settle issue entirely on his own. Sato chose to go along with U.S., which produced sigh relief in Washington and probably enhanced chances for Senate ratification treaty restoring Okinawa to Japanese rule. But many members Cabinet broke with tradition to criticize Sato openly for move--gesture that undoubtedly pleased mainland China. Since Sato is expected to resign soon anyway, his unpopular decision was regarded as final sacrificial act that enabled Japan to show beautiful face to both Washington and Peking.
Bonds: Post-Sato era will probably see Japan take more independent line in foreign affairs, in order to protect its national interests and get along with China. Although this will inevitably mean loosening Japan's strong bonds with U.S., many people in both countries understand that process cannot be allowed to go too far. "I think all Americans...realize that a close and friendly relationship between Japan and United States is vital to building peaceful and progressive world both us want for all mankind," President Nixon said last week. From other side, 85-year-old Taizo Ishizaka, former chairman Toshiba and top spokesman for Japanese industry, avowed: "Without U.S., Japan cannot live. If U.S. has cold, Japan will catch pneumonia."

But despite all friendly rhetoric, Japanese still have no really clear idea where they will turn at this crossroads in their history. "Right now," says leading Tokyo journalist, "we are in search individual and national identity." That search is more question spirit than politics. "It is not a matter whether Japan is going left or right, but whether she will move inward or outward," says Western diplomat stationed in Tokyo. "Since war, there has been more and more outward-consciousness; Japanese have moved into world. But there has also been countertrend: 'We Japanese against gaijin (foreigners).' They have never resolved this paradox. They have never made up their minds whether they want to be one more member world community or retreat into their shell." In short, Japan still has to decide whether superpower can also be global dropout.
Its Superpower Role Stir New Pride--and Tensions

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Whatever Japan's ultimate course turns out be, it already clear its gaze no longer fixed exclusively Washington. Hirohito's eighteen-day trip--first overseas tour by reigning monarch 2,600 years imperial rule--exemplifies this outward-bound spirit. After their brief meeting President, Mrs. Nixon at Elmendorf Air Force Base outside Anchorage, Hirohito, Empress Nagako planned visit seven European countries, including private visits

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However, has had trouble getting used idea an independent-minded superpower. Offhand way which President Nixon treated when he announced his China trip his new economic policy last summer showed America was slow uptake. But were no longer willing endure slights from Washington quietly. Aftermath "twin shocks," 54 per cent people questioned by public-opinion poll Tokyo, Osaka decided should "quit depending go its own way." Exactly what did. They pointedly dragged their heels cooperating Washington's "two Chinas" policy United Nations. They resisted Nixon economic policy so stubbornly last week, Administration decided make quiet threat: unless voluntarily restricted more its exports Washington would impose limits its own under Trading Enemy Act.

Course, still far from becoming an enemy even many Administration officials felt none-too-subtle warning last week amounted conspicuous overkill. Even so, island nation presents gravest commercial challenge it has ever faced. From rubble World War II, has vaulted into No. 3 spot among industrial nations--big leg-up from. Now newly rich nation threatens move its faltering benefactor. Exports 30.7 per cent its goods United States, American deficit trade last year ran staggering $2.8 billion.

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Traditions: This resurgent pride already showing up everyday life. Although known as indefatigable tourists overseas, millions more them trooping back their own countryside, lured part by an aggressive "Discover" campaign waged by National Railways. There growing taste nostalgic reminders time when life was simpler people put stock traditional values; growing popularity Emperor widespread interest his trip West signs this mood. Clothes-conscious young men, women beginning kick Western fashion habit favor more traditional dress. "I respect blood," declares Kansai Yamamoto, successful young designer who concentrates purely native motifs. "Many still have deep-rooted
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Already, Americans think can see handwriting wall. Persuasive prophets potential disaster Peter G. Peterson, Nixon's assistant international affairs. Peterson puts chart show White House aides describe stunningly effective. "Flamboyant presentation," says official, "leaves you end real whack." Charts portray booming while heads down untenable international position, believes could disrupt entire scheme.

Aid: Sees time come call some debts. Wants adjust currency order give dollar leverage international marketplace. Wants hold down lower barriers against capital investment. Most wants shoulder some America's burdens Asia. "Hope spend hell lot defense hell lot aid. Persuasion appeals worked so time come crack down hard."

Certain psychologically ready take responsibilities superpower status. Throughout postwar era, hoppō bijin (eight-sided beauty), attempt things men. Week's decision co-sponsoring Washington's China resolutions U.N. classic example delicate art form. After long painful debate, Cabinet abandoned usual search consensus allowed Prime Minister Eisaku Sato settle issue entirely. Sato chose go along which produced sigh relief probably enhanced chances Senate ratification treaty restoring Okinawa rule. Members Cabinet broke tradition criticize Sato openly move--gesture undoubtedly pleased mainland China. Since
Sato expected resign soon anyway, unpopular decision regarded final sacrificial act enabled show beautiful face both Peking.

Bonds: Post-Sato era probably see take independent line affairs, order protect interests get along China. Although inevitably mean loosening Japan's strong bonds both countries understand process cannot allowed go too. "I think Americans... realize close friendly relationship between United States vital building peaceful progressive world both want mankind," said week. Other side, 85-year-old Taizo Ishizaka, former chairman Toshiba top spokesman industry, avowed: "Without cannot live. If cold, catch pneumonia."

Its Superpower Role Stirs New Pride--and Tensions

If it had happened only a year ago, meeting between President of United States and Emperor of Japan would have been regarded as little more than a ritual gesture of friendship. But that was year ago. By last weekend, historic encounter between Richard Nixon and Emperor Hirohito on Alaskan airfield looked more like a symbolic attempt to patch up bitter differences between two allies.

Change of climate has been momentous--and probably unavoidable. Japan's single-minded pursuit of economic growth during years since World War II has made it the first non-nuclear--and non-Western--nation to attain true superpower status. As result, Japan has new sense of pride and self-confidence, and distinct feeling that the U.S. is no longer its oyabun (parent figure). As it lets go apron strings, the prospect of setting out on its own has also left Japan beset by confusion and doubt.

Whatever Japan's ultimate course turns out to be, it is clear that its gaze is no longer fixed on Washington. Hirohito's eighteen-day trip--first overseas tour by reigning Japanese monarch in the 2,600 years of imperial rule--exemplifies this outward-bound spirit. After meeting with President and Mrs. Nixon on Elmendorf Air Force Base, Anchorage, Hirohito and

Reprinted with permission from Newsweek, October 4, 1971 issue, Copyrighted 1971.
Empress Nagako planned visit seven European countries, including private visits to royal families of Denmark and Holland, "rest stops" in France and Switzerland and official state visits to Belgium, West Germany and Britain. Was this part of the Emperor's trip that was planned first; meeting with Mr. Nixon was squeezed into the itinerary as a crisis-inspired afterthought.

U.S. has had trouble getting used to the idea that Japan is an independent-minded superpower. Offhand way which President Nixon treated Japan when he announced China trip and his new economic policy last summer showed that America was slow on the uptake. The Japanese were no longer willing to endure slights from Washington quietly. In aftermath of "twin shocks," 54 percent of people questioned by public-opinion poll in Tokyo and Osaka decided that Japan should "quit depending on the U.S. and go its own way." That is exactly what Japanese did. They dragged heels on cooperating with Washington's "two Chinas" policy in the United Nations. They resisted Nixon economic policy so stubbornly that, last week, Administration decided to make quiet threat: unless Japan voluntarily restricted more of its exports to U.S., Washington would impose limits of its own under the Trading With the Enemy Act.

Japan is still far from becoming an enemy of U.S., and even many Administration officials felt that the none-too-subtle warning to Japan last week amounted to conspicuous overkill. The island nation presents the U.S. with the gravest commercial challenge it has ever faced. From rubble of World War II, Japan has vaulted into No. 3 spot among industrial nations—with big
leg-up from the U.S. Now newly rich nation threatens to move in on its faltering benefactor. Japan exports 30.7 per cent of its goods to United States, and American deficit in trade with Japan last year ran to staggering $2.8 billion.

People of Japan take pride in such statistics, more than most nations, they are fascinated with rank. "Japanese are constantly watching scoreboard to see if they have overtaken another country in some field of national endeavor," reports Newsweek's Tokyo bureau chief, Bernard Krisher. "When Japan surpassed Great Britain in gross national product, it was cause for great rejoicing, when Japanese life expectancy reached same level as U.S., France and Germany in 1965, the story was splashed across front pages everywhere. Sekai-ichi (best in the world) is phrase that stirs deepest emotions in Japan."

Country's dramatic commercial success has revived traditional Japanese pride in nationality, which took such a beating during the early postwar years. In poll conducted eighteen years ago, only 20 per cent of Japanese questioned said they felt superior to Westerners; by 1968, figure had risen to 47 per cent and it must surely be higher by now. Japanese were able to extract kind of perverse comfort from President Nixon's monetary policy, for to them it was living proof that, after all those years of eating humble pie, the yen was finally stronger than dollar.

Traditions: Resurgent pride is already showing up in everyday life. Although Japanese are known as indefatigable tourists overseas, millions more of them are trooping back to their own countryside, lured by an aggressive "Discover Japan" waged by the
National Railways. There is growing taste for nostalgic reminders of time when life was simpler and people put stock in traditional values; the growing popularity of Emperor and widespread interest in his trip to the West are signs of this mood. Clothes-conscious young men and women are beginning to kick Western fashion habit in favor of more traditional dress. "I respect the Japanese blood," declares Kansai Yamamoto, a successful young designer who concentrates on purely native motifs. "Many Japanese still have deep-rooted subconscious desire to admire anything European or American. I deny it. I feel we are the same, completely equal: capable are capable, regardless whether they are Chinese, American or Japanese."

Although Japanese are still polite to visitors from overseas, they seem be less interested than they once were in speaking to them. Not a single important member of the Cabinet—Foreign Minister Takeo Fukuda—is able to carry on a conversation in English, or any other alien tongue, matter. Remarkable number of middle-level business executives and government officials, many grew up under strong American influence, also have not even bothered to master foreign languages. Those who do speak English may find it a distinct disadvantage, they are often viewed with suspicion by their fellow countrymen.

Foreigners who visit Japan are expected to know the language or suffer consequences. New highway signs are exclusively in Japanese these days, and Japan Telephone Corp. has discontinued English-language information service, despite avalanche of protests on ground that other countries make no such provision for...
outsiders.

Far, Japan's ego trip has not led to a revival of militarism. The country's 238,980-man Self-Defense Forces are undermanned and poorly equipped, and in labor-short Japan they are at disadvantage in competing with industry for new recruits. Although some elements of Japanese society would like to rearm in earnest, most of people still heartily endorse the constitutional provision that prohibits the creation of any aggressive military potential.

Sentiments could change, but for now the Japanese are convinced that the adding machine is mightier than the sword. They discovered there is more than one path to national greatness, and feel Columbia University sociologist Herbert Passin puts it: "Why be weakest of the nuclear powers when we can be the strongest of the non-nuclear powers?" Adds Japanese defense expert: "We would have to be provoked to point of real national humiliation before we would rearm seriously. Heart of matter is that we are still involved in the historic experiment of being a rich nation with a weak military." One best indications of how far that experiment has gone is fact that, last year, Japanese businesses spent $2.7 billion on expense-account entertaining--$1.1 billion more than the country spent for defense.

Fear: Have watched all this with growing apprehension. "Something has to be done to prevent Japs from eating us alive," one top U.S. business executive howled while ago. Such illtempered outbursts are relatively rare in U.S., there is little sign of any return to the yellow peril scare of a generation ago. In business, government and labor circles, there is
rapidly increasing respect for "Japan, Inc."--tinged with dab of fear.

Executives who deal with Japanese businessmen report success has made them more self-confident, tougher bargainers. "It's same kind of evolution that German businessmen went through after the war," remarks corporate officer. "First they said, 'Introduce me as a European.' When their country got back on its feet, they wanted to be called Germans." Japanese earn high marks for their business skills, and U.S. executives are acutely aware many Japanese industries simply run more efficiently than their American competitors. Managers in tough labor towns as Detroit praise quality of Japanese workmanship, and they get positively misty-eyed when they think of loyal Japanese workers singing company song before assembly line starts up.

Many Americans think they can see the handwriting on the wall. The more persuasive prophets of potential disaster is Peter G. Peterson, President Nixon's assistant for international economic affairs. Peterson puts on a chart show that White House aides describe as stunningly effective. "Is not a flamboyant presentation," says Administration official, "but it leaves you at the end with a real whack." Charts portray Japan booming while U.S. heads down into untenable international economic position, one that President Nixon believes could disrupt the entire scheme of American foreign policy.

Aid: As Administration sees it, time has come for Washington to call in some of its debts. U.S. wants Japan to adjust currency
in order to give the dollar more leverage in the international marketplace. It wants Tokyo to hold down exports to U.S. and lower barriers against American exports to Japan and against U.S. capital investment there. Most all it wants Japan to shoulder some of America's burdens in Asia. "We hope that the Japanese will spend a lot more on defense and a hell of a lot more on economic aid. Persuasion and appeals have not worked with Japanese, and so the time has come to crack down hard on them."

It is far from certain Japan is psychologically ready to take on the responsibilities of superpower status. Throughout postwar era, Japanese foreign policy been a hoppo bijin (eight-sided beauty), an attempt to be all things to all men. Last week's decision on co-sponsoring Washington's China resolutions in U.N. was classic example of this delicate art form. After long painful debate, Cabinet abandoned usual search for consensus and allowed Prime Minister Eisaku Sato to settle the issue entirely on his own. Sato chose to go along with U.S., which produced sigh of relief in Washington and probably enhanced chances for Senate ratification of the treaty restoring Okinawa to Japanese rule. Many members of Cabinet broke with tradition to criticize Sato openly for the move—a gesture that undoubtedly pleased mainland China. Sato is expected to resign soon, his unpopular decision was regarded as final sacrificial act that enabled Japan to show a beautiful face to both Washington and Peking.

Bonds: Post-Sato era will probably see Japan take more independent line in foreign affairs, order to protect its national
interests and get along with China. Although this will inevitably mean loosening Japan's strong bonds with U.S., many people in both countries understand that the process cannot be allowed to go too far. "I think Americans...realize that close and friendly relationship between Japan and United States is vital to building peaceful and progressive world both of us want for all mankind," President Nixon said last week. From other side, Taizo Ishizaka, former chairman of Toshiba and top spokesman for Japanese industry, avowed: "Without the U.S., Japan cannot live. If U.S. has a cold, Japan will catch pneumonia."

Despite all friendly rhetoric, Japanese still have no really clear idea of where they will turn at this crossroads in their history. "Now," says leading Tokyo journalist, "we are in search of individual and national identity." Search is more a question of spirit than politics. "Is not matter of whether Japan is going left or right, but whether she will move inward or outward," says Western diplomat stationed in Tokyo. "Since the war, there has been more more outward-consciousness; Japanese have moved into the world. There has also been a countertrend: 'We Japanese against the gaijin (foreigners).' They never resolved this paradox. They never made up their minds whether they want to be one more member of world community or retreat into their shell." Japan still has to decide whether a superpower can also be a global dropout.
Its Superpower Role Stirs New Pride--and Tensions

If happened year ago, meeting between President United States and Emperor of Japan would have been regarded little more than ritual gesture of friendship. That was year ago. Last weekend, encounter between Nixon and Emperor Hirohito on airfield looked like symbolic attempt to patch up bitter differences between two allies.

Change climate has been momentous--probably unavoidable. Japan's pursuit of economic growth since World War II has made it first non-nuclear--non-Western--nation to attain superpower status. Result, Japan has sense pride and self-confidence, and distinct feeling that the U.S. is no longer its oyabun (parent figure). Let's go strings, prospect of setting out on its own has left Japan beset by confusion and doubt.

Whatever Japan's course turns out, is clear its gaze is no longer fixed on Washington. Hirohito's trip--first tour by Japanese monarch in 2,600 years of imperial rule--exemplifies outward-bound spirit. After meeting President and Mrs. Nixon base, Hirohito and Empress Nagako planned visit European countries, including private visits royal families of Denmark,

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Holland, "rest stops" in France, Switzerland and official state visits to Belgium, West Germany, Britain. This part Emperor's trip was planned first; meeting with Mr. Nixon was squeezed into itinerary as a crisis-inspired afterthought. U.S. has had trouble getting used to the idea that Japan is an independent-minded superpower. Way President Nixon treated Japan when he announced China trip new economic policy last summer showed America was slow on uptake. Japanese no longer willing to endure slights from Washington. Aftermath "twin shocks," 54 per cent of people questioned by poll Tokyo, Osaka decided Japan should "quit depending on U.S. and go its own way." That is what Japanese did. Dragged heels cooperating with Washington's "Two Chinas" policy in United Nations. They resisted Nixon economic policy stubbornly, Administration decided to make threat: unless Japan voluntarily restricted more exports to U.S., Washington would impose limits of its own under Trading With Enemy Act.

Japan is far from becoming enemy of U.S., many Administration officials felt none-too-subtle warning to Japan last week amounted to conspicuous overkill. Island nation presents U.S. with gravest commercial challenge it has ever faced. From World War II, Japan has vaulted into No. 3 spot among industrial nations--leg-up from U.S. Newly rich nation threatens move on its faltering benefactor. Japan exports 30.7 per cent goods to United States, American deficit trade with Japan last year ran to $2.8 billion.

Pride: People Japan take pride in statistics, more most,
they are fascinated with rank. "Japanese watching scoreboard to see if they have overtaken another country in field of national endeavor," reports Newsweek's Bernard Krisher. "Japan surpassed Great Britain gross national product, cause for great rejoicing, when Japanese life expectancy reached same level as U.S., France, Germany, 1965, story splashed across front pages everywhere. Sekai-ichi (best in world) phrase stirs deepest emotions in Japan."

Country's dramatic commercial success revived traditional Japanese pride nationality, which took beating during early postwar years. Poll conducted eighteen years ago, 20 per cent Japanese questioned said they felt superior to Westerners; 1968, figure had risen to 47 per cent must be higher now. Japanese were able to extract perverse comfort from President Nixon's monetary policy, them it was living proof, that after years eating humble pie, yen was finally stronger than dollar.

Traditions: Resurgent pride is showing in everyday life. Japanese are known as indefatigable tourists overseas, millions more are trooping to their own countryside, lured by aggressive "Discover Japan" by National Railways. There is taste for reminders of time when life was simpler and people put stock in traditional values; popularity of Emperor and widespread interest in trip West are signs mood. Clothes-conscious men and women beginning to kick Western fashion in favor of traditional dress. "I respect Japanese blood," declares Yamamoto, successful designer who concentrates on native motifs. "Japanese have subconscious desire to admire anything European or American."
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Japanese are polite to visitors, they seem less interested than they once were in speaking to them. Not single important member of the Cabinet--Fukuda--is able to carry on a conversation in English, or other alien tongue. Number of middle-level business executives and government officials, many grew under American influence, have not bothered to master foreign languages. Those who speak English find it distinct disadvantage, they are viewed with suspicion by fellow countrymen. Foreigners visit Japan expected to know language or suffer consequences. Highway signs exclusively in Japanese days, Japan Telephone Corp. discontinued English-language information service, despite avalanche protests on ground other countries make no such provision for outsiders.

Japan's ego trip has not led to revival militarism. Country's 238,980-man Self-Defense Forces are undermanned, poorly equipped, labor-short Japan they are at disadvantage competing with industry for new recruits. Some elements of Japanese society would like to rearm in earnest, most people endorse constitutional provision that prohibits creation of aggressive military potential.

Sentiment could change, now Japanese are convinced the adding machine is mightier than the sword. They discovered there more than one path to national greatness, feel sociologist Herbert Passin puts: "Why be weakest of nuclear powers when we can be strongest of non-nuclear powers?" Japanese
expert: "Would have to be provoked to point national humiliation before we would rearm seriously. Heart of matter is we are involved in historic experiment of being rich nation with weak military." Indications how far experiment gone is fact, last year, Japanese businesses spent $2.7 billion expense-account entertainment--$1.1 billion more than the country spent for defense.

Fear: Have all this with growing. "Something be done prevent Japs from eating us alive," top U.S. business executive howled ago. Illtempered outbursts are rare in U.S., there is little sign of return to "yellow peril" scare of generation ago. In business, government, labor circles, there is increasing respect for "Japan, Inc."--tinged with fear.

Executives deal with Japanese report success made them more self-confident, tougher bargainers. "It's same kind of evolution German businessmen went through after war," remarks officer. "They said, 'Introduce me as European.' When country got back on feet, they wanted be called Germans." Japanese earn high marks for business skills, U.S. executives are aware many Japanese industries run more efficiently than American competitors. Managers in labor towns Detroit praise quality of Japanese workmanship, get misty-eyed when they think of Japanese workers singing company song before assembly line starts.

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flamboyant presentation," says Administration official, "but it leaves you end with a real whack." Japan booming U.S. heads down into untenable international economic position, that President Nixon believes could disrupt scheme of American foreign policy.

Aid: Administration sees, time has come for Washington to call in some its debts. U.S. wants Japan adjust currency to give dollar more leverage in the international marketplace. It wants Tokyo hold down exports U.S. lower barriers against American exports Japan and against U.S. capital investment. It wants Japan to shoulder some America's burdens in Asia. "We hope Japanese will spend lot more on defense and of a lot more on economic aid. Persuasion appeals have not worked with Japanese, so time come crack down hard on them."

Far from certain Japan is psychologically ready take on responsibilities of superpower status. Postwar era, Japanese foreign policy been hoppo bijin (eight-sided beauty), attempt be all things all men. Decision on co-sponsoring Washington's China resolutions in U.N. was example of delicate art form. After debate, Cabinet abandoned search for consensus and allowed Prime Minister Eisaku Sato to settle issue on his own. Sato chose to go along with U.S., produced relief Washington enhanced chances for Senate ratification of treaty restoring Okinawa to Japanese rule. Members of Cabinet broke tradition to criticize Sato for move--gesture that undoubtedly pleased mainland China. Sato expected to resign, decision was regarded as final sacrificial act that enabled Japan to show beautiful face to Washington
and Peking.

**Bonds:** Post-Sato era see Japan take independent line in foreign affairs, to protect national interests and get along with China. This will mean loosening Japan's bonds with U.S., people both countries understand that process cannot be allowed to go too far. "Think Americans...realize close friendly relationship between Japan and United States is vital to building peaceful progressive world both us want for mankind," Nixon said last week. Other side, Taizo Ishizaka, former chairman Toshiba top spokesman Japanese industry, avowed: "Without U.S., Japan cannot live. If U.S. has cold, Japan catch pneumonia."

Despite friendly rhetoric, Japanese have no idea where they will turn at this crossroads in their history. "Now," says Tokyo journalist, "we in search of individual national identity." Search more question of spirit than politics. "Not matter whether Japan is going left or right, but whether she will move inward or outward," says diplomat Tokyo. "Since war, there has been more outward-consciousness; Japanese have moved into world. Has also been countertrend: 'We Japanese against gaijin (foreigners).' Never resolved this paradox. Never made up minds whether they want to be member of world community or retreat into shell." Japan has to decide whether superpower can also be global dropout.
Japan: A Time of Decision

50% Subjective Deleted Version

Its Superpower Role Stirs New Pride—and Tensions

Happened year ago, meeting between President United States, Emperor Japan would been regarded more gesture of friendship. Was year ago. Weekend, encounter between Nixon and Hirohito airfield looked like attempt to patch differences between allies. Change climate been momentous—unavoidable. Japan's pursuit growth War II made it first non-nuclear—non-Western—nation attain superpower status. Japan has pride self-confidence, feeling that U.S. is no longer oyabun (parent figure). Go, prospect setting out on own has left Japan beset by confusion doubt.

Whatever Japan's course, clear its gaze no longer fixed on Washington. Hirohito's trip—first tour Japanese monarch 2,600 years rule—exemplifies spirit. After meeting President, Mrs. Nixon, Hirohito and Empress Nagako planned visit European countries, visits families Denmark, Holland, "rest stops" France, Switzerland, visits Belgium, West Germany, Britain. Part Emperor's trip planned first; meeting Nixon squeezed into itinerary as crisis-inspired afterthought.

U.S. trouble getting used to idea Japan superpower. Way Nixon treated Japan when announced China trip economic policy

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Japan far from enemy U.S., Administration officials felt warning to Japan amounted to conspicuous overkill. Island nation presents U.S. gravest commercial challenge faced. World War II, Japan vaulted into No. 3 spot among industrial nations. Nation threatens move on faltering benefactor. Japan exports 30.7 per cent goods to United States, American deficit Japan $2.8 billion.


Country's commercial success revived Japanese pride nationality, took beating postwar years. Poll eighteen years ago, 20 per cent Japanese questioned felt superior Westerns; 1965, figure risen 47 per cent, higher now. Japanese were able extract perverse comfort from Nixon's monetary policy, proof, after years eating humble pie, yen stronger than dollar.
Traditions: Pride is showing in life. Japanese are known tourists, more are trooping to their countryside, lured by "Discover Japan" by Railways. Taste for reminders of time when life was simpler, people put stock values; popularity of Emperor interest trip West are signs. Men and women beginning to kick Western fashion favor traditional. "I respect Japanese blood," declares Yamamoto, designer concentrates motifs. "Japanese have desire to admire European, American. I. We are same, equal: Capable are capable, Chinese, American, Japanese."

Japanese polite to visitors, they seem less interested once in speaking them. Not single member of Cabinet is able to carry on conversation in English, alien tongue. Business executives, government officials, under American influence, have not bothered to master foreign languages. Those speak English find disadvantage, viewed with suspicion by fellow countrymen, Foreigners visit Japan expected know language suffer. Highway signs Japanese, Japan Telephone Corp. discontinued English-language information service, protests ground other countries make no provision outside.


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Experiment gone, year, Japanese businesses spent $2.7 billion expense-account entertaining--$1.1 billion more than country spent for defense.


Aid: Administration sees, time come Washington call some

Far from certain Japan psychologically ready take responsibilities superpower. Postwar, Japanese foreign policy been (beauty), attempt be all things men. Decision Washington's China resolutions U.N. was example of art form. Cabinet abandoned search consensus, allowed Minister Sato to settle issue on his own. Sato chose go with U.S., relief Washington enhanced chances Senate ratification treaty restoring Okinawa to Japanese. Members Cabinet broke tradition criticize Sato for move--gesture pleased China. Sato resign, decision regarded as act enabled Japan show beautiful face to Washington and Peking.

Bonds: Post-Sato Japan independent line foreign affairs, protect national interests get along with China. This mean loosening Japan's bonds with U.S., people countries understand process cannot allowed go far. "Americans...realize close relationship between Japan, United States vital building peaceful progressive world both want for mankind," Nixon said.

Ishizaka, chairman Toshiba spokesman Japanese industry, avowed: "Without U.S., Japan cannot live. U.S. cold, Japan catch pneumonia."
Despite rhetoric, Japanese have no idea where they turn crossroads in history. "Now," Tokyo journalist, "we search individual national identity." Search question spirit than politics. "Not Japan going left or right, but whether will move inward or outward," diplomat. "Since war, been outward-consciousness; Japanese moved into world. Been countertrend: 'Japanese against gaijin (foreigners).' Never resolved paradox. Never made minds want be member world community or retreat into shell." Japan decide whether superpower can be global dropout.
Japan: A Time of Decision

Multiple Choice Test

1. If the President and the Emperor had met a year ago:
   1) there would have been angry differences to patch up
   2) they would have discussed Japan's new industrial role
   3) they would have joined in a gesture of friendship
   4) the Emperor would have been asked to spend more on defense

2. Japan's pursuit of economic growth:
   1) has caused confusion and doubt among the Japanese
   2) has been the reason for its new non-nuclear superpower status
   3) has increased progressively since World War I
   4) is the result of a new feeling of pride among the Japanese

3. Oyabun means:
   1) guardian
   2) parent figure
   3) superpower
   4) apron strings

4. Emperor Hirohito's overseas tour was his:
   1) first tour
   2) second tour
   3) third tour
   4) fourth tour
5. On his overseas tour the Emperor had official state visits in:
   1) France and Switzerland
   2) France, Belgium, and Britain
   3) West Germany and Switzerland
   4) Belgium and West Germany

6. The meeting between President Nixon and Emperor Hirohito:
   1) was planned well in advance
   2) was a complete success
   3) was a crisis-inspired afterthought
   4) was the most significant event on Hirohito's tour

7. The new feeling in Japan is that of:
   1) liberty
   2) worldliness
   3) self-assertion
   4) independence

8. When President Nixon announced his China trip and new economic policy:
   1) Japan was partially considered in the planning
   2) Japan was treated in an offhand way
   3) Japan was totally ignored
   4) Japan was quick to criticize the President

9. Economically, the U.S. is most troubled by:
   1) the increasing demands of Japanese industrialists
   2) the tremendous number of Japanese imports
   3) the high quality of Japanese imports
   4) Japan's new superpower status

10. Among the industrial nations, Japan is in the:
1) No. 1 spot
2) No. 2 spot
3) No. 3 spot
4) No. 4 spot

11. America's deficit in trade with Japan last year was approximately:
1) $1 billion
2) $2 billion
3) $3 billion
4) $4 billion

12. Fascinated with rank, the Japanese are ultimately seeking to:
1) gain greater control over the U.S. economy
2) gain leadership in the world markets
3) surpass the world in gross national product
4) be first in the world

13. In 1968, the percentage of Japanese who felt superior to Westerners was approximately:
1) 10%
2) 30%
3) 50%
4) 70%

14. The Japanese have found living proof from President Nixon's monetary policy that:
1) the yen is stronger than the dollar
2) the yen is weaker than the dollar
3) the yen is as strong as the dollar
4) the yen is fast becoming an important foreign currency
15. The Japanese people are spending more of their vacation time:
   1) traveling overseas
   2) touring Europe
   3) shopping for Western fashions
   4) sightseeing Japan

16. When did the traditional Japanese pride in nationality take a real beating?
   1) when Nixon announced his "two Chinas" policy
   2) during the early post-war years
   3) during the "yellow peril" scare a generation ago
   4) when the value of the yen dropped very low in 1950

17. The popularity of the government by the Emperor:
   1) is diminishing in favor of a parliamentary system
   2) is increasing due to the Emperor's magnanimity
   3) is increasing due to a growing taste for nostalgic reminders of old times
   4) is diminishing due to the campaign waged by the National Railways

18. Why did Kansai Yamamoto say, "the capable are capable, regardless of whether they are Chinese, American, or Japanese"?
   1) Yamamoto is a proud Japanese designer who favors purely native motifs
   2) Yamamoto is a foreign diplomat who wishes to emphasize Japanese self-confidence
   3) Yamamoto wished to point out that Japan can be an
equally powerful non-nuclear country

4) Yamamoto has concluded that Japanese workmanship is equal to that of other countries

19. Those Japanese who speak English find themselves at a disadvantage because:
   1) they are viewed with suspicion by their fellow countrymen
   2) the English-language information service has been discontinued
   3) many government officials do not bother to learn foreign languages
   4) no important member of the Cabinet encourages English language training

20. Those foreigners who visit Japan:
   1) will be able to get around very well with English
   2) may be made to feel inferior to the Japanese
   3) will not be treated as politely as in the past
   4) are expected to know the language

21. Japan's Self-Defense Forces consist of about:
   1) 10,000 men
   2) 20,000 men
   3) 200,000 men
   4) 400,000 men

22. The Self-Defense Forces are undermanned and poorly equipped because:
   1) they are at a disadvantage in competing with industry for new recruits
   2) most people feel the U.S. will protect them
3) the entire country does not want an aggressive military power
4) those in the government have been lax in supplying funds to the military

23. A Japanese defense expert says that Japan is involved in some kind of an experiment. What is that experiment?
1) to be a rich nation with a weak military
2) to begin spending more on defense while maintaining its business expense account
3) to begin use of nuclear power as an industrial enterprise
4) to enhance its military power by industrialization

24. What is the "yellow peril" scare of a generation ago referring to:
1) the fear in California that cheap Japanese laborers would ruin the employment scale
2) the fear that the "yellow peril" epidemic would spread to the U.S.
3) the fear during the war that Japan would dominate the entire Pacific by force
4) the fear that the Communist Chinese would dominate S.E. Asia

25. In Detroit and other tough labor towns, Japanese workmanship has been:
1) watched with growing apprehension
2) compared with Germany after the war
3) praised for its efficiency and business skills
4) talked about with scandal

26. Who is Peter G. Peterson?
   1) assistant for international economic affairs
   2) assistant secretary of international affairs
   3) the American Ambassador to Japan
   4) deputy assistant for economic affairs

27. President Nixon believes that in a few years Japan could:
   1) catch up with the U.S. economic power
   2) send the U.S. economic strength plummeting beneath that of the Japanese
   3) compete too heavily with U.S. industrialists
   4) disrupt the entire scheme of American foreign policy

28. Which of the following is not true?
   1) the U.S. would like Japan to sell more in European markets than in the easy markets of the U.S.
   2) the U.S. wants Japan to lower the barriers against American exports to Japan
   3) Japan decided to increase its spending on defense
   4) Japan claimed Okinawa under Japanese rule

30. Who is Eisaku Sato?
   1) the Emperor
   2) Foreign Officer
   3) Ambassador
   4) Prime Minister

31. Once Sato resigns Japan will face a new era of:
   1) total independence in all foreign affairs
   2) looser bonds with the U.S.
3) more submissive dependence upon the U.S.
4) angry disputes with the U.S. over foreign and economic policies

32. According to a Western diplomat, what is at present the unresolved paradox the Japanese must resolve?
1) Japan's economic growth is in conflict with her need to spend more on defense
2) Japanese traditional dress conflicts with the Western styles
3) Japan's outward consciousness conflicts with Japan's feelings against the foreigners
4) Japan is afraid of catching pneumonia if the U.S. catches a cold
DIRECTIONS: The paragraphs below highlight the passage you have read. In the blank spaces provided, fill in the missing words. Be sure to fill in every blank, even though you may have to guess. Do not refer back to your reading passage or to any previous test question.

Whatever Japan's ultimate ____ turns out to be, it is already clear that its gaze is no longer ____ exclusively on Washington. Hirohito's eighteen-day trip--the first overseas tour by a reigning Japanese ____ in the 2,600 years of imperial rule--____ this outward-bound spirit. After their brief meeting with President and Mrs. Nixon at Elmendorf Air Force Base outside ____ , Hirohito and Empress Nagako planned to visit seven European countries, including private visits to the royal ____ of Denmark and Holland, "rest stops" in ____ and Switzerland and official state visits to ____ , West Germany and Britain. Significantly, it was this part of the Emperor's trip that was planned first; the meeting with Mr. Nixon was ____ into the itinerary as a crisis-inspired ____.

Japan, of course, is still far from becoming an ____ of the U.S., and even many Administration officials felt that the none-too-subtle ____ to Japan last week amounted to conspicuous ____ . Even so, the island nation ____ the U.S. with the gravest commercial ____ it has ever ____ . From the rubble of
World War II, Japan has ___ into the No. 3 spot among industrial nations--with a big leg-up from the U.S. Now the newly rich nation ___ to move in on its faltering ___. Japan exports 30.7 percent of its goods to the United States, and the American ___ in trade with Japan last year ran to a staggering $2.8 billion.

Already, many ___ think they can see the handwriting on the wall. One of the more persuasive ___ of potential disaster is Peter G. Peterson, President Nixon's assistant for international economic affairs. Peterson ___ on a chart show that White House aids ___ as stunningly effective. "It is not a flamboyant ___," says an Administration official, "but it leaves you at the ___ with a real whack." The charts ___ Japan booming while the U.S. heads down into an untenable international economic ___, one that President Nixon believes could ___ the entire scheme of American foreign ___.

But it is far from certain that Japan is psychologically ready to take on the ___ of superpower status. Throughout the postwar era, Japanese foreign policy has been a hoppo bijin (eight-sided beauty), an attempt to be all ___ to all men. Last week's decision on co-sponsoring Washington's China resolutions in the ___ was a classic example of this delicate art form. After long and painful debate, the Cabinet ___ its usual search for ___ and allowed Prime Minister Eisaku Sato to settle the issue entirely on his own. Sato ___ to go along with the U.S., which produced a sigh of relief in Washington and probably enhanced the chances for Senate ___ of the treaty.
restoring ____ to Japanese rule. But many members of the Cabinet broke with the tradition to ____ Sato openly for the move—a gesture that undoubtedly pleased mainland China. Since Sato is expected to ____ soon anyway, his unpopular decision was regarded as a final sacrificial act that enabled Japan to show a beautiful face to both Washington and Peking.

But despite all the friendly rhetoric, the Japanese still have no really clear ____ of where they will turn at this ____ in their history. "Right now," says a leading Tokyo journalist, "we are in search of individual and national ____." That search is more a question of ____ than politics. "It is not a matter of whether Japan is going left or right, but whether she ____ move inward or outward," says a Western diplomat stationed in Tokyo. "Since the ____, there has been more and more outward-consciousness; the Japanese have moved into the _____. But there has also been a countertext: 'We Japanese against the gaijin (foreigners).' They have never ____ this paradox. They have never made up their minds whether they want to be one more member of the world community or retreat into their shell." In short, Japan still has to ____ whether a superpower can also be a global ____.
# APPENDIX L

## CONTROL OF THE MIND

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Control of the Mind

Traditional Version

Since time immemorial man has been interested in means that would enable him to control the minds of others. Many people believe that such an influence can be exercised by the administration of suitable drugs. We have all heard about love potions secretly administered to the beloved by the suitor whose love has not been reciprocated. These themes occur in Shakespeare's Midsummer Night's Dream, Wagner's Tristan and Isolde, and the rock and roll song "Love Potion No. 9." In a more serious vein, we may properly ask what was done to the accused by the authorities in countries behind the Iron Curtain so that they would testify and behave as they did during the Purge Trials of the old Bolsheviks in the 1930's. What was done to Cardinal Mindszenty or to some of our soldiers that were held as prisoners of war in Korea or Vietnam so that they would betray their own country? What is it that can force men to confess to crimes which have not been committed? What is it that will make men believe in the truth of their contrived confessions and even express sympathy and gratitude toward those who have imprisoned and tortured them? Are there any drugs capable of producing this strange type of behavior and, if not, by what other means could it be achieved?

The drugs that have an effect on the brain and that could possibly be used for the purpose of mind control can be divided into five categories: the sedative-hypnotics, the tranquilizers, the stimulants, the narcotics and the hallucinogenic substances. Let us briefly discuss these and see whether they would be suitable for such a purpose.

Sedative and hypnotic drugs do not alter the basic attitudes and loyalties of people under their influence. They must blunt the acuity of perception and produce sleepiness and lassitude, but these states have not been seen in the "brainwashed" prisoners. The tranquilizers are agents that can remove or ameliorate certain symptoms of mental disturbances such as anxiety or hallucinations. They have little or no effect on persons not having such symptoms and produce compliant behavior neither in normal nor in mentally disturbed persons. Stimulants, such as amphetamine, may elevate mood and cause sleeplessness but do not cause character changes. Narcotics induce a state of contentment and loss of drive along with physical dependence, but would not produce the changes in outlook and behavior shown by the prisoners. Hallucinogens that lead to a temporary disintegration of the mind similar to that observed in schizophrenia would make it impossible for the accused to collaborate with his accusers in an intelligent way.

It appears clear that there are no drugs known that would have any usefulness in the control of the mind. All those who have studied this problem agree with this conclusion (Cole, 1961; Kety, 1961; Hinkle and Wolff, 1956; Lifton, 1961; Sargant, 1957). These views were confirmed by the testimony of numerous persons
who were subjected to extended interrogation and indoctrination in Soviet Russia, the Satellite countries, and Communist China. It is considered unlikely that any of the methods of research that are available could be used to develop a mind control drug (Cole, 1961).

It is of interest that Pavlov's conditioned reflex technique has not been used for brainwashing. This is surprising because conditioning is widely accepted by scientists in Russia as the theory that best explains and influences behavior. As the Russians have not used this method, they must have some doubts about the effectiveness and usefulness of their theories. The application of crude methods of physical torture was also unnecessary for the inducement of confessions and conversions.

How, then, is this state of intelligent collaboration against one's own interests produced? The methods used by the policy of Communist states in interrogating and indoctrinating their victims have been vividly described in such literary masterpieces as Arthur Koestler's *Darkness at Noon*. They have also been studied by physicians, psychiatrists, psychologists, and legal experts (Hinkle and Wolff, 1956; Farber and Wilson, 1961). The method often used to convert the prisoners to a form of behavior and to beliefs that are acceptable to the captor is briefly as follows:

The prisoner is first subjected to solitary confinement for several weeks. His distress and anxiety resulting from complete isolation is increased by insufficient and interrupted sleep (he is wakened by the guard when he falls asleep), by
hunger, cold, and in other ways. When the prisoner is approaching the breaking point, interrogation is begun. The interrogator exploits the prisoner's need for companionship and, at the same time, increases his feeling of guilt and anxiety by referring to embarrassing experiences of the past to which the prisoner is particularly sensitive or about which he is concerned. In due course, most prisoners experience a state of mental disintegration and begin to rationalize any ideas presented to them. Without realizing it they begin to "confess" to crimes that they have not committed and that indeed have not been committed.

The method of brainwashing which I just described is quite simple. It is derived from age-old police methods and is designed to produce in the prisoner a state of extreme anxiety. The induction of a state of anxiety is all that is required to manipulate the prisoner's mind and behavior so that he will "confess" and "collaborate." Scientific methods for brainwashing are neither required nor available.

We should ponder the fact that it is possible to produce these extreme and incomprehensible changes in views and behavior in a person simply by evoking in him a state of anxiety. Anxiety, then, must be a powerful force that can be used for evil purposes. There are, however, many people who believe that the presence of a certain amount of anxiety is desirable and necessary. They claim that it is the force that holds society together. They consider it a motivational influence of great importance. They believe that ambition would perish and moral behavior disappear without the everpresent threat of anxiety.
This view endows the anxiety which may exist within us with an important and perhaps desirable role.

How can these two points of view be reconciled? Does the so-called "desirable anxiety" differ in kind from that which is used to produce control of thought and change of behavior in prisoners? If anxiety is a motivational drive, how can it lead to a breakdown of personality and be such an effective instrument to achieve brainwashing?

There are other interesting questions that are brought to mind. Is this in fact the age of anxiety? Is Norman Mailer right when he makes General Cummings say in "The Naked and the Dead" that "the natural role of twentieth-century man is anxiety"? Are we really more anxious than primitive and poor nations? Do our prosperity and culture make us more anxious and more susceptible to indoctrination? To answer these questions I would like to review briefly what has recently been learned about the nature of anxiety, its measurement, and its occurrence in different cultures and nations.

The accepted definition of anxiety as an apprehension of danger, the nature of which is unknown, is not helpful in explaining to us the quality of the underlying emotional state. During the last ten years, our understanding of the nature of anxiety has made tremendous strides, particularly as a result of studies carried out by Raymond Cattell and his associates at the Laboratory for Personality Assessment of the University of Illinois. These scientists have at last succeeded in clearly defining the concept of anxiety. They devised scientifically
meaningful methods suitable for establishing its presence and for differentiating it from stress and other states with which it may overlap. They also devised tests permitting quantitative evaluation of the amount of anxiety. The role of more than 400 experimentally-measured alleged manifestations of anxiety obtained from questionnaires, interviews, and a large number of objectively measurable psychological, physiological, and behavioral tests were evaluated. The data were subjected to factor-ial analysis. This is a powerful mathematical method that makes it possible to discover the relative importance and significance of the individual responses as well as to establish which responses go together and belong together. The method permits both formulation and testing of hypotheses and its application to the problem of anxiety brought out interesting and unsuspected facts.

Cattell and Scheier (1961) found that the concept corresponding to what we are accustomed to call anxiety constituted a single general reaction pattern of responses. Some of the more important responses which are characteristic of anxiety are the following: a lack of confidence, a sense of guilt and worthlessness, an unwillingness to venture, a dependency, a readiness to become fatigued, irritable and discouraged, an uncertainty about one's self, suspicion of others, and a general tenseness. One can readily see that all these reactions are exactly the ones that the authorities would like to elicit in those whom they wish to brainwash.

An interesting and important result of Cattell's work was
the finding that there is only one kind of anxiety. It became apparent that the anxiety, measured and analyzed in a large number of persons of various backgrounds and suffering from a variety of different diseases, was qualitatively the same and was indistinguishable from person to person in its characteristics and nature. No factual evidence was brought to light that would support the existence of different kinds of anxieties such as neurotic anxiety, psychotic anxiety, necessary anxiety, etc.

An interesting question which could not be answered with any reliability until the results of the Cattell studies became available was this: "Is anxiety normal or is it a disease or a symptom of a disease?" It appears that anxiety is a dysfunction or a symptom of a disease. It is not present at all or is only transiently and to a small extent in normal healthy individuals. When it is present it is usually one of the symptoms of a disease, such as neurosis, depression, or schizophrenia.

The third important finding of the study was the observation that anxiety was not a motivating force or a stimulus to achievement as has been alleged by certain psychologists. Anxiety is not a specific drive such as sex, self-assertion, fear, or curiosity. It is the opposite of a motivational drive. It has a disruptive influence on the mind. It either disorganizes or is a symptom of disorganization.

It is often stated that there is much more anxiety in modern Western society than there is among the more primitive people in the less developed parts of the globe. This assumption could be
evaluated when reliable tests for the measurement of anxiety became available. Randal (1965) reports that, in the Congo and other undeveloped parts of Africa, anxiety is the most common and crippling psychiatric disorder.

The Papuans of the Waghi Valley of Central New Guinea who have not progressed beyond a Stone Age culture suffer from more anxiety than any modern industrial civilization. They also have the highest incidence of peptic ulcers ever found in any community (Montague, 1960).

Interesting differences in the amount of anxiety that is present can also be shown among people of different nations and cultures. In general, anxiety is higher where the standard of living is lower. The most highly developed and most prosperous countries such as the United States or Great Britain have a much lower anxiety level than less prosperous and less advanced countries such as Poland or India (Cattell, 1964).

It is not really surprising that this should be so. Modern discoveries such as radio, television, or telephones increased our knowledge and understanding of the world around us and thus made us more secure and less anxious. Scientific methods of agriculture and food preservation, our ability to control epidemics, and to cure many diseases had a similar effect. Better understanding of our minds will make us freer and happier. The knowledge that anxiety is neither good nor necessary is an important contribution along these lines.

We have seen that thought control can be accomplished by inducing a state of anxiety in the victim. What we have learned
about the nature of anxiety will, I hope, free our minds from its control. Perhaps it will also, in due course, diminish our desire to dominate the minds of others.
Time immemorial man has been interested in means that would enable him to control the minds of others. Many people believe that such an influence can be exercised by the administration of suitable drugs. We have all heard of love potions secretly administered to the beloved by the suitor whose love has not been reciprocated. These themes occur in Shakespeare's *Midsummer Night's Dream*, Wagner's *Tristan and Isolde*, and the rock and roll song "Love Potion No. 9." A more serious vein, we may properly ask what was done to the accused by the authorities in countries behind the Iron Curtain so that they would testify and behave as they did during the Purge Trials of the old Bolsheviks in the 1930's. What was done to Cardinal Mindszenty or to some of our soldiers that were held prisoners in Korea or Vietnam so that they would betray their own country? What is it that can force men to confess to crimes which have not been committed? What is it that will make men believe in the truth of their contrived confessions and even express sympathy and gratitude those who have imprisoned and tortured them? Are there any drugs capable of producing this strange type of behavior and, if not, by what other means could it be achieved.

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What was done to Cardinal Mindszenty or some of our soldiers who were held prisoners in Korea or Vietnam so that they would betray their own country? What is it that can force men to confess crimes which have been committed? What is it that will make men believe truth in their contrived confessions? Express sympathy and gratitude to those who have imprisoned and tortured them? Are any drugs capable of producing this strange type of behavior and, if so, what other means could it be achieved?

Drugs that have effects on the brain and that could be used for purpose mind control can be divided into five categories: sedative-hypnotics, tranquilizers, stimulants, narcotics, hallucinogenic substances. Let us discuss these and see if they would be suitable for such purpose.

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Prisoner is subjected solitary confinement several weeks. His distress anxiety resulting complete isolation is increased insufficient and interrupted sleep (he is wakened guard he falls), hunger, cold, and other ways. When prisoner is approaching breaking point, interrogation is begun. Interrogator exploits prisoner's need companionship same time, increases his feeling guilt and anxiety referring embarrassing experiences past which prisoner is sensitive or which he is concerned. Due course, most prisoners experience state mental disintegration begin rationalize any ideas presented them. Realizing it they begin "confess" crimes that they have committed that have been committed.

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analyzed large number persons various backgrounds and suffering variety different diseases, was same and was indistinguishable person its characteristics nature. Factual evidence was brought light that would support existence different kinds anxieties such neurotic anxiety, psychotic anxiety, necessary anxiety.

Interesting question which could be answered any reliability results Cattell studies became available was this: "Is anxiety normal is it disease or symptom disease?" It appears anxiety is dysfunction or symptom disease. It is present all or is and small extent normal healthy individuals. It is present it is one symptoms disease such neurosis, depression, or schizophrenia.

Third important finding study was observation that anxiety was motivating force or stimulus achievement as has been alleged certain psychologists. Anxiety is specific drive such are sex, self-assertion, fear, or curiosity. It is opposite motivational drive. It has disruptive influence mind. It disorganizes is symptom disorganization.

It is stated that is more anxiety modern Western society than is primitive people developed parts globe. This assumption could be evaluated when reliable tests measurement anxiety became available. Randal (1965) reports that Congo other undeveloped parts Africa, anxiety is common crippling psychiatric disorder.

Papuans Waghi Valley Central New Guinea who have progressed Stone Age culture suffer more anxiety any modern industrial civilization. They have highest incidence peptic ulcers found any community (Montague, 1960).

Interesting differences amount anxiety that is present can
be shown people different nations and cultures. General, anxiety is higher where standard living is lower. Developed and prosperous countries such United States or Great Britain have lower anxiety level prosperous and advanced countries such Poland or India (Cattell, 1964).

It is surprising that this should be so. Modern discoveries such radio, television, or telephones increased our knowledge and understanding world us and made us secure and anxious. Scientific methods agriculture and food preservation, our ability control epidemics, cure many diseases had similar effect. Better understanding our minds will make us freer happier. Knowledge anxiety is neither good necessary is important contribution these lines.

We have seen thought control can be accomplished inducing state anxiety victim. What we have learned nature anxiety will, I hope, free our minds its control. It will, due course, diminish our desire dominate minds others.
Control of the Mind

50% Grammatical Deleted Version

Time man has been interested means would enable control minds others. Many people believe influence can be exercised administration suitable drugs. Have heard potions administered beloved suitor whose love has been reciprocated. Themes occur Midsummer Night's Dream, Tristan Isolde, song. Vein, may ask was done accused authorities countries Iron Curtain would testify behave did Purge Trials old Bolsheviks 1930's. Was done Cardinal Mindszenty soldiers were held prisoners was Korea, Vietnam would betray country? Is can force men confess crimes have been committed? Is will make men believe truth their confessions express sympathy, gratitude have imprisoned tortured? Are drugs capable producing this type behavior means could be achieved?

Drugs have effect brain could be used purpose mind control can be divided categories: sedative-hypnotics, tranquilizers, stimulants, narcotics substances. Let discuss see would be suitable such purpose.

Sedative drugs do alter attitudes loyalties people influence. Must blunt acuity perception produce sleepiness lassitude, states have been seen "brainwashed" prisoners. Tranquilizers are agents can remove ameliorate symptoms mental disturbances

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March-April 1966, L. F. Tice, Editor.
anxiety hallucinations. Have effect persons having symptoms produce behavior normal disturbed persons. Stimulants, amphetamine, may elevate mood cause sleeplessness do cause character changes. Narcotics induce state contentment loss drive dependence, would produce changes outlook behavior shown prisoners. Hallucinogens lead disintegration mind similar observed schizophrenia would make impossible accused collaborate accusers way.

Appears are drugs known would have any usefulness control mind. All have studied this problem agree this conclusion (Cole, 1961; Kety, 1961; Hinkle, Wolff, 1956; Lifton, 1961; Sargent, 1957). These views were confirmed testimony numerous persons were subjected interrogation indoctrination Russia, Satellite countries, Communist China. Is considered any methods research are available could be used develop mind drug (Cole, 1961).

Is interest reflex technique has been used brainwashing. Is surprising conditioning is accepted scientists Russia theory best explains influences behavior. Russians have used method, must have doubts effectiveness usefulness their theories. Application methods physical torture was unnecessary induce- ment confessions conversions.

Is state collaboration one's own interests produced? Methods used police Communist states interrogating indoctrinating their victims have been described masterpieces Koestler's Darkness Noon. Have been studied physicians, psychiatrists, psychologists, legal experts (Hinkle, Wolff, 1956; Farber,
Wilson, 1961). Method used convert prisoners form behavior beliefs are captor is follows:

Prisoner is subjected confinement several weeks. His distress anxiety resulting complete isolation increased insufficient interrupted sleep (is wakened guard falls), hunger, cold, ways. Prisoner is approaching breaking point, interrogation is begun. Interrogator exploits prisoner's need companionship same time, increases feeling guilt anxiety referring experiences past prisoner is is concerned. Due course, prisoners experience state mental disintegration begin rationalize any ideas. Realizing begin "confess" crimes have committed have been committed.

Method brainwashing described is. Is derived police methods is designed produce prisoner state anxiety. Induction state anxiety is is required manipulate prisoner's mind behavior will "confess" "collaborate." Scientific methods brainwashing are required available.

Should ponder fact is produce these incomprehensible changes views behavior person evoking him state anxiety. Anxiety, must be powerful force can be used purposes. Are, many people believe presence amount anxiety is. Claim is force holds society. Consider influence importance. Believe ambition would perish moral behavior disappear threat anxiety. View endows anxiety may exist important role.

Can these two points view be reconciled? Does "anxiety" differ kind is used produce control thought change behavior prisoners? Anxiety is drive, can lead breakdown personality
be such instrument achieve brainwashing?

Are other interesting questions are brought mind. Is fact age anxiety? Is Norman Mailer makes Cummings say "Naked Dead" "natural role man is anxiety"? Are primitive nations? Do our prosperity, culture make anxious indoctrination? Answer these questions would like review has been learned nature anxiety, measurement, its occurrence cultures, nations.

Accepted definition anxiety apprehension danger, nature is is helpful explaining quality underlying state. Ten years, understanding nature anxiety has made strides, results studies carried Raymond Cattell his associates Laboratory Personality Assessment University Illinois. These scientists have last succeeded defining concept anxiety. Devised meaningful methods establishing its presence differentiating stress states may overlap. Devised tests permitting evaluation amount anxiety. Role 400 experimentally-measured alleged manifestations anxiety obtained questionnaires, interviews, number psychological, behavioral tests were evaluated. Data were subjected analysis. Is powerful mathematical method makes discover importance significance responses establish which responses go belong together. Method permits formulation testing hypotheses application problem anxiety brought unsuspected facts.

Cattell, Scheier (1961) found concept corresponding are accustomed call anxiety constituted single general pattern responses. Important responses are characteristic anxiety are following: lack confidence, sense guilt worthlessness, unwillingness venture, dependency, readiness become uncertainty
one's self, suspicion others, tenseness. Can see these reactions are authorities would like elicit wish brainwash.

Interesting important result Cattell's work was finding is kind anxiety. Became anxiety, number persons various backgrounds suffering variety diseases, was same was person person its characteristics nature. Factual evidence was brought light would support existence kinds anxieties such anxiety, psychotic anxiety, anxiety.

Interesting question could be answered by reliability results studies became available was: "Is anxiety is disease symptom disease?" Appears anxiety is dysfunction symptom disease. Is is small extent normal healthy individuals. Is is symptoms disease neurosis, depression, schizophrenia.

Important finding study was observation anxiety was motivating force stimulus achievement has been alleged psychologists. Anxiety is specific drive are sex, self-assertion, fear, curiosity. Is opposite motivational drive. Has disruptive influence mind. Disorganizes is symptom disorganization.

Is stated is more anxiety modern Western society is primitive people parts globe. This assumption could be evaluated reliable tests measurement anxiety became. Randal (1965) reports Congo undeveloped parts Africa, anxiety is common crippling psychiatric disorder.

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Have seen thought control can be accomplished inducing state anxiety victim. Have learned nature anxiety will, hope, free our minds its control. Will course, diminish our desire dominate minds.
Control of the Mind

Since time immemorial man has been interested in means that would enable him to control minds of others. Many people believe that such an influence can be exercised by administration suitable drugs. We have all heard about love potions secretly administered to beloved by suitor whose love has not been reciprocated. These themes occur in Shakespeare's *Midsummer Night's Dream*, Wagner's *Tristan and Isolde*, and rock and roll song "Love Potion No. 9." In a more serious vein, we may properly ask what was done to accused by authorities in countries behind Iron Curtain so that they would testify and behave as they did during Purge Trials of Bolsheviks in 1930's. What was done to Cardinal Mindszenty or to some of our soldiers that were held as prisoners war Korea or Vietnam so that they would betray their own country? What is it that can force men to confess to crimes which have not been committed? What is it that will make men believe in truth of their contrived confessions and even express sympathy and gratitude toward those who have imprisoned and tortured them? Are there any drugs capable producing this strange type behavior and, if not, by what other means could it be achieved?

Drugs that have an effect on brain and that could possibly be used for purpose mind control can be divided into five categories: sedative-hypnotics, tranquilizers, stimulants, narcotics, and hallucinogenic substances. Let us briefly discuss these and see whether they would be suitable for such a purpose.

Sedative and hypnotic drugs do not alter basic attitudes and loyalties people under their influence. They must blunt acuity perception and produce sleepiness and lassitude but these states have not been seen in "brainwashed" prisoners. Tranquilizers are agents that can remove or ameliorate certain symptoms mental disturbances such as anxiety or hallucinations. They have little or no effect on persons not having such symptoms and produce compliant behavior neither in normal nor in mentally disturbed persons. Stimulants, such as amphetamine, may elevate mood and cause sleeplessness but do not cause character changes. Narcotics induce a state contentment and loss of drive along with physical dependence, but would not produce changes in outlook and behavior shown by prisoners. Hallucinogens that lead to a temporary disintegration mind similar to that observed in schizophrenia would make it impossible for accused to collaborate with his accusers in an intelligent way.

It appears clear that there are no drugs known that would have any usefulness in control mind. All those who have studied this problem agree with this conclusion (Cole, 1961; Kety, 1961; Hinkle and Wolff, 1956; Lifton, 1961; Sargant, 1957). These views were confirmed by testimony numerous persons who were
sujected to extended interrogation and indoctrination in Soviet Russia, Satellite countries, and Communist China. It is considered unlikely that any methods research that are available could be used to develop a mind control drug (Cole, 1961).

It is of interest that Pavlov's conditioned reflex technique has not been used for brainwashing. This is surprising because conditioning is widely accepted by scientists in Russia as theory that best explains and influences behavior. As Russians have not used this method, they must have some doubts about effectiveness and usefulness of their theories. Application crude methods physical torture was also unnecessary for inducement confessions and conversions.

How, then, is this state intelligent collaboration against one's own interests produced? Methods used by police of Communist states in interrogating and indoctrinating their victims have been vividly described in such literary masterpieces as Arthur Koestler's *Darkness at Noon*. They have also been studied by physicians, psychiatrists, psychologists, and legal experts (Hinkle and Wolff, 1956; Farber and Wilson, 1961). Method often used to convert prisoners to a form of behavior and to beliefs that are acceptable to captor is briefly as follows:

Prisoner is first subjected to solitary confinement for several weeks. His distress and anxiety resulting from complete isolation is increased by insufficient and interrupted sleep (he is wakened by guard when he falls asleep), by hunger, cold, and in other ways. When prisoner is approaching breaking point, interrogation is begun. Interrogator exploits prisoner's need
for companionship and at same time increases his feeling guilt and anxiety by referring to embarrassing experiences past which prisoner is particularly sensitive or about which he is concerned. In due course, most prisoners experience a state of mental disintegration and begin to rationalize any ideas presented to them. Without realizing it they begin to "confess" to crimes that they have not committed and that indeed have not been committed.

Method brainwashing which I just described is quite simple. It is derived from age-old police methods and is designed to produce in prisoner a state of extreme anxiety. Induction a state anxiety is all that is required to manipulate prisoner's mind and behavior so that he will "confess" and "collaborate." Scientific methods for brainwashing are neither required nor available.

We should ponder fact that it is possible to produce these extreme and incomprehensible changes in views and behavior in a person simply by evoking in him a state anxiety. Anxiety, then, must be a powerful force that can be used for evil purposes. There are, however, many people who believe that presence a certain amount anxiety is desirable and necessary. They claim that it is force that holds society together. They consider it a motivational influence great importance. They believe that ambition would perish and moral behavior disappear without ever present threat anxiety. This view endows anxiety which may exist within us with an important and perhaps desirable role.

How can these two points view be reconciled? Does so-called
"desirable anxiety" differ in kind from that which is used to produce control thought and change behavior in prisoners? If anxiety is a motivational drive, how can it lead to a breakdown of personality and be such an effective instrument to achieve brainwashing?

There are other interesting questions that are brought to mind. Is this in fact age anxiety? Is Normal Mailer right when he makes General Cummings say in "Naked and Dead" that "natural role of twentieth-century man is anxiety"? Are we really more anxious than primitive and poor nations? Do our prosperity and culture make us more anxious and more susceptible to indoctrination? To answer these questions I would like to review briefly what has recently been learned about nature anxiety, its measurement, and its occurrence in different cultures and nations.

Accepted definition anxiety as an apprehension of danger, nature which is unknown, is not helpful in explaining to us quality underlying emotional state. During past ten years, our understanding nature anxiety has made tremendous strides, particularly as a result studies carried out by Raymond Cattell and his associates at Laboratory for Personality Assessment University Illinois. These scientists have at last succeeded in clearly defining concept anxiety. They devised scientifically meaningful methods suitable for establishing its presence and for differentiating it from stress and other states with which it may overlap. They also devised tests permitting quantitative evaluation of amount anxiety. Role more than 400
experimentally-measured alleged manifestations of anxiety obtained from questionnaires, interviews, and a large number of objectively measurable psychological, physiological, and behavioral tests were evaluated. Data were subjected to factorial analysis. This is a powerful mathematical method that makes it possible to discover relative importance and significance of individual responses as well as to establish which responses go together and belong together. Method permits both formulation and testing of hypotheses and its application to the problem of anxiety brought out interesting and unsuspected facts.

Cattell and Scheier (1961) found that concept corresponding to what we are accustomed to call anxiety constituted a single general reaction pattern of responses. Some more important responses which are characteristic of anxiety are the following: lack of confidence, a sense of guilt and worthlessness, an unwillingness to venture, a dependency, a readiness to become fatigued, irritable and discouraged, an uncertainty about one's self, suspicion of others, and a general tenseness. One can readily see that all these reactions are exactly ones that authorities would like to elicit in those whom they wish to brainwash.

An interesting and important result of Cattell's work was finding that there is only one kind of anxiety. It became apparent that anxiety, measured and analyzed in a large number of persons from various backgrounds and suffering from a variety of different diseases, was qualitatively the same and was indistinguishable from person to person in its characteristics and nature. No factual evidence was brought to light that would support the existence...
different kinds of anxieties such as neurotic anxiety, psychotic anxiety, necessary anxiety, etc.

An interesting question which could not be answered with any reliability until results of Cattell's studies became available was this: "Is anxiety normal or is it a disease or a symptom of a disease?" It appears that anxiety is a dysfunction or a symptom of a disease. It is not present at all or is only transiently and to a small extent in normal healthy individuals. When it is present it is usually one symptom of a disease, such as neurosis, depression, or schizophrenia.

Third important finding was observation that anxiety was not a motivating force or a stimulus to achievement as has been alleged by certain psychologists. Anxiety is not a specific drive such as sex, self-assertion, fear, or curiosity. It is opposite a motivational drive. It has a disruptive influence on mind. It either disorganizes or is a symptom of disorganization.

It is often stated that there is much more anxiety in modern Western society than there is among more primitive people in less developed parts of the world. This assumption could be evaluated when reliable tests for measurement of anxiety became available. Randal (1965) reports that, in Congo and other undeveloped parts of Africa, anxiety is most common and crippling psychiatric disorder.

Papuans of Waghi Valley Central New Guinea who have not progressed beyond a Stone Age culture suffer from more anxiety than any modern industrial civilization. They also have
highest incidence peptic ulcers ever found in any community (Montague, 1960).

Interesting differences in amount anxiety that is present can also be shown among people different nations and cultures. In general, anxiety is higher where standard living is lower. Most highly developed and most prosperous countries such as United States or Great Britain have a much lower anxiety level than less prosperous and less advanced countries such as Poland or India (Cattell, 1964).

It is not really surprising that this should be so. Modern discoveries such as radio, television, or telephones increased our knowledge and understanding world around us and thus made us more secure and less anxious. Scientific methods agriculture and food preservation, our ability to control epidemics, and to cure many diseases had a similar effect. Better understanding our minds will make us freer and happier. Knowledge that anxiety is neither good nor necessary is an important contribution along these lines.

We have seen that thought control can be accomplished by inducing a state anxiety in victim. What we have learned about nature anxiety will, I hope, free our minds from its control. Perhaps it will also, in due course, diminish our desire to dominate minds others.
Control of the Mind

Since time immemorial man has been interested in means that would enable him to control minds of others. Many people believe such an influence can be exercised by administration of suitable drugs. We have all heard about love potions secretly administered to a beloved by a suitor whose love has not been reciprocated. These themes occur in Shakespeare's *Midsummer Night's Dream*, Wagner's *Tristan Isolde*, and rock roll song "Love Potion No. 9." More serious vein, we may properly ask what was done by authorities in countries behind the Iron Curtain so they would testify as they did during Purge Trials in old Bolsheviks' 1930's. What was done by Cardinal Mindszenty or some of our soldiers in Korea or Vietnam so they would betray their own country? What can force men to confess crimes which have not been committed? What will make men believe truth in their contrived confessions even express sympathy and gratitude toward those who have imprisoned and tortured them? Are there any drugs capable of producing this strange type of behavior, if not, by what other means could be achieved?

Drugs have an effect on the brain and could possibly be used for purpose mind control can be divided into five categories:

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Sedative-hypnotic drugs do not alter basic attitudes loyalties people under their influence. They must blunt acuity perception produce sleepiness lassitude, but these states have not been seen "brainwashed" prisoners. Tranquilizers are agents can remove or ameliorate certain symptoms mental disturbances such as or hallucinations. They have little or no effect on persons not having such symptoms produce compliant behavior neither normal nor mentally disturbed persons. Stimulants, such as amphetamine, may elevate mood cause sleeplessness but do not cause character changes. Narcotics induce state contentment loss drive along with physical dependence, but would not produce changes outlook behavior shown by prisoners. Hallucinogens lead temporary disintegration mind similar observed schizophrenia would make impossible for accused collaborate with his accusers an intelligent way.

Appears clear there are no drugs known would have any usefulness control mind. All those who have studied this problem agree with this conclusion (Cole, 1961; Kety, 1961; Hinkle, Wolff, 1956; Lifton, 1961; Sargent, 1957). These views were confirmed by testimony numerous persons who were subjected extended interrogation indoctrination Soviet Russia, Satellite countries, Communist China. Considered unlikely any methods research are available could be used develop mind control drug (Cole, 1961).

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been used for brainwashing. This surprising because conditioning widely accepted by scientists Russia as theory best explains influences behavior. As Russians have not used this method, they must have some doubts about effectiveness usefulness their theories. Application crude methods, physical torture was also unnecessary for inducement confessions, conversions.

How, then, this state intelligent collaboration against one's own interests produced? Methods used by police Communist states interrogating indoctrinating their victims been vividly described such literary masterpieces as Arthur Koestler's *Darkness at Noon*. They also been studied by physicians, psychiatrists, psychologists, legal experts (Hinkle, Wolff, 1956; Farber, Wilson, 1961). Method often used convert prisoners form behavior beliefs are acceptable captor briefly as follows:

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How can these two points view be reconciled? Does so-called "desirable" differ kind from which used produce control thought change behavior prisoners? If motivational drive, how can lead breakdown personality be such an effective instrument achieve brainwashing?

There are other interesting questions are brought mind. This fact age? Norman Mailer right when he makes General Cummings say "Naked Dead" "natural role twentieth-century man?" Are we really more anxious than primitive poor nations? Do our prosperity, culture make us more anxious more susceptible indoctrination? Answer these questions I would like review briefly what has recently been learned about nature its measurement, its occurrence different cultures nations.
Accepted definition as an apprehension danger, nature which unknown, not helpful explaining us quality underlying emotional state. During past ten years, our understanding nature has made tremendous strides, particularly as result studies carried out by Raymond Cattell his associates at Laboratory for Personality Assessment University Illinois. These scientists have at last succeeded clearly defining concept. They devised scientifically meaningful methods suitable for establishing its presence for differentiating from stress other states with which may overlap. They also devised tests permitting quantitative evaluation amount. Role more than 400 experimentally-measured alleged manifestations obtained from questionnaires, interviews, large number object rely measurable psychological, physiological, behavioral tests were evaluated. Data were subjected factorial analysis. This powerful mathematical method makes possible discover relative importance significance individual responses as well as establish which responses go together belong together. Method permits both formulation testing hypotheses its application problem brought out interesting unsuspected facts.

Cattell, Scheier (1961) found concept corresponding what we are accustomed call constituted single general reaction pattern responses. Some more important responses which are characteristic are following: lack confidence, sense guilt worthlessness, an unwillingness venture, dependency, readiness become fatigued, irritable, discouraged, an uncertainty about one's self, suspicion others, general tenseness. One can
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Drugs that have an effect on brain and that could possibly

be used for the purpose of mind control can be divided into five categories: sedative-hypnotics, tranquilizers, the stimulants, the narcotics and the hallucinogenic substances. Let us discuss these and see whether they would be suitable for such purpose.

Sedative hypnotic drugs do not alter basic attitudes and loyalties of people under their influence. They must blunt acuity of perception produce sleepiness and lassitude, but these states have not been seen in the "brainwashed" prisoners. Tranquilizers are agents that can remove or ameliorate symptoms of mental disturbances such as anxiety or hallucinations. Have little no effect on persons not having such symptoms and produce compliant behavior neither in normal nor in mentally disturbed persons. Stimulants, amphetamine, may elevate mood and cause sleeplessness but do not cause character changes. Narcotics induce state contentment and loss of drive along with physical dependence, but would not produce changes in outlook and behavior shown by the prisoners. Hallucinogens that lead to temporary disintegration of mind similar to that observed in schizophrenia would make it impossible for accused to collaborate with his accusers in an intelligent way.

It appears clear there are no drugs known that would have any usefulness in control of the mind. All those who have studied this problem agree with this conclusion (Cole; Kety; Hinkle and Wolff, 1956; Lifton, 1961; Sargarnt, 1957). Views were confirmed by testimony of numerous persons who were subjected to extended interrogation and indoctrination in Soviet Russia, the Satellite countries, Communist China. It is considered unlikely any of methods
of research that are available could be used to develop a mind control drug (Cole, 1961).

Is of interest Pavlov's conditioned reflex technique has not been used for brainwashing. Surprising because conditioning is widely accepted by scientists in Russia as the theory that best explains and influences behavior. Russians have not used this method, they must have some doubts about the effectiveness and usefulness of their theories. Application of crude methods of physical torture was also unnecessary for inducement of confessions and conversions.

How is this state of intelligent collaboration against one's own interests produced? Methods used by police of Communist states in interrogating and indoctrination their victims have been vividly described in literary masterpieces as Arthur Koestler's *Darkness at Noon*. They have been studied by physicians, psychiatrists, psychologists, and legal experts (Hinkle, Wolff, 1956; Farber and Wilson, 1961). Method used to convert prisoners to a form of behavior and to beliefs that are acceptable to the captor is briefly as follows:

Prisoner is first subjected to solitary confinement for several weeks. Distress and anxiety resulting from complete isolation is increased by insufficient and interrupted sleep (wakened by the guard when he falls asleep) by hunger, cold, and in other ways. When prisoner is approaching the breaking point, interrogation is begun. Interrogator exploits prisoner's need for companionship, at same time, increases his feeling of guilt and anxiety by referring to embarrassing experiences of the past.
to which the prisoner is particularly sensitive or about which he is concerned. Due course, most prisoners experience state of mental disintegration and begin to rationalize any ideas presented to them. Without realizing they begin to "confess" to crimes they have not committed and that indeed have not been committed.

Method of brainwashing which I just described is quite simple. It is derived from age-old police methods and is designed to produce in prisoner state of extreme anxiety. Induction of state of anxiety is all that is required to manipulate prisoner's mind and behavior so that he will "confess" and "collaborate." Scientific methods for brainwashing neither required nor available.

We should ponder fact that it is possible to produce extreme and incomprehensible changes in views and behavior in person simply by evoking in him a state of anxiety. Anxiety must be a powerful force that can be used for evil purposes. There are many people who believe that presence of a certain amount of anxiety is desirable and necessary. They claim it is the force that holds society together. They consider it motivational influence of great importance. They believe ambition would perish and moral behavior disappear without everpresent threat of anxiety. This view endows anxiety which may exist within us with an important perhaps desirable role.

How can two points of view be reconciled? Does "desirable anxiety" differ in kind from that which is used to produce control of thought and change of behavior in prisoners? If anxiety is motivational drive, how can it lead to breakdown of personality and be such an effective instrument to achieve brainwashing?
There are other interesting questions are brought to mind. Is this fact the age of anxiety? Is Norman Mailer right when he makes General Cummings say in "Naked and the Dead" "natural role of twentieth-century man is anxiety"? Are we really more anxious than primitive poor nations? Do our prosperity and culture make us more anxious and susceptible to indoctrination? Answer questions I would like to review briefly what has recently been learned about nature of anxiety, its measurement, and its occurrence in different cultures and nations.

Accepted definition of anxiety as apprehension of danger, nature of which is unknown, is not helpful in explaining to us the quality of the underlying emotional state. During past ten years, our understanding of nature of anxiety has made tremendous strides, particularly as a result of studies carried out by Raymond Cattell and associates at Laboratory for Personality Assessment of the University of Illinois. Scientists have at last succeeded in clearly defining the concept of anxiety. They devised scientifically meaningful methods suitable for establishing its presence and for differentiating from stress and other states which it may overlap. They devised tests permitting quantitative evaluation of the amount of anxiety. Role of more than 400 experimentally-measured alleged manifestations of anxiety obtained from questionnaires, interviews, and large number of measurable psychological, physiological, and behavioral tests were evaluated. Data were subjected to factorial analysis. This is powerful mathematical method that makes it possible to discover relative importance and significance of
individual responses as well as to establish which responses go together and belong together. Method permits both formulation and testing of hypotheses and its application to problem of anxiety brought out interesting and unsuspected facts.

Cattell and Scheier (1961) found that concept corresponding to we are accustomed to call anxiety constituted single general reaction pattern of responses. Some of more important responses which are characteristic of anxiety are the following: lack of confidence, sense of guilt and worthlessness, unwillingness to venture, dependency, a readiness to become fatigued, irritable and discouraged, an uncertainty about one's self suspicion of others, and a general tenseness. One can see all these reactions are exactly ones that the authorities would like to elicit in those whom they wish to brainwash.

Interesting important result of Cattell's work was the finding that there is only one kind of anxiety. It became apparent that anxiety, measured and analyzed in large number of persons of various backgrounds suffering from variety of different diseases, was qualitatively the same and was indistinguishable from person to person in its characteristics and nature. No evidence was brought to light that would support existence of different kinds anxieties such as neurotic anxiety, psychotic anxiety, necessary anxiety, etc.

Interesting question which could not be answered with reliability until results of the Cattell studies became available was this: "Is anxiety normal or is it a disease or symptom of a disease?" It appears anxiety is a dysfunction or a symptom
of a disease. It is not present at all or only transiently and to small extent in normal healthy individuals. When present it is usually one of the symptoms of a disease, such as neurosis, depression, or schizophrenia.

Third important finding of the study was observation that anxiety was not a motivating force or stimulus to achievement as has been alleged by certain psychologists. Anxiety is not specific drive such as are sex, self-assertion, fear, or curiosity. It is opposite of a motivational drive. It has disruptive influence on the mind. It either disorganizes or is symptom of disorganization. It is often stated that there is much more anxiety in modern Western society than is among more primitive people in less developed parts of the globe. Assumption could be evaluated when reliable tests for measurement of anxiety become available. Randal reports that, in Congo and other undeveloped parts of Africa, anxiety is the most common and crippling psychiatric disorder.

Papuans of Waghi Valley of Central New Guinea who have not progressed beyond Stone Age culture suffer from more anxiety than any modern industrial civilization. They have highest incidence of peptic ulcers ever found in any community (Montague, 1960).

Interesting differences in amount of anxiety that is present can be shown among people of different nations and cultures. General, anxiety is higher where the standard of living is lower. Most highly developed and most prosperous countries as United States or Great Britain have much lower anxiety level than less prosperous and less advanced countries such as Poland or
India (Cattell, 1964).

It is not surprising that this should be so. Modern discoveries as radio, television, telephones increased our knowledge and understanding of world around us and thus made us more secure and less anxious. Scientific methods of agriculture and food preservation, ability to control epidemics, and to cure many diseases had similar effect. Better understanding of our minds will make us freer, happier. Knowledge that anxiety is neither good nor necessary is important contribution along these lines.

We have seen that thought control can be accomplished by inducing state of anxiety in victim. What we have learned about the nature of anxiety will free our minds from its control. Perhaps it will also, course, diminish our desire to dominate the minds of others.
Control of the Mind

30% Subjective Deleted Version

Time man has been interested in means that enable him control minds others. People believe such influence can be exercised by administration of drugs. We heard about love potions administered to beloved by suitor whose love not been reciprocated. Themes occur Shakespeare’s Midsummer Night’s Dream, Wagner’s Tristan and Isolde, song "Love Potion No. 9." Serious vein, we ask what was done to accused by authorities in countries behind Iron Curtain so they would testify and behave as did during Purge Trials of Bolsheviks in 1930’s. What was done to Cardinal Mindszenty or our soldiers held prisoners war in Korea or Vietnam that they would betray their country? What can force men to confess crimes have not been committed? What make men believe truth of contrived confessions and express sympathy and gratitude toward those who imprisoned or tortured them? Are drugs capable of producing strange type behavior, by what other means could it be achieved?

Drugs have effect on brain and could possibly be used for purpose mind control can be divided into five categories: sedative-hypnotics, tranquilizers, stimulants, narcotics and hallucinogenic substances. Discuss these see whether they would be suitable for such purpose. Sedative hypnotic drugs do not

alter attitudes loyalties of people under influence. They blunt acuity perception produce sleepiness lassitude, these states have not been seen in "brainwashed" prisoners. Tranquilizers are agents that remove ameliorate symptoms of mental disturbances as anxiety hallucinations. Have little no effect on persons not having symptoms produce compliant behavior neither normal mentally disturbed persons. Stimulants, amphetamine, elevate mood cause sleeplessness do not cause character changes. Narcotics induce state contentment loss of drive with physical dependence, would not produce changes in outlook behavior shown by prisoners. Hallucinogens lead to temporary disintegration of mind similar observed schizophrenia make it impossible for accused to collaborate with accusers in intelligent way.

Appears there are no drugs known that would have usefulness in control of mind. All those who have studied this problem agree with conclusion (Cole; Kety; Hinkle, Wolff; Lifton; Sargent). Views confirmed by testimony of numerous persons were subjected to interrogation and indoctrination in Russia, Satellite countries, Communist China. Considered unlikely any methods of research available could be used to develop mind control drug (Cole, 1961).

Interest Pavlov's conditioned reflex technique not been used for brainwashing. Surprising because conditioning accepted by scientists in Russia as theory best explains and influences behavior. Russians have not used method, must have doubts about effectiveness and usefulness of their theories. Application methods of physical torture was unnecessary for inducement of confessions and conversions.
How is state intelligent collaboration against one's interests produced? Methods used by police Communist states in interrogating and indoctrinating victims have been described in masterpieces Koestler's *Darkness at Noon*. They been studied by physicians, psychiatrists, psychologists, legal experts (Hinkle, Wolff; Farber, Wilson, 1961). Method used to convert prisoners to form of behavior and beliefs are acceptable to captor briefly as follows:

Prisoner subjected to solitary confinement for several weeks. Distress anxiety resulting from complete isolation increased by insufficient interrupted sleep (wakened guard when falls asleep) by hunger, cold, and other ways. Prisoner is approaching breaking point, interrogation is begun. Interrogator exploits prisoner's need for companionship increases feeling of guilt anxiety by referring to embarrassing experiences of past which prisoner is particularly sensitive or about which he is concerned. Course, most prisoners experience state of mental disintegration begin to rationalize ideas presented them. Without realizing they begin "confess" crimes they have not committed indeed have not been committed.

Method of brainwashing I just described is simple. It derived from police methods and designed to produce in prisoner state extreme anxiety. Induction state anxiety is all required to manipulate prisoner's mind and behavior so he will "confess" and "collaborate." Methods brainwashing neither required nor available.

Ponder fact it is possible to produce extreme incomprehensible
changes in views and behavior in person by evoking him state of anxiety. Anxiety be powerful force can be used for evil purposes. Are people who believe presence of certain amount of anxiety is desirable and necessary. They claim it is force holds society together. They consider it motivational influence importance. They believe ambition would perish moral behavior disappear without threat anxiety. This view endows anxiety which exist within us with important desirable role.

Can points of view be reconciled? Does "desirable anxiety" differ from that which is used to produce control through change behavior in prisoners? Anxiety is motivational drive, how can lead to breakdown personality and be effective instrument to achieve brainwashing?

Other interesting questions are brought to mind. Is this fact age of anxiety? Is Norman Mailer right makes General Cummings say "Naked and Dead" "natural role twentieth-century man is anxiety"? Are we anxious than primitive poor nations? Do prosperity, culture make us anxious and susceptible to indoctrination? Answer questions I would like review what has been learned about nature of anxiety, measurement, occurrence in difference cultures and nations.

Accepted definition anxiety apprehension of danger, nature which is unknown, is not helpful explaining to us quality of underlying emotional state. Past ten years, understanding of nature of anxiety made tremendous strides, result of studies carried by Raymond Cattell and associates at Laboratory for Personality Assessment of University of Illinois. Scientists
have succeeded in defining the concept of anxiety. Devised scientifically methods for establishing presence and for differentiating from stress and other states which may overlap. Devised tests permitting quantitative evaluation amount of anxiety. Role of 400 experimentally-measured manifestations of anxiety obtained from questionnaires, interviews, and number measurable psychological, physiological, behavioral tests were evaluated. Data subjected to factorial analysis. Powerful mathematical method makes possible discover relative importance significance of individual responses as well as establish which responses go together and belong together. Method permits formulation testing hypotheses and application to problem of anxiety brought out interesting unsuspected facts.

Cattell and Scheier found concept corresponding we are accustomed to call anxiety constituted single reaction pattern responses. Important responses characteristic of anxiety as following: lack of confidence, sense of guilt and worthlessness, unwillingness to venture, dependency, readiness to become fatigued, irritable and discouraged, uncertainty about one's self suspicion of others, general tenseness. One can see these reactions are ones authorities would like to elicit in those they wish to brainwash.

Important result of Cattell's work was finding there is one kind of anxiety. Became apparent anxiety, measured analyzed in number persons of various backgrounds suffering from variety different diseases, was qualitatively same and indistinguishable from person to person in characteristics and nature. No evidence
brought to light would support existence of different kinds of anxieties as neurotics, psychotic anxiety, necessary anxiety.

Question could not be answered reliably until results of Cattell studies became available was: "Is anxiety normal or is it disease or symptom of a disease?" Appears anxiety is dysfunction or symptom of a disease. Is not present or transiently and to small extent in normal healthy individuals. When present is usually one symptom of disease, such as neurosis, depression, or schizophrenia.

Third finding of study was observation that anxiety was not a motivating force or stimulus to achievement as alleged by psychologists. Anxiety is not specific drive as sex, self-assertion, fear, curiosity. It disorganizes or symptom of disorganization.

It stated there is more anxiety in modern Western society than among more primitive people in less developed parts of globe. Assumption evaluated when reliable tests for measurement of anxiety available. Randal reports, in Congo other undeveloped parts of Africa, anxiety is common crippling psychiatric disorder.

Papuans Waghi Valley Central New Guinea not progressed beyond Stone Age culture suffer more anxiety than any modern industrial civilization. They have highest incidence peptic ulcers found in any community (1960).

Differences in amount of anxiety present can be shown among people different nations and cultures. Anxiety is higher where standard living is lower. Most highly developed prosperous countries United States, Great Britain have much lower anxiety.
level than less prosperous and less advanced countries as Poland or India.

It is not surprising that this should be. Discoveries as radio, television, telephones increased knowledge understanding of world around us and made us secure and less anxious. Scientific methods of agriculture and food preservation, ability control epidemics, cure diseases had similar effect. Better understanding minds will make us freer happier. Knowledge that anxiety neither good nor necessary important contribution along lines.

We seen thought control can be accomplished by inducing state anxiety in victim. What we learned about nature of anxiety will free minds from its control. It will also diminish desire to dominate the minds of others.
Control of the Mind

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Man been interested means enable him control minds others. People believe influence be exercised by administration drugs. Heard love potions administered beloved by suitor love not reciprocated. Themes occur Midsummer Night's Dream, Tristan Isolde, "Love Potion No. 9." We ask what done accused by authorities countries behind Iron Curtain they testify behave as did during Purge Trials of Bolsheviks 1930's. What done to Cardinal Mindszenty, soldiers held prisoners in Korea, Vietnam they betray their country? What can force men confess crimes not committed? What make men believe truth confessions express sympathy gratitude toward those imprisoned tortured them? Are drugs capable producing strange behavior, what means could be achieved?

Drugs have effect on brain could used for purpose mind control divided categories: sedative-hypnotics, tranquilizers, stimulants, narcotics, hallucinogenic substances. Discuss see whether they be suitable for purpose.

Hypnotic drugs do not alter attitudes loyalties people. Blunt acuity perception produce sleepiness, lassitude, states not seen "brainwashed" prisoners. Tranquilizers agents remove

symptoms of mental disturbances: anxiety, hallucinations. Little effect persons not having symptoms produce compliant behavior neither normal disturbed. Stimulants elevate mood, sleeplessness not cause character changes. Narcotics induce contentment, loss drive physical dependence, not produce changes outlook behavior by prisoners. Hallucinogens lead disintegration mind similar observed schizophrenia make impossible for accused collaborate with accuser intelligent way.

Appears no drugs known have usefulness in control of mind. Those who studied problem agree with conclusion (Kety; Wolff; Lifton; Sargent). Views confirmed by testimony of persons subjected interrogation indoctrination Russia, Satellite countries, China. Unlikely any methods research available could used develop mind control drug (1961).

Interest Pavlov's reflex technique not used brainwashing. Conditioning accepted by scientists Russia as theory explains influences behavior. Russians not used method, have doubts about effectiveness usefulness theories. Application methods torture unnecessary for inducement of confessions conversions.

How state collaboration against interests produced?
Methods used police Communist states interrogating indoctrinating victims described masterpieces Koestler's Darkness at Noon. Been studied by physicians, psychiatrists, psychologists, legal experts (Farber, Wilson). Method used to convert prisoners to form behavior beliefs acceptable to captor follows:

Prisoner subjected solitary confinement weeks. Distress anxiety resulting isolation increased by insufficient interrupted
sleep (wakened when asleep), hunger, cold, other ways. Prisoner approaching breaking, interrogation begun. Interrogator exploits prisoner's need companionship increases feeling guilt anxiety referring embarrassing experiences past which prisoner is sensitive or he concerned. Prisoners experience state mental disintegration begin rationalize ideas presented them. Without realizing they "confess" crimes not committed not been committed.

Method brainwashing described is simple. Derived from police methods designed to produce in prisoner anxiety. Induction anxiety required manipulate prisoner's mind behavior so he will "confess" and "collaborate." Methods brainwashing required available.

Ponder fact possible produce extreme incomprehensible changes views behavior in person by evoking state of anxiety. Anxiety powerful force used for evil purposes. People believe presence of amount of anxiety is desirable necessary. Claim force holds society together. Consider motivational influence importance. Believe ambition perish moral behavior disappear without anxiety. View endows anxiety exist within with important role.

Can points view reconciled. Does "desirable anxiety" differ from used produce control thought change behavior prisoners? Anxiety is motivational drive, can lead breakdown personality be instrument achieve brainwashing.

Other questions brought to mind. Is this age anxiety? Mailer right General Cummings say "Naked Dead" "role twentieth-century man is anxiety"? We anxious primitive poor nations? Prosperity, culture make us anxious susceptible indoctrination?
Answer questions I like review what learned about nature anxiety, measurement, occurrence cultures and nations.

Definition anxiety apprehension danger, nature is unknown, not helpful explaining us quality underlying emotional state. Past years, understanding nature anxiety made strides, result of studies by Raymond Cattell associates at Laboratory Personality Assessment, University Illinois. Devised scientifically methods for establishing presence differentiating from stress states which overlap. Devised tests permitting evaluation amount anxiety. Role manifestations of anxiety obtained questionnaires, interviews, number psychological, physiological, behavioral tests were evaluated. Data subjected analysis. Mathematical method makes possible discover importance significance individual responses well establish responses go together belong together. Method permits formulation testing hypotheses application problem anxiety brought unsuspected facts.

Cattell, Scheier found concept corresponding accustomed call anxiety constituted reaction pattern responses. Important responses characteristic of anxiety are: lack confidence, sense guilt worthlessness, unwillingness to venture, dependency, become fatigued, irritable discouraged, uncertainty about self suspicion others, tenseness. Can see these reactions are ones authorities elicit in those they wish brainwash.

Result Cattell's work was finding is one kind anxiety. Apparent anxiety, measured, analyzed in number persons backgrounds suffering variety diseases, was same indistinguishable from person person in characteristics and nature. No evidence brought would
support existence different kinds anxieties as neurotic, psychotic, necessary.

Question not be answered reliability until results Cattell studies available was: "Is anxiety normal, disease or symptom disease?" Anxiety is dysfunction or symptom disease. Not present or transiently small extent in normal individuals. When present one symptoms of disease, as neurosis, depression, schizophrenia.

Finding study was observation anxiety not motivating force stimulus to achievement as alleged psychologists. Anxiety not drive sex, self-assertion, fear, curiosity. Is opposite motivational drive. Disruptive influence on mind. Disorganizes or symptom disorganization. Stated there more anxiety in Western society than among primitive people less developed parts globe. Assumption evaluated when tests measurement anxiety available. Randal, Congo undeveloped parts of Africa, anxiety common crippling psychiatric disorder.

Papuans New Guinea not progressed beyond Stone Age culture suffer more anxiety than civilization. Have highest incidence peptic ulcers found any community.

Differences amount anxiety present shown among people different nations cultures. Anxiety higher where standard living lower. Developed prosperous countries United States, Great Britain have lower anxiety level than less prosperous advanced countries Poland, India.

Not surprising this should be. Discoveries radio, television, telephones increased knowledge understanding world and
made us secure anxious. Methods agriculture food preservation, control epidemics, cure diseases had effect. Understanding minds made freer, happier. Knowledge anxiety neither good nor necessary contribution lines.

We seen thought control accomplished inducing state anxiety victim. We learned about nature anxiety will free minds control. It will diminish desire to dominate minds others.
Control of the Mind

Multiple Choice Test

1. Love potions were used in many themes. Which of the following themes was mentioned in this passage?

   1) Romeo and Juliette
   2) Tristan and Isolde
   3) Samson and Delilah
   4) The Marriage of Figaro

2. While in captivity, which of the following men did not confess to crimes they did not commit?

   1) Cardinal Mindszenty
   2) Flort Zietmutter
   3) Bolsheviks
   4) prisoners of war

3. What directly caused war prisoners to confess to crimes they did not commit?

   1) drugs
   2) torture
   3) propaganda and false reports about the outside world
   4) none of the above

4. Sedative and hypnotic drugs:

   1) alter basic attitudes and loyalties of people under their influence
   2) produce acute mental awareness
   3) blunt the acuity of perception
   4) cause sleeplessness and depression
5. Tranquilizers are agents that:
   1) can cause sleepiness
   2) can remove certain symptoms of mental disturbances such as hallucinations
   3) produce compliant behavior in normal or mentally disturbed people
   4) can relax only the physical body not the mind

6. Amphetamines are used:
   1) to elevate mood
   2) to depress
   3) to cause sleepiness
   4) to induce contentment

7. Narcotics induce:
   1) slight improvement of drive
   2) physical dependence
   3) a state of euphoria
   4) all of the above

8. Hallucinogens lead to:
   1) temporary disintegration of the mind
   2) sleeplessness
   3) exceptional insight
   4) sleepiness

9. Which drugs have been used to produce confessions and gratitude on the part of prisoners?
   1) hallucinogens
   2) amphetamines
   3) tranquilizers
4. none of the above

10. The testimonies of those interrogated and indoctrinated in Russia and China:
   1) tell us of the effectiveness of Pavlov's conditioned reflex technique
   2) provide good information on the use of crude physical torture
   3) have demonstrated that drugs have a partial effect on the control of the mind
   4) have demonstrated that drugs are ineffective for mind control

11. An effective method of converting prisoners is described in:
   1) *Darkness at Noon*
   2) research by Cole and Kety
   3) "The Naked and the Dead"
   4) *Vector*

12. The method of brainwashing is derived from:
   1) early scientific psychological experiments
   2) ancient Greek warfare
   3) police methods
   4) the testimony of Cardinal Mindszenty

13. In the method of brainwashing caused by extreme anxiety, the prisoner experiences in order:
   1) interrogation, cold and hunger, mental disintegration, confession
   2) solitary confinement, interrogation, mental disintegration, confession
3) solitary confinement, mental disintegration, interrogation, confession
4) interrupted sleep, cold and hunger, interrogation, confession

14. According to this article, which of the following anxiety producing methods was not mentioned?
1) interrupted sleep
2) reference to embarrassing situations
3) suppression of anger
4) increase guilt feelings

15. Studies on anxiety by Raymond Cattell and his associates:
1) have provided scientific methods for measuring the presence of anxiety
2) have provided a single general reaction pattern of responses to anxiety
3) have shown that there are two kinds of anxiety
4) have provided a reliable definition of anxiety

16. Factorial analysis is a method best described as one that:
1) provides a qualitative evaluation of the amount of anxiety
2) aids in discovering which responses go together and belong together
3) is used to score the responses from a large number of objective tests
4) is used in the creation of good questionnaires and interview procedures

17. Working together, Cattell and Scheier (1961) found that:
1) they could devise a scientific method for establishing the presence of anxiety
2) anxiety is a single general reaction pattern of responses
3) factorial analysis helps to provide mathematical models of anxiety
4) anxiety produces both good and evil behaviors

18. Which of the following is not a response or characteristic of anxiety?
   1) dependence
   2) depression
   3) sense of guilt
   4) suspicion of others

19. The accepted definition of anxiety stated in the passage is:
   1) a neurotic reaction characterized by a diffuse dread
   2) an affliction of more civilized people
   3) a motivational influence, the nature of which is unknown
   4) an apprehension of danger, the nature of which is unknown

20. The results of Cattell's study indicate that:
   1) there are many kinds of anxiety such as neurotic anxiety, psychotic anxiety, etc.
   2) anxiety is a motivational force
   3) there is one kind of anxiety
   4) there are two kinds of anxiety

21. Cattell's studies further indicate that anxiety is observed:
   1) by administering an anxiety detection scale
   2) as being unusual in the neurotic patient
   3) as being both normal and a symptom of a disease
4) as a symptom of a disease

22. According to Cattell, the effect of anxiety may best be described as:
   1) a disorganizer of symptom of disorganization
   2) a motivating force or a stimulus to achievement
   3) a specific drive such as sex or curiosity
   4) perpetrating fear

23. Anxiety levels are highest among:
   1) African Congo societies
   2) modern Western societies
   3) East Asian societies
   4) overpopulated India

24. Which of the following does not tend to alleviate anxiety?
   1) television viewing
   2) living close to the earth
   3) scientific methods of agriculture
   4) educational studies

25. According to this article, anxiety is considered to be:
   1) useful in psychotherapy
   2) a useful motivating device
   3) a destructive device
   4) both useful and destructive
Control of the Mind

Cloze Test

DIRECTIONS: The paragraphs below highlight the passage you have read. In the blank spaces provided, fill in the missing words. Be sure to fill in every blank, even though you may have to guess. Do not refer back to your reading passage or to any previous test question.

Since time immemorial man has been interested in means that would enable him to control the minds of others. Many people believe that such an influence can be achieved by the administration of suitable drugs. We have all heard about love potions secretly administered to the beloved by the suitor whose love has not been reciprocated. These themes are found in Shakespeare's *Midsummer Night's Dream*, Wagner's *Tristan and Isolde*, and the rock and roll song "Love Potion No. 9." In a more serious vein, we may properly ask what was done to the accused by the authorities in countries behind the Iron Curtain so that they would testify and behave as they did during the Purge Trials of the old Nazis in the 1930's. What was done to Cardinal Mindszenty or to some of our soldiers that were held as prisoners of war in Korea or Vietnam so that they would betray their own country? What is it that can force men to confess to crimes which have not been committed? What is it that will make men believe in the truth of their contrived confessions and even show sympathy and gratitude toward those who have imprisoned and tortured them?
Are there any drugs capable of this strange type of behavior, and, if not, by what other means could it be achieved?

Sedative and hypnotic drugs do not alter the basic and loyalties of people under their influence. They must the acuity of perception and produce sleepiness and lassitude, but these states have not been seen in the "brainwashed" prisoners. The are agents that can remove or ameliorate certain symptoms of mental disturbances such as anxiety or hallucinations. They have little or no effect on persons not having such and produce compliant behavior neither in nor in mentally disturbed persons. Stimulants, such as amphetamine, may mood and cause sleeplessness but do not cause character changes. Narcotics induce a state of and loss of drive along with physical dependence, but would not produce the changes in outlook and behavior shown by the. Hallucinogens that lead to a temporary disintegration of the mind similar to that in schizophrenia would make it impossible for the accused to with his accusers in an intelligent way.

How, then, is this state of intelligent collaboration against one's own produced? The methods used by the of Communist states in interrogating and their victims have been vividly described in such literary as Arthur Koestler's Darkness at Noon. They have also been by physicians, psychiatrists, , and legal experts (Hinkle and Wolff, 1956; Farber and Wilson, 1961). The method often used to the prisoners to a form of behavior and to beliefs that are acceptable to the is briefly as follows.
We should ___ the fact that it is possible to pronounce these extreme and incomprehensible changes in views and behavior in a person simply by ___ in him a state of anxiety. Anxiety, then, must be a powerful force that can be used for evil ___.

There are, however, many people who believe that the presence of a certain ___ of anxiety is desirable and necessary. They claim that it is the force that holds ___ together. They consider it a motivational influence of great importance. They ___ that ambition would perish and moral behavior disappear without the everpresent ___ of anxiety. This view endows the anxiety which may ___ within us with an important and perhaps desirable role.

The accepted definition of anxiety as an ___ of danger, the nature of which is unknown, is not helpful in explaining to us the ___ of the underlying emotional state. During the past ten years, our understanding of the ___ of anxiety has made tremendous strides, particularly as a result of studies carried out by Raymond Cattell and his associates at the Laboratory for Personality Assessment of the University of ___. These scientists have at last ___ in clearly defining the concept of anxiety. They ___ scientifically meaningful methods suitable for establishing its presence and for differentiating it from stress and other states with which it may ___. They also devised ___ permitting quantitative evaluation of the amount of anxiety. The role of more than 400 experimentally-measured alleged manifestations of anxiety ___ from questionnaires, interviews, and a large number of objectively measurable
psychological, physiological and behavioral tests were ___.

The data were subjected to factorial analysis. This is a powerful mathematical method that makes it possible to discover the relative importance and ____ of the individual responses as well as to ____ which responses go together and ____ together. The method permits both formulation and testing of ____ and its application to the problem of anxiety brought out interesting and unsuspected facts.
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A point of decision had been reached in the long record of population problems of the citizens of Buena-I. Like the increase in number of electrically-charged particles in an atomic pile until that moment when a critical mass was achieved and nuclear fission was eminent, so the numbers of Bonese had edged upwards on the statistical charts of the Government Emergency Population Control Commission. Multiple births were the problem. Multiple births which at first had seemed the answer to the problem of how to populate and work productively the huge land mass of Buena-I.

This land had been claimed by the 500 colonists who emigrated from the home nation on Tierra many years earlier. At first, this land mass seemed the best choice. There were vast deposits of copper ore which were needed desperately to maintain the precarious economic balance between the two supernations that co-existed on Tierra. The Bonese had become hardened, sunbronzed people. Violent natures had developed in the already independent personalities of the pioneer-type colonists. And a great pride in themselves arose as a result of the large quantities of copper which were sent back to Tierra in the robot controlled ferry transports.

The planet was of most unusual geography: six-tenths ocean, higher than any ever known in salinity and mineral content; three-tenths dry, mountainous land mass, rich in minerals; one-tenth fertile, rain-washed land on the north polar area of the planet.
When the colony of 1000 emigrants from the opposing nation on Tierra arrived at planet Gardine-X-35, they came late because of a defect in their nuclear propulsion system that had not been anticipated by scientists of their home nation. The big land mass was claimed already and named Buena-I. All they could do was to stake a claim on the smaller land mass on the planet.

They named their new homeland Ralo. It was found to have only meager, lowgrade deposits of the necessary copper ore, but it was a hospitable land, easy to cultivate, and a healthy, growing agrarian economy soon developed. Life was easy for the Raloans while they waited for the opportunity to move onto the large land area. Early in their days on Ralo, they elected their most learned scholars to membership on the Committee for Planning Acquisition of Territory. The need for the rich ore deposits on Buena-I was to be the main concern of these governing officials, who were led by a man named Chan. This goal continued as a never forgotten plan of the officials through the years.

Most Raloans, however, soon ceased to care whether they ever got land on Buena-I or not. Life was too good on Ralo. At first they worried because they could not mine ore to send back to Tierra to justify their existence as a colony, but soon no Raloans would have wanted to do the hard labor of miners. Everyone on Ralo became gentleman farmers, enjoying a life of relative ease filled with many social occasions. They left all problems of leadership and government to Chan, to whom they were completely devoted and loyal.
After about three decades had passed uneventfully but pleasantly on Ralo, a delegation from the Bonese government arrived there under the frequency signal of neutrality. They had an unexpected request: water. They needed water in great quantity from the springs and rivers of Ralo for use on arid, sparsely vegetated Buena-I. In return they offered a trade contract, bartering small quantities of both copper ore and finished copper. After the meeting with the Bonese delegation, Chan and the ruling committee of Ralo (now referred to as C-PAT in official telepathic transmissions to their Tierra station) retired to consider the trade contract. Chan felt that this was the golden opportunity to gain a foothold on the mineral rich land of Buena-I; most of the others of the C-PAT thought this was useless now. The original reason for their emigration had been the production of copper for the home nation. If Bonese were willing to "give" them the copper in exchange for the abundant water of Ralo, then let them do all the work. Chan reasoned with them, insisting that this would be at best a temporary arrangement, that more permanent arrangements should be made. Finally the C-PAT agreed on a plan of action and met again with the Bonese delegation.

The gentle, patient Chan stood before the taller, muscular Bonese men and gave them the terms of the Raloan contract. They were ready to formulate the agreement of exchange, provided a small settlement of Raloans be allowed to go to Buena-I to live and to form a receiving station for the ferry missiles that would bring in the water and take out the minerals. The group would
live in an area separate from the Bonese cities, but would conform to the laws of Buena-I, with deportation back to Ralo to be in order for any lawbreaker in the colony. (Chan said nothing of the fact that the Raloans surely would retain their own citizenship and maintain only visitor status as far as Bonese loyalty was concerned.)

The Bonese delegation heard him out, then went into a conference of their own. What they had not told the Raloans was the immensity of their problem. Nothing could grow in water from the sea. Indeed, it was useless even to cool the coils of their nuclear reactors brought from Tierra to power the mining operations, the offices and apartments, and the vast hydroponic "greenhouses" where scientists tended food crops growing with roots in chemicals, from which source came an adequate but dull diet for the Bonese. Complications had arisen during the past two decades that they dare not communicate to the Raloans. The truth of the matter was that there was danger of slowdown or cessation of all productivity in their mining industry. A hastily assembled water purification and reclamation station, operating at full capacity, never produced enough to stay ahead of the real problem, lack of water for the rapidly growing population.

The desperate Bonese delegation would have agreed to almost any quantity of ore the Raloans demanded. But the idea of a Raloan infringement on the land of Buena-I had not been anticipated. Violent arguments and flaring tempers were a unanimous reaction. One member of the delegation, a powerful man named
Konrad, finally was able to calm the group and influence them into acceptance of the situation, which seemed inevitable. Konrad's argument was if the number of Raloans was kept small and the people closely supervised, no great harm could result. Then they returned to the council chamber of the C-PAT, agreeing forthwith to accept the idea proposed by Chan, but sharply limiting the number. An added condition was that a number of Bonese, equal to the Raloans, must live in the area set aside on Buena-I to form a Ra-Bon Group. The Bonese would supervise transshipment of the Raloan water to Bonese population centers, and help with the loading of the mineral ore for the return shipment. The contract was then signed.

After the departure of the Bonese, the immediate task facing the C-PAT was deciding who would leave Ralo for Buena-I. A call for volunteers for the new endeavor resulted in not one recruit. Life was so pleasant, none felt the desire to venture again into the unknown. One scholar among the C-PAT members remembered a time far back in history when some sort of a lottery was arranged to enforce military service; so each man and woman was assigned a number and a random selection was made of those who would be required to serve the present need. Such unpleasant grumbling among the chosen Raloans resulted that the members of the C-PAT themselves decided to send half their own number, with their families, to become the Ra-Bon Group.

Those Raloans who left, under the leadership of Chan, soon found themselves tested by the barren land and the unchanging dry climate. Being used to the long rainy season and fertile greensward of Ralo, they were unprepared for the strange absence
of all moisture which existed on the larger land mass. They named the area that was assigned to them New Ralo City, in the manner immigrant groups on Tierra in the dark, dim ages of the past had given to new land the name of old familiar places. The sullen, bronze-skinned Bonese miners who joined the Ra-Bon Group added to the strangeness of the place. Soon, however, the pleasant natures of the Raloans emerged, their earlier gloom disappeared, and they sang as they went about the tiring work of unloading the water cargo.

This was a new and interesting experience for the Bonese miners. They were used to only harsh commands or silence during work periods in the mines. All food for the Raloans had to come from Ralo with the water shipments. The Bonese had grown tired of the monotonous diet of greenhouse food and they delighted in the opportunity to share the fine food from the crops that grew on Ralo. They watched the Raloan farmers try unsuccessfully to make some plants grow as they did with such ease on Ralo. The Bonese decided to show them how to find lichens which were edible that grew in shady spots. They appreciated the happy attitudes of the Raloans and their lack of anger. Most of all they admired Chan, who was gentle, yet firm when the occasion demanded, who was intelligent and patient despite the problems in coping with a group of two such different natures. Slowly, all the Bonese of the Ra-Bon Group came to be as loyal to Chan as the Raloans were.

The Raloans soon noticed another unexpected peculiarity of life in the new area. Something was happening to their family structure. The children conceived back in Ralo were healthy,
normal Tierra-sized babies, almost always born singly. The first conception at New Ralo City resulted in the births of six smaller babies and these were followed by multiple births ranging upwards to eight and nine children. This strange occurrence was described in Chan's daily microsheet reports transmitted back to the C-PAT headquarters on Ralo.

During discussion of this situation with their new Bonese friends, the Raloans learned that these same birth phenomena had been happening for the three decades of colonization. A man and woman initiated a five-year term contract of marriage, signed the papers required in the contract, as they did back on Tierra, agreeing to limit their conceptions to the two allowed under Tierra laws. They soon found that their two conceptions would result in ten or more progeny. The population of Buena-I had exploded in a terrifying manner. None of the scientists had been able to find what caused the multiple genetic division of cytoplasm. Conceptions had been banned; frustration of intense degree followed, resulting in illegal births and illegal uses of the dwindling water and food supplies. Complete collapse of the colony was growing nearer by the month.

Consternation reigned in the meeting room of the C-PAT when these reports were received on Ralo. The wise men knew that the water they sent under contract soon would not be sufficient for the growing Bonese population and another contract would have to be made. More likely, however, the more numerous Bonese simply would decide to take over the small land and use it as their own wellspring from which they would draw the vital liquid for the
needs of their industry. To wait longer would be foolhardy; they must defend themselves by acting first.

Word was sent to Chan to go to the government of Buena-I and tell them that the contract was canceled; that no more water would be sent from Ralo from that moment on, leaving the Bonese to suffer thirst until they would be receptive to the idea of sharing all the mining areas on Buena-I with Raloans. The Raloans knew now of the desperation of the Bonese water situation. They felt they were in a commanding position, a position of which they were unaware when they made the first contract agreement.

How poorly the C-PAT evaluated the violent, hostile natures of the Bonese was shown by the reaction of the Bonese government officials. Over the protests of Konrad against such action, Chan, the messenger from the Raloans, was killed on the spot.

This action of violence was the result of the anger and frustration that had been building up in the Bonese officials over the impossible situation on Buena-I. Anxious meetings were being held by the Government Emergency Population Control Commission, which hastily had pulled the best scientists away from their previous work at the hydroponic greenhouses and the water reclamation stations. The challenge of finding a solution to the problem of the multiple births had been thrown down to them months previously. Each was given a laboratory and assistants and equipment, with orders to work continuously until someone found a clue to the reversal of the situation. Food was brought in to them, more and better food than they would have rated in their old jobs and far better than that now available to the general population. Bunks
were installed in corners of the laboratories, with work going on until someone slept a few hours to counter the exhaustion, then awoke to return to the computers or other of the sophisticated equipment that had been assembled hastily.

Different tangents of investigation began. Some scientists looked for an unknown factor in the reclaimed water from the sea that might trigger the phenomena. (The delegation that went to Ralo to contract for water reported no evidence of multiple births or overpopulation at that colony. Therefore, no need existed to analyze the water from that source, especially since the multiple births began long before the time water was needed from Ralo.)

Other scientists searched for an answer among the plants that grew in the greenhouses. This path of search was a narrow one. All the chemicals in which the plants grew came from the original supplies brought in the emigration from Tierra. Only the atmosphere in which they spread their green leaves was a new factor. The harsh sunshine filtered through the polarized panels of the greenhouses to cause the plants grown by the scientists to produce bountiful crops.

The most likely source of the unknown agent which caused the human cells to divide in so radical a fashion was the sparse vegetation that existed naturally on Buena-I. Some of the lichens and root plants had been accepted into the diet of the Bonese after earlier tests had shown them to be nonpoisonous in nature. One complicating factor of the search was the lack of laboratory animals to test the results for proof. When the protein distilled from the lichens and roots was broken down for amino acid analysis
and the two unknowns turned up on the analyzers, there was no way to confirm their guilt because of the long wait for shipments of rapidly reproducing experimental animals from Tierra.

Speculating that one of the two unknowns was the mysterious factor that was metabolized into the body, absorbed into tissue, and eventually imprinted into the DNA molecules or into the vital RNA of the reproductive cells, the scientists decided that the expediency of the situation demanded "a cure be developed before the virus was ever identified," in the manner of the early pioneers in the field of biochemical medicine during the search for knowledge of cancer back in the primitive days of medical science.

This proved the easiest part of the search. A chlorophyll-synthesis inhibitor was developed quickly which would eradicate the dangerous vegetation from the areas of human habitation on Buena-I. Results were presented to the Commission for their consideration. The scientists readied their plant sprayers and prepared large quantities of the inhibitor spray from their stores of chemicals in anticipation of the approval for the operation was sure to come.

Until this time the problems of the Bonese government seemed immense, at this inopportune time, the message was brought from Ralo, and the kind, intelligent Chan was killed. Instead of fear, the demands of the Raloans resulted in immediate anger on the part of the Bonese officials. Aware of their superiority in numbers and technology to the other colony, the officials sent back their reply, "Never!" much in the manner of a large animal swatting away a bothersome insect.
A raider force was assembled hastily and sent to the Ra-Bon Group area with orders to capture the Raloan members. This was accomplished; but the force was surprised by the fact that some of their own miners who were members of the Ra-Bon Group tried to defend the prisoners from capture. When this fact was told to the government officials, they refused to believe it was true, and merely transferred the Bonese group back to the mining area for future work.

While the raider force was at work, the scientists brought the good news of the breakthrough on the population problem. Spraying was ordered to begin at once. With the population to be stabilized, more water reclamation stations could be built and the Bonese soon would not have to depend on the Raloan water source. This was still some time in the future, however. A message was sent to Ralo describing the capture of the group at New Ralo City and demanding the surrender of the Raloan government, else all of the hostages would be killed.

Without Chan to counsel or guide them, the other members of the C-PAT were confused about which action to take. Since all acts of aggression had been outlawed far back in the history of Tierra, they had come to abhor the deliberate sacrifice of human life. The thought that the deaths of other Raloans might result from their refusal was too much to bear. A message of surrender was sent.

All Raloans were moved to Buena-I to work as slaves building water stations. The Bonese did not trust them to be near the mines with the precious ore. The scientists sprayed the offending
vegetation throughout Buena-I and within months knew of their success when the multiple births ceased. All Bonese who were not needed to do mining work moved to Ralo to protect the water source and to send shipments of water to Buena-I, since it would be a long time before capacity of the stations would supply all needs. Konrad, who was not in good grace with the Bonese officials because of his long record of counseling a conservative approach to their problems, was left on Buena-I and charged with governing those Bonese who worked in the mines or who guarded the Raloan slaves.

Once again the good nature of the Raloans came to the surface. Even in slavery, they remained cheerful and worked building and enlarging the water reclamation stations with a dedication as if the project were their own. Soft bodies, used to the ease of life back on Ralo, became hardened and tanned. Contact with their guards was kept always on a friendly basis. Soon both Konrad and the entire Bonese guard force were slipping into the same comradship that had evolved at the earlier experiment of the Ra-Bon Group.

Konrad began to realize that what was needed for the good of all on the planet was a joint operation with both groups working in harmony. The happy natures of the Raloans brought out the best in the Bonese; conversely, the physical strength and stamina of the Bonese caused the Raloans to compete and improve physically instead of staying soft and indolent.

Konrad and his followers among the Bonese decided to try to organize a union and to attempt to get the Bonese government to
accept such a mutually beneficial arrangement. All of the Raloans agreed to this move. Konrad's proposal was sent to the Bonese government officials on Ralo. Without waiting to receive a reply, Konrad proclaimed all the slaves to be free citizens and granted permission to all the Raloans to live where they wished and work in the mines alongside the Bonese.

A small group of Raloans who had been friends of Chan held secret reservations about the union they had joined, along with the others, because they felt the Bonese government could not be trusted. And some of the Bonese members of Konrad's union had been members of the old Ra-Bon Group. They shared the bitterness the Raloans felt about Chan's death, as well as disrespect for their own government. This strange liaison resulted in a hardcore group of dissidents who felt that the violent Bonese could understand only more violence. A secret pledge of retaliation united them into formation of a Saboteur Team. They hoped Konrad's union, to which they all belonged, would succeed; but they secretly met to discuss what to do if it did not.

Reaction was not long in coming from Ralo. Unexpectedly, the earth shook and dust clouds rose on Buena-1, as hidden detonators on the water reclamation stations were triggered by signal from Ralo. The crafty Bonese officials had left explosives hidden in all the stations before they moved the government; someone had foreseen the possibility of an insurrection of the Raloan slaves and had directed that this action be taken if the need ever arose to control them by denying them water. Konrad checked the wreckage and found a few undamaged tanks of water amid the complete ruin
of all the equipment. This emergency supply would last, with rationing, for a while, a short while, but then what would they do?

The action of the Bonese officials confirmed the beliefs of those who belonged to the Saboteur Team. After discussion of several courses of action, they chose to load freight missiles with the unused inhibitor and send them toward Ralo, to explode on impact and cover that land with chemicals deadly to all vegetation. They had little water, but plenty of food in the greenhouses on Buena-I; Konrad would soon be in a better bargaining position with the Bonese when there was no food but plenty of water on Ralo.

Emergency supplies of water on Buena-I had almost been exhausted and the first drafts of a message of capitulation by Konrad and his followers were being written when a message from the Bonese government was received. "Food: we are starving, our crops are dead, all vegetation is burned and brown and lifeless. Please help us. And in addition to food, we also need water. Please share your water with us. The springs have gone and the rivers have dried up. There has been no rain. When the green vegetation died, something happened to the climate. All is dry and barren. Please help us."

Sadly, Konrad replied, "We cannot help you. The people here are dying of thirst. We have sent a message to Tierra to send rescue ships with greatest haste to take us away from this land. We suggest you do likewise. There is little possibility that we can survive long enough for them to arrive. We are sorry for you."

The fleet of new superdrive light ships circled the small planet, Gardine-X-35, one more time. The second officer reported
to the fleet commander, "We have now searched both land masses with our scanners. There seem to be greenhouses still standing on the larger land mass, but through our viewing prism, they appear to be untended. Both land masses are otherwise devoid of vegetation. We regret to report, sir, that there is no sign of human life. We suggest the mission return to Tierra."

"So order it," replied the commander. The fleet curved away gracefully, silently, and in seconds disappeared into the darkness of the void."
Buena-I and Ralo
Medium-Telegraphic Version

Two new colonies existed on the planet Gardine-X-35, which was rich in deposits of copper ore. The two nations of the home planet of Tierra had established the colonies to mine, process and send back in cargo transports the vitally needed metal. On Tierra, peace existed between the two nations, with use of aggression abandoned centuries earlier.

Only two land masses were on the planet, surrounded by seas of unusable water of high mineral content. The largest land mass was mountainous and arid, but rich in mineral ore. The first group of colonists to arrive claimed this land, naming it Buena-I. The group of colonists from the other nation on Tierra arrived late because of power trouble on their transport. They claimed the smaller land mass, which they called Ralo. There was little communication between the two colonies for many years.

The 500 colonists on Buena-I, known as Bonese, became hardened by their life on the barren land. Their scientists grew their food in hydroponic greenhouses. They built a sea water reclamation station to make usable water for their offices and apartments and the extensive mining operations. The Bonese were proud of the great quantities of ore they mined and the frequent shipments of minerals they sent back to their home nation on Tierra.

The land of Ralo had almost no mineral ore, but was fertile and had plenty of springs and rivers and an extended rainy season.
It was on the north polar area of the planet and was large enough to take care of the 1000 colonists. In the early years, the Raloans elected a Committee for Planning Acquisition of Territory to find means to get part of the land of Buena-I so more ore would be available. The members of this committee, known as the C-PAT, kept faithful to this goal down through the years. The rest of the Raloans ceased to care about it. The leader of the C-PAT, and of all Raloans, was Chan. Life was good on Ralo. An agrarian society developed. The Raloans became peaceful in nature. Soon no Raloan would have wanted to labor as a miner. Everyone became gentleman farmers. There were many social occasions. They were all dedicated and loyal to Chan and left all problems of government and leadership to him.

In the first few years on Buena-I, multiple births of up to nine children at one time started occurring among the Bonese. The growing population did not seem a problem at first, promising more help in future mining work, with lots of land available on Buena-I. In thirty years it became apparent the sea water reclamation could not keep up with the population explosion. Mining had to be curtailed to allow workers to build more apartments and greenhouses and enlarge the water reclamation station. Their pride was hurt because they could no longer send home large, frequent mineral shipments. They were frustrated by a government ban on conceiving more children, by continued illegal births. There was an increase in stealing of food and water. They became a bitter, angry race of people. A commission of scientists was appointed to search for the cause of multiple births. The government contacted the Raloans
and asked to send a trading delegation there under a frequency signal of neutrality.

The Bonese offered to trade mineral ore to the Raloans in exchange for water from their springs. They did not tell the Raloans of the population problem. Chan felt the C-PAT had an opportunity to gain some land on Buena-I. They asked the Bonese for the right to establish a receiving station on Buena-I to handle the shipments of water and ore. The Bonese delegation grew very angry at this demand. One Bonese member, Konrad, suggested they limit the number of Raloans and send an equal number of Bonese miners to live with them, forming a Ra-Bon Group. The agreement was made and a contract signed.

No Raloans wanted to leave the easy peaceful life for the move to Buena-I. The C-PAT tried to get volunteers. Finally half the C-PAT members decided to go, taking their families, under the leadership of Chan. They named the area assigned to them New Ralo City. They had to abide by Bonese laws, but they kept their citizenship as Raloans. They missed their small, green homeland with its abundant food and water. The strange environment and dry climate were depressing. Sullen, dark-skinned Bonese miners joined their group. Soon Raloan pleasant natures broke through their gloom and they sang as they went about the tiling work. Their cheerfulness and friendliness amazed the Bonese miners. The Raloans tried in vain to make plants grow. They shared the food and water that came to them from Ralo with the Bonese. The miners showed the Raloans how to find lichens which were edible. Chan was so kind and fair to all that slowly Bonese of Ra-Ben
Group became as loyal to Chan as the Raloans.

The births of eight or nine children at a time began to occur in the Raloan families of the Ra-Bon Group. Their new Bonese friends told them of the immensity of the birth problem on Buena-I. Chan sent word back to the Raloan C-PAT.

The C-PAT realized that soon the Bonese would need more water than they had contracted to send. They feared the Bonese would take over Ralo for their own land to get the water supply. The C-PAT decided to act first by canceling the contract. Chan was ordered to inform the Bonese government. When he delivered the message, the Bonese were so angry they ordered Chan killed. Only Konrad advised against the violence. A raider force was sent to take the Raloans of the Ra-Bon Group as hostages. Their Bonese friends tried to defend them. The government sent the raiders back to work at mines.

Bonese scientists had searched for cause of multiple births. Mystery factor seemed to be in lichens eaten by people. Scientists developed an inhibitor that would destroy the vegetation when sprayed on it. The Bonese government ordered the spraying to begin. It would take some time for effect to be noticed and more water was needed from Ralo. The government sent the Raloan C-PAT a message threatening death to their hostages unless Ralo surrendered. Raloans abhorred taking of life deliberately. To prevent their Raloan friends from being killed, the C-PAT surrendered. The Raloans were moved to Buena-I to work as slaves building water stations. The Bonese did not trust them to be near the mines.
When the spraying was completed, the multiple births soon stopped occurring. The Bonese government and people moved to Ralo, leaving only some miners and a guard force under Konrad's command.

Once again the good nature of the Raloans came forth, even in slavery. They were always quite cheerful, and friendly to their Bonese guards. They became physically hardened and tanned by the work. Soon Konrad and the guard force became their friends. Konrad began to realize the need of a joint operation between colonies. He and his Bonese followers invited the Raloans to join with them in forming a union. Konrad would try to get the Bonese government to accept this beneficial arrangement; meanwhile he freed all the Raloan slaves. All the Raloans and most of the Bonese on Buena-I joined. Some of Raloan friends of Chan held reservations about union because Bonese government could not be trusted. Some Bonese from old Ra-Bon Group met secretly with them to plan retaliation if needed. They formed a Saboteur Team to discuss what to do if Konrad's union failed.

When Bonese government learned of Konrad's actions, they detonated explosives hidden in water stations before they moved to Ralo. Some had feared a slave uprising even then. The equipment at the stations was wrecked, but some water was left in tanks. Even with water rationing they could not hold out against the Bonese long.

The Saboteur Team decided to retaliate for the Bonese violence by sending missiles loaded with the remaining inhibitor chemicals to explode on Ralo, destroying all vegetation and the Bonese food.
supply there. The Saboteur Team felt that hunger would force the Bonese to surrender to Konrad before their water supply on Buena-I ran out.

The members of Konrad's union were almost ready to surrender when a message was received from Ralo. It told that the destruction of all vegetation on that land had caused the climate to change. The springs had all dried up. The Bonese were pleading for food and water. They offered to surrender and work as slaves in the mines to save their lives. There was no help for either colony. No water and food for the Bonese; little remaining food and no water for the Raloans.

The rescue ships came from Tierra and circled the planet. The crew reported that they could find no signs of human life. They turned away to return to Tierra.
Buena-I and Ralo

Highly-Telegraphic Version

Two new colonies, Buena-I and Ralo, established on planet rich in copper ore deposits needed by opposing Tierra nations who sent colonists.

500 Buena-I colonists arrived first, claimed larger of two land masses.

Buena-I richer in ore, sparsely vegetated, mountainous, surrounded by high mineral content seas.

Colonists, the Bonese, ate food grown by scientists in greenhouses, native lichens.

Built sea water reclamation station for usable water for drinking and mining.

Ralo smaller land mass in north polar region.

Ralo fertile, springs, rivers, almost no ore.

1000 Raloan colonists developed agrarian economy.

Elected Committee for Planning Acquisition of Territory (C-PAT).

Bonese became hard physically.

Proud of large mineral shipments to Tierra.

Rigorous existence developed harsh natures.

Raloans became lazy, peaceful farmers. No mining attempted.

Only C-PAT, led by Chan, continued wanting land on Buena-I to get ore for Tierra.

All Raloans loyal to Chan.
Multiple births occurred on Buena-I causing population explosion.

More housing, greenhouses, water stations needed, causing less mining.

Bonese grew angry, frustrated.

Water shortage forced delegation to Ralo to trade ore for water.

C-PAT demanded land rights on Buena-I in exchange for water.

Bonese reluctantly agreed.

Konrad, Bonese delegation member, suggested equal number Bonese citizens, Raloans, to live in Buena-I area, form Ra-Bon Group.

Contract was signed.

No colonists wanted to leave easy Ralo life.

Half C-PAT members moved with families.

Led by patient, intelligent Chan.

Ra-Bon Group established.

Raloans obeyed Bonese laws but kept Raloan citizenship.

Sullen Bonese miners joined group.

Raloans temporarily depressed by strange environment, dry climate; soon became happy, singing while working.

Raloan cheerfulness, friendliness amazed Bonese miners.

Raloans attempted farming, failed.

Bonese showed Raloans edible lichens.

Raloans shared food, water from Ralo with Bonese.

Chan kind, fair to all.

Bonese slowly became loyal to Chan.

Multiple births occurred in Ra-Bon Group.

Bonese told Raloan friends of population explosion on Buena-I.
Conceptions banned after three decades of multiple births.

Illegal births, frustration for Bonese.

Scientists searched for cause, method to stop multiple births.

Chan sent message about Bonese problems to C-PAT on Ralo.

C-PAT decided Bonese would soon take over Ralo for more water.

C-PAT canceled contract.

Chan ordered to inform Buena-I government.

C-PAT hoped Bonese thirst would result in sharing mining area with Ralo.

Chan delivered message.

Government members angry, violent. Over Konrad's protest, Chan killed.

Ra-Bon Group Raloans taken as hostages.

Bonese tried to defend Raloan friends, were sent away to mines.

Bonese scientists decided lichens eaten by people somehow caused multiple births.

Inhibitor developed to destroy vegetation.

Bonese government ordered spraying commenced on Buena-I.

Bonese still needed Ralo water. Message sent to C-PAT threatening massacre of Raloan hostages unless Ralo surrendered.

To save captives, C-PAT surrendered.

Raloans became Bonese slaves, building water stations.

Spraying completed, multiple births stopped.

Bonese government moved to Ralo, leaving only miners, guard force under Konrad's command.
Even in slavery, Raloans were good natured, cheerful. Raloans became physically hardened, tanned. Konrad, guard force became friends with Raloans. Konrad saw need for joint operation between colonies. Konrad and Bonese followers invited Raloans to form union. All Raloans, most Bonese left on Buena-I joined. Hostages and Bonese from old Ra-Bon Group thought government could not be trusted. Secret Saboteur Team formed to retaliate if Bonese used further violence. Konrad sent Bonese government message he had freed slaves, formed union. Government detonated explosives hidden in water stations before move to Ralo, to be used in case of slave uprising. Equipment destroyed, some water left in tanks. Saboteur Team retaliated by loading all inhibitor chemicals in missiles to explode on Ralo, destroying all vegetation. Saboteur Team thought hunger would force Bonese surrender before water supply of Konrad's union exhausted. Vegetation destruction caused Ralo climate change. No rain. Springs, river dried up. Bonese sent plea for food, water. Last of Konrad's water was used. Both colonies were doomed. Rescue mission circled planet. No sign of human life was found. Rescue ships returned to Tierra.
A point of decision had been reached in the long record of population problems of the citizens of Buena-I. Like the increase in number of electrically-charged particles in atomic pile until that moment when a critical mass was achieved nuclear fission was eminent, so the numbers of Bonese had edged upwards on the statistical charts of the Government Emergency Population Control Commission. Multiple births were the problem. Multiple births which at first had seemed the answer to the problem of how to populate and work productively the huge land mass of Buena-I.

This land had been claimed by the 500 colonists who emigrated from the home nation on Tierra many years earlier. At first, this land mass seemed the best choice. There were vast deposits of copper ore which needed desperately maintain the precarious economic balance between the two super nations that co-existed on Tierra. The Bonese had become hardened, sunbronzed people. Violent natures had developed in the already independent personalities of the pioneer-type colonists. And a great pride in themselves arose as result of the large quantities of copper which were sent back to Tierra the robot controlled ferry transports.

The planet was of most unusual geography: six-tenths ocean, higher than any ever known in salinity and mineral content; three-tenths dry, mountainous land mass, rich in minerals; one-tenth fertile, rain-washed land on the north polar area of the planet.
When the colony of 1000 emigrants from the opposing nation in Tierra arrived at planet Gardine-X-35, came late because of a defect in their nuclear propulsion system that had not been anticipated by scientists of their home nation. The big land mass was claimed already and named Buena-I. All they could do was to stake claim on the smaller land mass on the planet.

They named their new homeland Ralo. It was found have only meager, low-grade deposits of the necessary copper ore, but it was a hospitable land, easy to cultivate, and a healthy, growing agrarian economy soon developed. Life was easy for the Raloans while they waited for opportunity to move onto the large land area. Early in their days on Ralo, they elected their most learned scholars to membership on the Committee for Planning Acquisition of Territory. The need for rich ore deposits on Buena-I was to be the main concern of these governing officials, who were led by a man named Chan. This goal continued as a never forgotten plan of the officials through the years.

Most Raloans, however, soon ceased to care whether they ever got land on Buena-I or not. Life was too good on Ralo. At first they worried because they could not mine ore to send back to Tierra to justify existence as a colony, but soon no Raloans would have wanted to do the hard labor miners. Everyone on Ralo became gentleman farmers, enjoying a life of relative ease filled with many social occasions. Left all problems of leadership and government to Chan, to whom they were completely devoted and loyal.

After about three decades had passed uneventfully but pleasantly on Ralo, a delegation from the Bonese government
arrived there under the frequency signal of neutrality. They had an unexpected request: water. They needed water in great quantity from the springs and rivers Ralo for use on arid, sparsely vegetated Buena-I. In return they offered a trade contract, bartering small quantities of both copper ore finished copper. After meeting with the Bonese delegation, Chan and the ruling committee of Ralo (now referred to as C-PAT in official telepathic transmissions to their Tierra station) retired to consider trade contract. Chan felt that this was the golden opportunity to gain a foothold on the mineral rich land of Buena-I; most of the others of the C-PAT thought this was useless now. The original reason for their emigration had been the production of copper for the home nation. If Bonese were willing to "give" them the copper in exchange for the abundant water of Ralo, then let them do all the work. Chan reasoned with them, insisting that this would be at best a temporary arrangement, that more permanent arrangements should be made. Finally the C-PAT agreed on a plan of action and met again with the Bonese delegation.

The gentle, patient Chan stood before the taller, muscular Bonese men and gave them the terms of the Raloan contract. They were ready to formulate the agreement of exchange, provided small settlement of Raloans be allowed to go to Buena-I to live and to form a receiving station for the ferry missiles that would bring in the water and take out the minerals. The group would live in an area separate from the Bonese citizens, but would conform to the laws of Buena-I, with deportation back to Ralo to be in order for any lawbreaker in the colony. (Chan said nothing of the fact that the Raloans surely would retain their own citizenship and maintain
only visitor status as far as Bonese loyalty was concerned.) The Bonese delegation heard him out, then went into a conference of their own. What they had not told the Raloans was the immensity of their problem. Nothing could grow in water from the sea. Indeed, it was useless even to cool the coils of their nuclear reactors brought from Tierra to power the mining operations, the offices and apartments, and vast hydroponic "greenhouses" where scientists tended food crops growing with roots in chemicals, from which source came an adequate but dull diet for Bonese. Complications had arisen during the past two decades that they dare not communicate to the Raloans. The truth was that there was danger slowdown or cessation of all productivity in mining industry. A hastily assembled water purification and reclamation station, operating at full capacity, never produced enough to stay ahead of the real problem, lack of water for the rapidly growing population.

The desperate Bonese delegation would have agreed to almost any quantity of ore the Raloans demanded. But idea Raloan infringement on the land of Buena-I had not been anticipated. Violent arguments and flaring tempers were a unanimous reaction. One member of the delegation, a powerful man named Konrad, finally was able to calm the group and influence them into acceptance of the situation, which seemed inevitable. Konrad's argument was if the number of Raloans were kept small and the people closely supervised, no great harm could result. Then they returned to the council chamber of the C-PAT, agreeing forthwith accept the idea proposed by Chan, but sharply limiting the number. An added condition was
that a number of Bonese, equal to the Raloans, must live in the area set aside on Buena-I to form a Ra-Bon Group. The Bonese would supervise transshipment of the Raloan water to Bonese population centers, and help with loading of the mineral ore for the return shipment. The contract was then signed.

After the departure of the Bonese, the immediate task facing the C-PAT was deciding who would leave Ralo for Buena-I. A call for volunteers for the new endeavor resulted in not one recruit. Life was so pleasant, none felt the desire to venture again into the unknown. One scholar among the C-PAT members remembered a time far back history when some sort of a lottery was arranged for once military service; so each man and woman was assigned a number and a random selection was made of those who would be required to serve the present need. Such unpleasant grumbling among chosen Raloans resulted the members of C-PAT themselves decided to send half their own number, with their families, become the Ra-Bon Group.

Those Raloans who left, under the leadership of Chan, soon found themselves tested by the barren land and unchanging dry climate. Being used to the long rainy season and fertile green-ward of Ralo, they were unprepared for the strange absence of all moisture which existed on the larger land mass. They named the area that was assigned to them New Ralo City, in the manner immigrant groups on Tierra in the dark, dim ages of the past had given to new land the name of old familiar places. The sullen, bronze-skinned Bonese miners who joined the Ra-Bon Group added to the strangeness of place. Soon, however, the pleasant natures of
the Raloans emerged, their earlier gloom disappeared, and sang as
they went about the tiring work of unloading the water cargo.

This was a new and interesting experience for Bonese miners. They were used to only harsh commands or silence during work periods in the mines. All food for the Raloans to come from Ralo with the water shipments. The Bonese had grown tired of the monotonous diet of greenhouse food and they delighted in the opportunity to share the fine food from the crops that grew on Ralo. They watched the Raloan farmers try unsuccessfully to make some plants grow as they did with such ease on Ralo. The Bonese decided to show them how to find lichens which were edible that grew in shady spots. Appreciated the happy attitudes of the Raloans and their lack of anger. Most of all they admired Chan, who was gentle, yet firm when the occasion demanded, who was intelligent and patient despite the problems in coping with a group of two such different natures. Slowly, all the Bonese of the Ra-Bon Group came to be as loyal Chan as the Raloans were.

The Raloans soon noticed another unexpected peculiarity life in the new area. Something was happening their family structure. The children conceived back on Ralo were healthy, normal Tierrasized babies, almost always born singly. The first conception at New Ralo City resulted in the births of six smaller babies, and these were followed by multiple births ranging upwards eight and nine children. This strange occurrence was described Chan’s daily microsheet reports transmitted back to the C-PAT headquarters on Ralo.

During discussion of this situation with their new Bonese
friends, Raloans learned that these same birth phenomena had been happening for the three decades of colonization. A man and woman initiated a five-year term contract of marriage, signed papers required in the contract, as they did back on Tierra, agreeing to limit their conceptions to two allowed under Tierra laws. They soon found their two conceptions would result ten or more progeny. The population of Buena-I exploded in a terrifying manner. None of the scientists been able to find what caused the multiple genetic division of cytoplasm. Conceptions had been banned. Frustation of intense degree followed, resulting in illegal births and illegal uses of the dwindling water and food supplies. Complete collapse of the colony growing nearer by the month.

Consternation reigned in the meeting room of the C-PAT when these reports were received Ralo. The wise men knew the water they sent under contract soon would not be sufficient for the growing Bonese population and another contract would have be made. More likely, however, the more numerous Bonese simply would decide to take over the small land and use it as own wellspring from which they would draw the vital liquid for the needs of their industry. To wait longer would be foolhardy; they must defend themselves by acting first.

Word was sent to Chan to go the government of Buena-I and tell them that the contract was canceled; that no more water would be sent from Ralo from that moment, leaving the Bonese to suffer thirst until they would be receptive to the idea of sharing all the mining areas on Buena-I with Raloans. The Raloans knew now of the desperation of the Bonese water situation. They felt they
were in a commanding position, a position of which they were
unaware when they made the first contract agreement.

How poorly the C-PAT evaluated the violent, hostile natures
of the Bonese was shown by the reaction of the Bonese government
officials. Over the protests of Konrad against such action, Chan,
the messenger from the Raloans, was killed on the spot.

This action of violence revealed the anger frustration that
had been building up in the Bonese officials over the impossible
situation on Buena-I. Anxious meetings were being held by Govern-
ment Emergency Population Control Commission, which hastily had
pulled the best scientists away from their previous work at the
hydroponic greenhouses and the water reclamation stations. The
challenge of finding a solution to the problem of the multiple
births had been thrown down them months previously. Each was given
a laboratory and assistants and equipment, with orders work contin-
uously until someone found a clue to the reversal of the situation.
Food brought in to them, more and better food than they would have
rated in their old jobs and far better than that now available to
the general population. Bunks were installed corners of the
laboratories, with work going on until someone slept a few hours to
counter the exhaustion, then awoke return to the computers or
other of the sophisticated equipment that had been assembled
hastily.

Different tangents of investigation began. Some scientists
looked for an unknown factor in the reclaimed water from the sea
that might trigger the phenomena. (The delegation that went to
Ralo to contract for water reported no evidence of multiple births
or overpopulation at that colony. Therefore, no need existed to analyze the water from that source, especially since the multiple births began long before the time water was needed from Ralo.)

Other scientists searched for an answer among the plants that grew in the greenhouses. This path of search was narrow one. All chemicals in which the plants grew came from the original supplies brought in the emigration from Tierra. Only the atmosphere in which they spread their green leaves was a new factor. The harsh sunshine filtered through the polarized panels of the greenhouses to cause the plants grown by scientists to produce bountiful crops.

The most likely source of the unknown agent which caused the human cells divide in so radical a fashion was the sparse vegetation that existed naturally on Buena-1. Some of the lichens and root plants had been accepted into the diet of the Bonese after earlier tests had shown them to be nonpoisonous in nature. One complicating factor of the search the lack laboratory animals to test the results for proof. When the protein distilled from the lichens and roots was broken down for amino acid analysis and two unknowns turned up on the analyzers, there no way to confirm guilt because of the long wait for shipments of rapidly reproducing experimental animals from Tierra.

Speculating that one of the two unknowns was the mysterious factor that was metabolized into the body, absorbed into tissue, and eventually imprinted into the DNA molecules or into the vital RNA of the reproductive cells, the scientists decided that the expediency of the situation demanded "a cure be developed before
the virus ever identified," in the manner of the early pioneers in the field of biochemical medicine during search for knowledge of cancer back in the primitive days of medical science.

This proved the easiest part of the search. A chlorophyll-synthesis inhibitor was developed quickly which would eradicate dangerous vegetation from the areas of human habitation on Buena-I. Results were presented to the commission for consideration. The scientists readied their plant sprayers and prepared large quantities of the inhibitor spray from their stores of chemicals in anticipation of the approval for the operation that was sure to come.

Until this time the problems of government seemed immense, at this inopportune time, the message was brought from Ralo, and the kind, intelligent Chan was killed. Instead of fear, the demands of the Raloans resulted in immediate anger on part of the Bonese officials. Aware of their superiority in numbers and technology to the other colony, the officials sent back their reply, "Never!" much in the manner of large animal swatting away a bothersome insect.

A raider force assembled hastily and sent to the Ra-Bon Group area with orders to capture the Raloan members. This was accomplished; but the force was surprised by fact that some of their own miners who were members of the Ra-Bon Group tried defend the prisoners from capture. When this fact told to the government officials, they refused believe it was true, and merely transferred the Bonese group back to the mining area for future work.

While the raider force was at work, the scientists brought
the good news of the breakthrough through the population problem. Spraying was ordered begin at once. With the population to be stabilized, more water reclamation stations could be built and the Bonese soon would not have depend on the Raloan water source. This was still some time future, however. A message was sent to Ralo describing capture of the group at New Ralo City and demanding the surrender the Raloan government, else all of the hostages would be killed.

Without Chan to counsel or guide them, the other members of the C-PAT were confused about which action to take. Since all acts of aggression had been outlawed far back in the history of Tierra, they had come to abhor deliberate sacrifice of human life. The thought that the deaths of other Raloans might result from their refusal was too much to bear. A message surrender was sent.

All Raloans were moved to Buena-I to work as slaves building water stations. The Bonese did not trust them to be near the mines with the precious ore. The scientists sprayed the offending vegetation throughout Buena-I and within months knew of their success when the multiple births ceased. All Bonese who were not needed to do mining work moved to Ralo to protect the water source and send shipments water to Buena-I, since it would be a long time before capacity of the stations would supply all needs. Konrad, who was not in good grace with the Bonese officials because his long record of counseling a conservative approach to their problems, was left on Buena-I and charged with governing those Bonese who worked in the mines or who guarded Raloan slaves.

Once again the good nature of the Raloans came to surface. Even in slavery, they remained cheerful and worked building and
enlarging the water reclamation stations with a dedication as if project were their own. Soft bodies, used to the ease of life back on Ralo, became hardened and tanned. Contact with their guards was kept always on a friendly basis. Soon both Konrad and the entire Bonese guard force were slipping into same comradeship that had evolved at the earlier experiment of the Ra-Bon Group.

Konrad began to realize that what was needed for the good of all on the planet was a joint operation with both groups working in harmony. The happy natures of the Raloans brought out the best in the; conversely, the physical strength and stamina of the Bonese caused the Raloans to compete and improve physically instead staying soft and indolent.

Konrad his followers among the Bonese decided to try to organize a union and attempt to get the government to accept such a mutually beneficial arrangement. All of the Raloans agreed to this move. Konrad's proposal was sent to Bonese government officials on Ralo. Without waiting to receive a reply, Konrad proclaimed all the slaves to be free citizens granted permission to all the Raloans to live where they wished and to work in the mines alongside the Bonese.

A small group of Raloans who had been friends of Chan held secret reservations about the union they had joined, along with the others, because they felt the Bonese government could not be trusted. And some of the Bonese members of Konrad's union had been members the old Ra-Bon Group. They shared the bitterness the Raloans felt about Chan's death, as well as disrespect for own government. This strange liaison resulted in a hardcore group of
dissidents who felt the violent Bonese could understand only more violence. A secret pledge of retaliation united them into formation of a Saboteur Team. They hoped Konrad's union, to which all belonged, would succeed; but they secretly met to discuss what to do if it did not.

Reaction not long in coming from Ralo. Unexpectedly, the earth shook dust clouds rose on Buena-I, as hidden detonators on the water reclamation stations were triggered by signal from Ralo. The crafty Bonese officials had left explosives hidden in all the stations before they moved government; someone had foreseen the possibility of an insurrection of the Raloan slaves and had directed that this action be taken if the need ever arose to control them by denying them water. Konrad checked the wreckage and found a few undamaged tanks of water amid the complete ruin of all the equipment. This emergency supply would last, with rationing, for while, a short while, but then what would they do?

The action the Bonese officials confirmed the beliefs of those who belonged to the Saboteur Team. After discussion of several courses of action, they chose to load freight missiles with the unused inhibitor and send them toward Ralo, to explode on impact and cover that land with chemicals deadly to all vegetation. They had little water, but plenty of food the greenhouses on Buena-I; Konrad would soon be in a better bargaining position with the Bonese when there was no food but plenty of water on Ralo.

Emergency supplies of water on Buena-I had almost been exhausted and the first drafts of a message of capitulation by Konrad and his followers were being written when a message from
the Bonese government was received. "Food: we are starving, our crops are dead, all vegetation is burned and brown lifeless. Please help us. And in addition to food, we also need water. Please share your water with us. The springs have gone and the rivers have dried up. There has been no rain. When the green vegetation died, something happened to climate. All is dry and barren. Please help us."

Sadly, Konrad replied, "We cannot help you. The people here are dying of thirst. We have sent a message to Tierra to send rescue ships with greatest haste to take us away from this land. We suggest you do likewise. There is little possibility we can survive long enough for them arrive. We are sorry for you."

The fleet of new, superdrive light ships circled the small planet, Gardine-X-35, one more time. The second officer reported to the fleet commander, "We have now searched both land masses with our scanners. There seem to be greenhouses still standing on the larger land mass, but through our viewing prism, they appear to be untended. Both land masses are otherwise devoid vegetation. We regret to report, sir, that there is no sign of human life. We suggest the mission return to Tierra."

"So order it," replied commander. The fleet curved away gracefully, silently; and in seconds disappeared into the darkness of the void.
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This land had been claimed by the 500 colonists who emigrated from the home nation on Tierra many years earlier. First, this land mass seemed the best choice. There were vast deposits of copper ore which was needed desperately to maintain the precarious economic balance between the two supernations that co-existed on Tierra. The Bonese had become hardened, sunbronzed people. Violent natures had developed in the already independent personalities of the pioneer-type colonists. And a great pride in themselves arose as a result of the quantities of copper which were sent back to Tierra in the robot controlled ferry transports.

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They named their new homeland Ralo. It was found to have only meager, low-grade deposits of the necessary copper, but it was a hospitable land, easy to cultivate, and a healthy, growing agrarian economy soon developed. Life was easy the Raloans while they waited for the opportunity to move onto the land area. Early in their days on Ralo, they elected their learned scholars to membership on the Committee for Planning Acquisition of Territory. The need for the rich deposits on Buena-I was to the main concern of these governing officials, who were led by a man named Chan. This goal continued as a never forgotten plan of the officials through the years.

Most Raloans, however, soon ceased to care whether they ever got on Buena-I or not. Life was too good on Ralo. At first they worried because they not mine ore to send back to Tierra to justify their existence a colony, but soon n: Raloans have wanted to the hard labor of miners. Everyone on Ralo became gentleman farmers, enjoying a life of relative ease filled many social occasions. They problems of leadership and government to Chan, to whom they were completely devoted and loyal.

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arrived there under the frequency signal of neutrality. They had an unexpected request: water. They needed water in great quantity from the springs and rivers of Ralo for use on arid, sparsely vegetated Buenai. In return they offered a trade contract, bartering small quantities of both copper ore and finished copper. After the meeting with the Bonese delegation, Chan and the ruling committee of Ralo (now referred to as C-PAT in official telepathic transmissions to their Tierra station) retired to consider the trade contract. Chan felt that this was the golden opportunity to gain a foothold on the mineral of Buenai; most of the others of the C-PAT thought this was useless. The original reason for their emigration had been the production of copper for the home nation. If Bonese were willing to "give" them the copper in exchange for the abundant of Ralo, then let them do all the work. Chan reasoned, insisting that this would be at best a temporary arrangement, that more permanent arrangements should be made. Finally the C-PAT agreed on a plan of action and met again the Bonese delegation.

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only visitor status as far Bonese loyalty was concerned.)

The Bonese delegation heard him out, then went into a conference of their own. What they had not told the Raloans was the immensity of their problem. Nothing could grow in water from the sea. Indeed, it was useless even to cool the coils of their nuclear reactors brought from to power the mining operations, the offices and apartments, and the vast hydroponic "greenhouses" where scientists tended food crops growing with roots in chemicals, from which source came an adequate but dull diet for the Bonese. Complications had arisen during the past two decades that they dare not communicate to the Raloans. The truth of the matter was that there was danger of slowdown or cessation of all productivity in their mining industry. A hastily assembled purification and reclamation station, operating at full capacity, never produced enough to stay ahead of the real problem, lack of water for the rapidly growing population.

The desperate Bonese delegation would have agreed to almost any quantity of ore the Raloans demanded. But the idea of a Raloan infringement on the land of Buena-I had not been anticipated. Arguments and flaring tempers were a unanimous reaction. One member of the delegation, a powerful man named Konrad, finally was able to calm the group and influence them into acceptance of the situation, which seemed inevitable. Konrad's argument was if the number of Raloans kept and the people closely supervised, no great harm could result. Then they returned to the council chamber of the C-PAT, agreeing forthwith to accept the idea proposed by Chan, but sharply limiting the number. An added condition
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After the departure of the Bonese, the immediate task facing the C-PAT was deciding who would leave Ralo for Buena-I. A call for volunteers for the new endeavor resulted in not one recruit. Life was so pleasant, none felt the desire to venture again the unknown. One scholar among the members remembered a time far back in history when sort of a lottery was arranged to enforce military service; so each man and woman was assigned a number and a random selection was made of those who would be required to serve the present need. Such unpleasant grumbling among the chosen Raloans resulted that the members of the C-PAT decided to send half their own number, with their families, to become the Ra-Bon Group.

Raloans who left, under the leadership of Chan, soon found themselves tested by the barren land and the unchanging dry climate. Being used to the long rainy season and fertile greensward of Ralo, they unprepared for the strange absence of all moisture which existed on the larger mass. They named the that was assigned to New Ralo City, in the manner immigrant groups on Tierra in the dark, dim ages of the past had given to new land the name of old familiar places. The sullen, bronze-skinned Bonese miners who joined the Ra-Bon Group added to the strangeness of the place. Soon, however, the pleasant natures of the Raloans emerged, their earlier gloom disappeared, and they sang as they went about the
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The Raloans soon noticed another unexpected peculiarity of in the new area. Something was happening to their family structure. The children conceived on Ralo healthy, normal Tierra-sized babies, almost always born singly. The first conception at New Ralo resulted in the births of six smaller babies, and these were followed by multiple births ranging upwards to eight and nine children. This strange occurrence was described in Chan's daily microsheet reports transmitted back to the C-PAT headquarters on.

Discussion of this situation with their new Bonese friends, the Raloans learned that these same birth phenomena had been happening for the three decades of colonization. A man and woman initiated a five-year term contract of marriage, signed the papers
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the scientists had been able to find what caused the multiple
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How poorly the C-PAT evaluated the violent, hostile natures
of the Bonese was shown by the reaction of the Bonese government officials. Over the protests of Konrad against such action, Chan, the messenger from the Raloans, was killed on the spot.

This action of violence was the result of the anger and frustration that had been building up in the Bonese officials over the impossible situation on Buena-I. Anxious meetings were held by the Government Population Control Commission, which hastily had pulled the scientists away from their previous work at the hydroponic greenhouses and the water reclamation stations. The challenge of finding a solution to the problem of the multiple births had been thrown down to them months previously. Each was given a laboratory and assistants and equipment, with orders to work continuously until someone found a clue to the reversal of the situation. Food was brought in to them, more and better than they would have rated in their old jobs and far better than that now available to the general. Bunks installed in corners of the laboratories, work going on until someone slept a few hours to counter the exhaustion, then awoke to return to the computers or other of the sophisticated equipment that had been.

Different tangents of investigation began. Some scientists looked for an unknown factor in the reclaimed water the sea that might trigger the phenomena. (The delegation that went to Ralo to contract for reported no evidence of multiple births or overpopulation that colony. Therefore, no need existed to analyze the from that source, especially since the multiple births began long before the water was needed from Ralo.)

Other searched for an answer among the plants that grew in
the greenhouses. This path of was a narrow one. All the in which the plants grew came from the original brought in the emigration from. Only the atmosphere in which they spread their green leaves was a new factor. The harsh sunshine filtered through the polarized panels of the greenhouses to cause the plants grown by the scientists to produce bountiful crops.

The most likely source of the unknown agent which caused the human cells to divide in so radical a fashion was the sparse vegetation that existed naturally on Buena-I. Some of the lichens and root plants had been accepted into the diet of the Bonese after earlier tests had shown them to be nonpoisonous in nature. One complicating factor of the search was the lack of laboratory animals to test the results for proof. When the protein distilled from the lichens and roots was broken down amino acid analysis and two unknowns turned up on the analyzers, there was no way to confirm their guilt because of the long wait shipments of rapidly reproducing experimental animals from Tierra.

Speculating that one of the two unknowns was the mysterious factor that was metabolized into the body, absorbed into tissue, and eventually imprinted into the DNA molecules or the vital RNA of the reproductive cells, the scientists that the expediency of the situation demanded "a cure be developed before the virus ever was identified," in the manner of the early pioneers in the field of biochemical medicine during the search for knowledge of cancer back in the primitive days of medical science.

This proved the easiest part of the search. A chlorophyll-synthesis inhibitor was developed quickly which would eradicate
the dangerous vegetation from the areas of human habitation on Buena-I. Results were presented to the commission their consideration. The scientists readied their plant sprayers and prepared large quantities of the inhibitor spray from their stores of chemicals in anticipation of the approval for the operation that was sure to come.

Until this time the problems of the Bonese government seemed immense, this inopportune time, the message was Ralo, and the kind, intelligent Chan was killed. Instead of fear, the demands of the resulted in immediate anger on the part of the Bonese officials. Aware of their superiority in numbers and technology to the other colony, the officials sent back their reply, "Never!" much in the manner of a large animal swatting away a bothersome insect.

A raider force was assembled hastily and sent to the Ra-Bon Group with orders to capture the Raloan members. Was accomplished; but the force was surprised by the fact that some of their own miners who were members of the Ra-Bon Group tried to defend the prisoners from. When was told to the government officials, they refused to believe it was true, and merely transferred the Bonese group back to the mining for future work.

While the raider was at work, the scientists brought the good news of the breakthrough on the population problem. Spraying was ordered to begin at once. With the population to be stabilized, more water reclamation stations could be built and the Bonese soon would not have to depend on the Raloan water source. This was still some time in the future, however. A message was sent to Ralo describing the capture of the group at New Ralo City and
demanding the surrender of the Raloan government, else all of the hostages be killed.

Without Chan to counsel or guide them, the other members of the C-PAT were confused about which action to take. All acts of aggression had been outlawed far in the history of, they had come to abhor the deliberate sacrifice of human life. The thought that the deaths of other Raloans might result from their refusal was too much to bear. A message of surrender was sent.

All Raloans were moved to Buena-I to work as slaves building water stations. The Bonese did not trust them to be near the mines with the precious ore. The scientists sprayed the offending vegetation throughout and within months knew of their success when the multiple births ceased. All Bonese who were needed to do mining moved to Ralo to protect the source and to send shipments of water to Buena-I, since it would be a long time before capacity of the stations would supply all needs. Who was not in good grace with the Bonese officials because of his long record of counseling a conservative approach to their, was left on Buena-I and charged with governing those Bonese who worked in the mines or who guarded the Raloan slaves. Once the good nature of the Raloans came to the surface. Even in slavery, they remained cheerful and worked building and enlarging the water reclamation stations with a dedication as if the project were their own. Soft bodies, used to the ease of back on Ralo, became hardened and tanned. Contact with their guards was kept always on a friendly basis. Soon both Konrad and the entire Bonese guard force were slipping into the same comradeship that had evolved at the earlier experiment of the Ra-Bon Group.
Konrad to realize that what was needed for the good of on the planet was a joint operation with groups working in harmony. The happy natures of the Raloans brought out the best in the Bonese; conversely, the physical strength and stamina of the Bonese the Raloans to compete and improve physically instead of staying soft and indolent.

And his followers among the Bonese decided to try to organize a union and to attempt to get the Bonese government to accept such a mutually beneficial arrangement. All of the Raloans agreed to this move. Konrad's proposal was sent to the Bonese government officials on Ralo. Without waiting to receive a reply, Konrad proclaimed all the slaves to be free citizens and granted permission to all the Raloans to live where they wished and to work in the mines alongside the Bonese.

A small group of Raloans who had been friends of Chan held secret reservations about the union they had joined, along with the others, because they the Bonese government could not be trusted. And some of the Bonese members of Konrad's had members of the old group. They shared the bitterness the Raloans felt about Chan's death, as well as disrespect for their own government. Strange liaison resulted in a hardcore group of dissidents who felt that the violent Bonese could understand only more violence. A secret pledge of retaliation united them into formation of a Saboteur Team. They hoped Konrad's union, to which they all belonged, would succeed; but they secretly met to discuss what to do did not.

Reaction was not long in coming Ralo. Unexpectedly, the
earth shook and dust clouds rose on Buena-I, as hidden detonators on the water reclamation stations were triggered by signal from Ralo. The crafty Bonese officials had left explosives hidden in all the before they moved the government; someone had foreseen the possibility of an insurrection of the Raloan slaves and had directed that this action be taken if the need ever arose to control by denying them water. Konrad checked the wreckage and found a few undamaged tanks of water amid the complete ruin of all the equipment. This emergency supply would last, with rationing, for a while, a short while, but then what would they do?

The action of the Bonese officials confirmed the beliefs of those who belonged to the Saboteur Team. After discussion of several courses of action, they chose to load freight missiles with the unused inhibitor and send them toward Ralo, to explode on impact and cover that land with chemicals deadly to all. They had little water, but plenty of food in the greenhouses on Buena-I; Konrad would soon be in a better bargaining position with the Bonese when there was food but plenty of water on Ralo.

Emergency supplies of on Buena-I had almost been exhausted and the first drafts of a message of capitulation by and his followers were being written when a message from the Bonese government was received. "We are starving, our crops are dead, all vegetation is burned and brown and lifeless. Help us. And in addition to food, we also need water. Please share your with us. The springs have gone and the rivers have dried up. There has lain. When the green vegetation died, something happened to the climate. All is dry and barren. Please help."
Sadly, Konrad replied, "We cannot help you. The people here are dying of thirst. We have a message to send rescue ships with greatest haste to take us away from. We suggest you do likewise. There is little possibility that we can survive long enough for to arrive. We are sorry for you."

The fleet of new, superdrive light ships circled the small planet, Gardine-X-35, one more time. The second officer reported to the fleet commander, "We now searched both land masses with our scanners. There seem to be greenhouses still standing on the larger land mass, but through our viewing prism, they appear to be untended. Both land masses are otherwise devoid of vegetation. We regret to report, sir, that there is no sign of human life. We suggest the mission to Tierra."

"So order it," replied the commander. The curved away gracefully, silently; and in seconds disappeared into the darkness of the void.
A point of decision had been in the long record of population problems of the citizens of Buena-I. Like the increase in number of electrically-charged particles in an atomic pile until that moment when a critical mass was achieved and nuclear fission was eminent, so the numbers of Bonese had upwards on the statistical charts of the Government Emergency Population Control Commission. Multiple births were the problem. Multiple births which at first had seemed the to the problem of how to populate and work productively the huge land mass of Buena-I.

This land had been claimed by the 500 colonists who from the home nation on Tierra many years earlier. At first, this land mass seemed the best choice. There were deposits of copper ore which was needed desperately to maintain the precarious economic balance between the two supernations that co-existed on Tierra. The Bonese had become hardened, sunbronzed people. Violent natures had developed in the already independent personalities of the pioneer-type colonists. And a great pride in themselves arose as a result of the large quantities of copper which were sent back to Tierra in the robot controlled ferry transports.

The planet was of most unusual geography: six-tenths ocean, higher than any ever known in salinity and mineral content; three-tenths dry, mountainous land mass, rich in minerals; one-tenth fertile, rain-washed land on the north area of the planet.
When the colony of emigrants from the opposing nation on Tierra arrived at planet Gardine-X-35, they came late because of a defect in their nuclear propulsion system that had not been anticipated by scientists of their home nation. The big land mass was claimed already and named Buena-I. All they could do was to stake a claim on the smaller land mass on the planet.

They named their new Ralo. It was found to have only meager, low-grade deposits of the copper ore, but it was a land, easy to cultivate, and a healthy, growing agrarian economy soon developed. Life was easy for the Raloans while they waited for the opportunity to move onto the large land area. Early in their days on Ralo, they elected their most learned scholars to membership on the Committee for Planning Acquisition of Territory. The need for the rich ore deposits on Buena-I was to be the main concern of these governing officials, who were led by a man named Chan. This goal continued as a never forgotten plan of the officials through the.

Most Raloans, however, soon ceased to care whether they ever got land on Buena-I or not. Life was too good on Ralo. At first they worried because they could not mine ore to send back to Tierra to justify their existence as a colony, but soon no Raloans would have wanted to do the hard labor of miners. Everyone on Ralo became gentleman farmers, enjoying a life of relative ease filled with many social occasions. They left all problems of leadership and government to Chan, to whom they were completely devoted and loyal.

After about three decades had passed uneventfully but on Ralo, a delegation from the Bonese government arrived there under
the frequency signal of neutrality. They had an unexpected request: water. They needed water in great quantity from the and rivers of Ralo for use on arid, sparsely vegetated Buena-I. In return they a trade contract, bartering small quantities of both copper ore and finished copper. After the meeting with the Bonese delegation, Chan and the ruling committee of Ralo (now referred to as C-PAT in official telepathic transmissions to their Tierra station) retired to consider the trade contract. Chan felt that this was the golden opportunity to a foothold on the mineral rich land of Buena-I; most of the of the C-PAT this was useless now. The original reason for their emigration had been the production of copper for the home nation. If Bonese were to "give" them the copper in exchange for the abundant water of Ralo, then them do all the work. Chan reasoned with them, insisting that this would be at best a temporary, that more permanent should be made. Finally the C-PAT agreed on a of action and met again with the Bonese delegation.

The gentle, patient Chan stood before the, muscular Bonese men and gave them the terms of the Raloan contract. They were ready to formulate the agreement of exchange, provided a small of Raloans be allowed to go to Buena-I to live and to form a receiving station for the ferry missiles that would bring in the water and take out the minerals. The group would live in an area separate from the Bonese cities, but would conform to the laws of Buena-I, with deportation back to Ralo to be in order for any lawbreaker in the colony. (Chan said nothing of the fact that the Raloans surely would retain their own citizenship and maintain
only visitor status as far as Bonese loyalty was concerned.)

The Bonese delegation heard him out, then went into a conference of their own. What they had not told the Raloans was the immensity of their problem. Nothing could grow in water from the sea. Indeed, it was useless even to cool the coils of their nuclear reactors brought from Tierra to power the mining operations, the offices and apartments, and the vast "greenhouses" where scientists food crops growing with roots in chemicals, from which source came an adequate but dull diet for the Bonese. Complications had arisen during the two decades that they dare not communicate to the Raloans. The truth of the matter was that there was danger of slowdown or cessation of all productivity in their mining industry. A hastily assembled water purification and reclamation station, operating at full capacity, never produced enough to stay ahead of the real problem, lack of water for the rapidly growing population.

The desperate Bonese delegation would have agreed to almost any quantity of ore the Raloans demanded. But the idea of a Raloan infringement on the land of Buena-I had not been anticipated. Violent arguments and tempers were a unanimous reaction. One of the delegation, a powerful man named Konrad, finally was to calm the group and influence them into acceptance of the situation, which seemed inevitable. Konrad's argument was if the number of Raloans were kept small and the people closely supervised, no great harm could result. Then they returned to the council of the C-PAT, agreeing forthwith to accept the idea proposed by Chan, but sharply limiting the number. An added condition was that a number
of Bonese, equal to the Raloans, must live in the area set aside on Buena-I to form a Ra-Bon Group. The Bonese would supervise transshipment of the Raloan water to Bonese population centers, and help with the of the mineral ore for the return shipment. The contract was then signed.

After the of the Bonese, the task facing the C-PAT was who would leave Ralo for Buena-I. A call for for the new resulted in not one recruit. Life was so pleasant, none felt the desire to venture again into the. One scholar among the C-PAT members remembered a time far back in history when some sort of a lottery was arranged to enforce military service; so each man and woman was assigned a number and a random selection was made of those who would be required to the need. Such unpleasant grumbling among the chosen Raloans resulted that the members of the C-PAT themsevles decided to send half their own number, with their families, to become the Ra-Bon Group.

Those Raloans who left, under the leadership of Chan, soon found themselves tested by the barren land and the unchanging dry climate. Being used to the long rainy season and fertile of Ralo, they were unprepared for the strange of all moisture which existed on the larger land mass. They named the area that was assigned to them New Ralo City, in the manner immigrant groups on Tierra in the dim ages of the past had given to new land the name of old familiar places. The sullen, bronze-skinned Bonese miners who joined the Ra-Bon Group added to the strangeness of the place. Soon, however, the pleasant natures of the Raloans emerged, their earlier gloom disappeared, and they as they went about the tiring
work of unloading the water cargo.

This was a new and interesting experience for the Bonese miners. They were used to only harsh commands or silence during work periods in the mines. All food for the Raloans had to come from Ralo with the water shipments. The Bonese had grown tired of the monotonous diet of food and they delighted in the opportunity to share the food from the crops that grew on Ralo. They watched the Raloan farmers try unsuccessfully to make some plants grow as they did with such ease on Ralo. The Bonese decided to show them how to find lichens which were edible that grew in shady spots. They appreciated the happy attitudes of the Raloans and their lack of anger. Most of all they admired Chan, who was gentle, firm when the occasion demanded, who was intelligent and patient the problems in coping with a group of two such different natures. Slowly, all the Bonese of the Ra-Bon Group came to be as loyal to Chan as the Raloans were.

The Raloans soon noticed another unexpected peculiarity of life in the new area. Was happening to their family structure. The children conceived back on Ralo were healthy, normal Tierra-sized babies, almost always born. The first conception at New Ralo City resulted in the births of six smaller babies, and these were followed by multiple births ranging upwards to eight and nine children. This strange occurrence was described in Chan's daily microsheet reports transmitted back to the C-PAT headquarters on Ralo.

During discussion of this situation with their new Bonese friends, the Raloans learned that these same phenomena had been
happening for the three decades of colonization. A man and woman initiated a five-year term contract of marriage, signed the papers required in the contract, as they did back on Tierra, agreeing to limit their conceptions to the two allowed under Tierra laws. They soon found that their two conceptions would result in ten or more. The population of Buena-I had exploded in a manner. None of the scientists had been able to find what caused the multiple genetic division of cytoplasm. Conceptions had been banned; frustration of intense degree, resulting in illegal births and illegal uses of the dwindling water and food supplies. Complete collapse of the colony was growing nearer by the month.

Consternation reigned in the meeting room of the C-PAT when these reports were received on Ralo. The wise men knew that the water they sent under contract soon would not be sufficient for the growing Bonese population and another contract would have to be made. More, however, the more numerous Bonese simply would decided to take over the small land and use it as their own wellspring from which they would draw the liquid for the of their industry. To wait longer would be foolhardy; they must themselves by acting first.

Word was sent to Chan to go to the government of Buena-I and tell them that the contract was canceled; that no more water would be sent from Ralo from that moment on, leaving the Bonese to suffer thirst until they would be receptive to the idea of sharing all the mining areas on Buena-I with Raloans. The Raloans knew now of the desperation of the Bonese water situation. They felt they were in a commanding position, a position of which they
were unaware when they made the first contract agreement.

How poorly the C-PAT evaluated the violent, hostile natures of the Bonese was shown by the reaction of the Bonese government officials. Over the protests of Konrad such action, Chan, the messenger from the Raloans, was killed on the spot.

This action of violence was the result of the anger and frustration that had been building up in the Bonese officials over the impossible situation on Buena-I. Anxious meetings were being held by the Government Emergency Population Control Commission, which hastily had pulled the best scientists away from their previous work at the hydroponic greenhouses and the water reclamation stations. The challenge of finding a solution to the problem of the multiple births had been thrown down to them months. Each was a laboratory and assistants and equipment, with to work until someone found a clue to the reversal of the situation. Food was brought in to them, more and better food than they would have rated in their old jobs and far better than that now available to the general population. Bunks were installed in corners of the laboratories, with work going on until someone slept a few hours to counter the exhaustion, then awoke to return to the computers or other of the equipment that had been assembled hastily.

Different tangents of investigation began. Some scientists looked for an unknown factor in the reclaimed water from the sea that might trigger the. (The delegation that went to Ralo to contract for water reported no evidence of multiple births or overpopulation at that colony. Therefore, no need existed to
analyze the water from that source, since the multiple births began long before the time water was needed from Ralo.)

Other scientists for an answer among the plants that grew in the greenhouses. This path of search was a narrow one. All the chemicals in which the plants grew came from the original supplies brought in the emigration from Tierra. Only the atmosphere in which they spread their green leaves was a new factor. The sunshine filtered through the polarized panels of the greenhouses to cause the plants grown by the scientists to produce bountiful crops.

The most likely source of the unknown agent which caused the human cells to in so radical a was the sparse vegetation that existed naturally on Buena-I. Some of the lichens and root plants had been accepted into the diet of the Bonese after earlier tests had them to be nonpoisonous in nature. One complicating factor of the search was the lack of laboratory animals to test the results for proof. When the protein distilled from the lichens and roots was broken down for amino and two unknowns turned up on the analyzers, there was no way to confirm their guilt because of the long wait for shipments of rapidly reproducing experimental from Tierra.

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Konrad began to realize that what was needed for the good of all on the planet was a joint operation with both groups working in harmony. The happy natures of the Raloans brought out the best in the Bonese; conversely, the strength and stamina of the Bonese caused the Raloans to compete and improve physically instead of staying soft and indolent.

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Emergency supplies of water on Buena-I had almost been
exhausted and the first drafts of a message of capitulation by Konrad and his followers were being written when a message from the Bonese government was received. "Food: we are starving, our crops are dead, all vegetation is burned and and lifeless. Please help us. And in addition to food, we also need water. Please your water with us. The springs have and the rivers have dried up. There has been no rain. When the green vegetation died, something happened to the climate. All is dry and barren. Please help us."

Sadly, Konrad replied, "We cannot help you. The people here are dying of thirst. We have sent a message to Tierra to send rescue ships with haste to take us away from this land. We suggest you do. There is little possibility that we can survive long enough for them to. We are sorry for you."

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"So order it," replied the commander. The fleet curved away gracefully, silently; and in seconds disappeared into the darkness of the void.
Buena-I and Ralo

30% High Frequency Deleted Version

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When colony of 1000 emigrants from the opposing nation Tierra arrived at planet Gardine-X-35, they came late because a defect in their nuclear propulsion system not been anticipated by scientists of their home nation. Big land mass was claimed already named Buena-I. All could do was to stake a claim on the smaller land mass on planet.

Named their new homeland Ralo. It found to have only meager, low-grade deposits of the necessary copper ore, but it was a hospitable land, easy to cultivate, and a healthy, growing agrarian economy soon developed. Life was easy for Raloans while waited for opportunity to move onto the large land area. Early in their days Ralo, they elected their most learned scholars membership the Committee for Planning Acquisition of Territory. Need for the rich ore deposits on Buena-I be the main concern these governing officials, who were led by man named Chan. This goal continued as a never forgotten plan of officials through years.

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After about three decades had passed uneventfully but pleasantly on Ralo, a delegation from the government arrived
there under frequency signal of neutrality. They an unexpected request: water. They needed water in great quantity from springs rivers of Ralo for use on arid, sparsely vegetated Buena-I. In return offered a trade contract, bartering small quantities both copper ore and finished copper. After the meeting with the delegation, Chan ruling committee Ralo (now referred to as C-PAT in official telepathic transmissions to their Tierra station) retired to consider the trade contract. Chan felt that this was the golden opportunity to gain foothold on the mineral rich land of Buena-I; most the others of the C-PAT thought this was useless now. The original reason for emigration been production copper for the home nation. If Bonese were willing to "give" them the copper exchange for the abundant water of Ralo, then let them do all work. Chan reasoned with them, insisting this would be at best a temporary arrangement, that more permanent arrangements should be made. Finally the C-PAT agreed a plan of action met again with the Bonese delegation.

The gentle, patient Chan stood before taller, muscular Bonese men and gave them terms of the Raloan contract. Were ready to formulate the agreement of exchange, provided a small settlement of Raloans be allowed go to Buena-I live and form a receiving station for ferry missiles that would bring the water and take out minerals. The group would live in an area separate from Bonese cities, but would conform to laws Buena-I, with deportation back to Ralo to be order for any lawbreaker in colony. (Chan said nothing of the fact that the Raloans surely would retain own citizenship and maintain only visitor status.
as far as loyalty was concerned.)

Bonese delegation heard him out, then went into conference their own. What they had not told Raloans was the immensity their problem. Nothing could grow in water from the sea. Indeed, it was useless even cool the coils of nuclear reactors brought from Tierra to power the mining operations, the offices apartments, and the vast hydroponic "greenhouses" where scientists tended food crops growing with roots in chemicals, from which source came an adequate but dull diet for Bonese. Complications had arisen during the past two decades that they dare not communicate to the Raloans. The truth the matter was there was danger of slowdown or cessation of all productivity in their mining industry. A hastily assembled water purification and reclamation station, operating at full capacity, never produced enough to stay ahead of the real problem, lack of water for rapidly growing population.

The desperate delegation would have agreed to almost any quantity ore the Raloans demanded. But the idea of a Raloan infringement on the land of Buena-I had not been anticipated. Violent arguments and flaring tempers were a unanimous reaction. One member of the delegation, powerful man named Konrad, finally was able to calm the group and influence them into acceptance of the situation, which seemed inevitable. Konrad's argument was if the number of Raloans were kept small the people closely supervised, no great harm could result. Then returned to the council chamber of the C-PAT, agreeing forthwith accept the idea proposed by Chan, but sharply limiting the number. An added
condition was that a number of Bonese, equal to the Raloans, must live in the area set aside on Buena-I to form Ra-Bon group. The would supervise transshipment of Raloan water to population centers, and help with loading of the mineral ore for return shipment. The contract was then signed.

After the departure of the Bonese, immediate task facing C-PAT was deciding who would leave Ralo for Buena-I. A call for volunteers for the new endeavor resulted in not one recruit. Life was so pleasant, none felt desire to venture again into the unknown. One scholar among the C-PAT members remembered time far back in history when some sort lottery was arranged to enforce military service; so each man and woman assigned a number and random selection made of those who would be required to serve the present need. Such unpleasant grumbling among the chosen Raloans resulted that the members of the C-PAT themselves decided to send half their own number, with families, become the Ra-Bon Group.

Those Raloans who left, under the leadership of Chan, soon found themselves tested by the barren land and the unchanging dry climate. Being used long rainy season fertile greensward Ralo, they were unprepared for the strange absence of all moisture which existed the larger land mass. They named area was assigned them New Ralo City, in manner immigrant groups on Tie-ra in the dark, dim ages of the past had given to new land name old familiar places. The sullen, bronze-skinneu Bonese miners who joined the Ra-Bon Group added strangeness of the place. Soon, however, the pleasant natures the Raloans emerged,
their earlier gloom disappeared, and sang as they went about tiring work unloading the water cargo.

This a new and interesting experience for the miners. They were used to only harsh commands or silence during work periods in the mines. All food for the Raloans to come from Ralo with the water shipments. The Bonese had grown tired of monotonous diet greenhouse food and they delighted in the opportunity to share fine food from the crops grew on Ralo. They watched the Raloan farmers try unsuccessfully to make some plants grow as they did with such ease Ralo. The Bonese decided to show them how find lichens which were edible grew in shady spots. They appreciated the happy attitudes Raloans and their lack of anger. Most of all admired Chan, who was gentle, yet firm when occasion demanded, who was intelligent patient despite the problems coping with a group of two such different natures. Slowly, all the Bonese of the Ra-Bon-Group came to be as loyal to Chan as the Raloans were.

The Raloans soon noticed another unexpected peculiarity of life in the new area. Something was happening to family structure. The children conceived back Ralo were heathy, normal Tierra-sized babies, almost always born singly. The first conception at New Ralo City resulted in births six smaller babies, these were followed by multiple births ranging upwards eight, nine children. This strange occurrence described in Chan's daily microsheet reports transmitted back to C-PAT headquarters on Ralo.

During discussion this situation with new friends, the
Raloans learned these same birth phenomena had been happening for the three decades colonization. A man woman initiated a five-year term contract of marriage, signed the papers required in the contract, as did back on Tierra, agreeing to limit their conceptions that two allowed under Tierra laws. They soon found that their two conceptions would result in ten or more progeny. The population Buena-I exploded terrifying manner. None of the scientists had been able find what caused multiple genetic division of cytoplasm. Conceptions had been banned; frustration of intense degree followed, resulting illegal births and illegal uses of the dwindling water and food supplies. Complete collapse the colony growing nearer by month.

Consternation reigned the meeting room C-PAT when these reports were received on Ralo. Wise men knew that water sent under contract soon would not be sufficient for the growing population and another contract would have be made. More likely, however, the more numerous simply would decide to take over the small land and use it as their own wellspring from which they would draw the vital liquid for the needs industry. To wait longer would be foolhardy; they must defend themselves by acting first.

Word was sent Chan go the government Buena-I and tell them that the contract was canceled; that no more water would be sent from Ralo from that moment, leaving the Bonese to suffer thirst until would be receptive to the idea of sharing all the mining areas on Buena-I with Raloans. Raloans knew row of desperation of the Bonese water situation. They felt they were in a
commanding position, a position which they were unaware when they made the first contract agreement.

How poorly the C-PAT evaluated violent, hostile natures of the Bonese shown by the reaction the Bonese government officials. Over protests of Konrad against such action, Chan, the messenger from the Raloans, was killed on the spot.

This action of violence was the result of the anger and frustration that had been building up the Bonese officials over impossible situation Buena-I. Anxious meetings were being held by the Government Emergency Population Control Commission, which hastily had pulled the best scientists away from their previous work at the hydroponic greenhouses the water reclamation stations. The challenge of finding a solution to problem of multiple births been thrown down them months previously. Each was given laboratory assistants and equipment, with orders to work continuously until someone found clue to the reversal of the situation.

Food brought in them, more and better food than they would have rated in their old jobs far better than now available to the general population. Bunks were installed in corners of the laboratories, with work going until someone slept a few hours to counter exhaustion, then awoke return to the computers or other of sophisticated equipment that had been assembled hastily.

Different tangents investigation began. Some scientists looked for an unknown factor in the reclaimed water from the sea that might trigger the pheonomena. (The delegation went to Ralo to contract for water reported no evidence multiple births or overpopulation at that colony. Therefore, no need existed to
analyze water from that source, especially since the multiple births began long before the time water was needed from Ralo.

Other scientists searched for an answer among the plants that grew in greenhouses. This path of search was a narrow one. All the chemicals in which the plants grew came from original supplies brought the emigration from Tierra. Only the atmosphere in which they spread their green leaves was a new factor. The harsh sunshine filtered through the polarized panels of the greenhouses to cause plants grown by scientists to produce bountiful crops.

The most likely source of unknown agent which caused human cells to divide in so radical fashion was sparse vegetation that existed naturally on Buena-I. Some of the lichens and root plants had been accepted into the diet the after earlier tests had shown them to be nonpoisonous in nature. One complicating factor of the search was lack of laboratory animals to test the results for proof. When the protein distilled from the lichens and roots was broken down for amino acid analysis and two unknowns turned up the analyzers, there no way to confirm guilt because long wait for shipments of rapidly reproducing experimental animals from Tierra.

Speculating that one the two unknowns was mysterious factor was metabolized into the body, absorbed into tissue, eventually imprinted into the DNA molecules or into the vital RNA the reproductive cells, scientists decided that expediency the situation demanded "a cure be developed before the virus ever identified," in manner of the early pioneers the field of
biochemical medicine during the search for knowledge of cancer back in the primitive days of medical science.

This proved easiest part of the search. A chlorophyll-synthesis inhibitor was developed quickly which would eradicate the dangerous vegetation from the areas of human habitation on Buena-I. Results were presented to commission for their consideration. The scientists readied their plant sprayers prepared large quantities of the inhibitor spray from their stores chemicals anticipation the approval for the operation that was sure come.

Until this time the problems of the Bonese government seemed immense, at this inopportune time, the message was brought from Ralo, the kind, intelligent Chan killed. Instead fear, the demands of the Raloans resulted immediate anger on the part the Bonese officials. Aware of their superiority in numbers and technology to the other colony, the officials sent back their reply, "Never!" much in manner of large animal swatting away bothersome insect.

A raider force was assembled hastily and sent to the Ra-Bon Group area with orders to capture Raloan members. This was accomplished; but the force was surprised by the fact that some of their own miners who were members of Ra-Bon Group tried defend prisoners from capture. When this fact was told to the government officials, refused to believe it was true, and merely transferred the group back to the mining area for future work.

While the raider force was at work, the scientists brought the good news the breakthrough on population problem. Spraying
was ordered to begin at once. With population to be stabilized, more water reclamation stations could be built Bonese soon would not have to depend on the Raloan water source. This was still some time in the future, however. A message was sent Ralo describing the capture of the group at New Ralo City demanding surrender the Raloan government, else all of the hostages would be killed.

Without Chan to counsel or guide them, the other members of the C-PAT were confused about which action take. Since all acts aggression had been outlawed far back in the history of Tierra, come to abhor deliberate sacrifice of human life. Thought that the deaths of other Raloans might result from their refusal was too much to bear. A message of surrender was sent.

All Raloans were moved to Buena-I to work as slaves building water stations. The Bonese did not trust them to be near mines with the precious ore. The scientists sprayed offending vegetation throughout Buena-I within months knew of their success when the multiple births ceased. All who were not needed to do mining work moved to Ralo to protect the water source send shipments of water Buena-I, since it would be a long time before capacity of stations would supply all needs. Konrad, who was not in good grace with Bonese officials because of his long record of counseling a conservative approach their problems, left on Buena-I charged with governing those who worked in the mines or who guarded the Raloan slaves.

Once again the good nature of Raloans came to the surface. Even slavery, they remained cheerful and worked building
enlarging the water reclamation stations with dedication as if the project were their own. Soft bodies, used the ease of life back Ralo, became hardened tanned. Contact with their guards was kept always a friendly basis. Soon both Konrad and entire Bonese guard force were slipping into same comradeship evolved at earlier experiment of Ra-Bon Group.

Konrad began to realize what was needed for the good all on the planet a joint operation with both groups working in harmony. Happy natures the Raloans brought out the best the Bonese; conversely, physical strength and stamina the caused the Raloans to compete and improve physically instead of staying soft and indolent.

Konrad and his followers among the decided to try to organize union to attempt to get Bonese government to accept such mutually beneficial arrangement. All of the Raloans agreed to this move. Konrad's proposal was sent to the Bonese government officials Ralo. Without waiting to receive a reply, Konrad proclaimed all slaves to be free citizens and granted permission to all Raloans to live where they wished and to work in the mines alongside the Bonese.

Small group of Raloans who had been friends Chan held secret reservations about the union they had joined, along with the others, because they felt the Bonese government could not be trusted. And some the Bonese members of Konrad's union had been members of the old Ra-Bon Group. They shared the bitterness the Raloans felt about Chan's death, as well as disrespect for their own government. This strange liaison resulted in hardcore group
of dissidents who felt that violent could understand only more violence. Secret pledge of retaliation united them into formation of a Saboteur Team. Hoped Konrad's union, to which they all belonged, would succeed; but they secretly met to discuss what to do if it did not.

Reaction not long in coming from Ralo. Unexpectedly, the earth shook and dust clouds rose on Buena-I, as hidden detonators on water reclamation stations were triggered by signal from Ralo. Crafty Bonese officials had left explosives hidden in all the stations before they moved the government; someone had foreseen the possibility of an insurrection of the Raloan slaves directed that this action be taken if need ever arose to control them by denying them water. Konrad checked the wreckage and found few undamaged tanks of water amid the complete ruin of all equipment. This emergency supply would last, with rationing, for while, a short while, but then what would do?

The action of the Bonese officials confirmed the beliefs of those who belonged to the Saboteur Team. After discussion of several courses of action, they chose to load freight missiles with the unused inhibitor and send them toward Ralo, to explode on impact and cover land with chemicals deadly to all vegetation. They little water, but plenty of food the greenhouses Buena-I; Konrad would soon be a better bargaining position with the Bonese when there was no food but plenty of water on Ralo.

Emergency supplies of water on Buena-I almost been exhausted and first drafts of a message of capitulation by Konrad and his followers were being written when message from the government was
received. "Food: we are starving, our crops are dead, all vegetation is burned and brown lifeless. Please help us. And in addition to food, we also need water. Please share your water with us. Springs have gone and the rivers have dried up. There has been no rain. When green vegetation died, something happened climate. All is dry and barren. Please help us."

Sadly, Konrad replied, "We cannot help you. The people here are dying of thirst. We have sent a message Tierra send rescue ships with greatest haste take us away from this land. We suggest you do likewise. There is little possibility that we can survive long enough for them to arrive. We are sorry for you."

Fleet of new, superdrive light ships circled the small planet, Gardine-X-35, one more time. Second officer reported fleet commander, "We have now searched both land masses with our scanners. There seem to be greenhouses still standing on the larger land mass, but through our viewing prism, they appear to be untended. Both land masses are otherwise devoid of vegetation. We regret report, sir, that there is no sign human life. We suggest the mission return Tierra."

"So order it," replied the commander. The fleet curved away gracefully, silently; in seconds disappeared into darkness of the void.
A point of decision had reached in the record of problems of the citizens of. Like the increase in number of electrically-charged particles in an atomic pile until that moment a critical mass was achieved and nuclear fission was eminent, so the numbers of Bonese had edged upwards on the statistical charts of the Government Population Control Commission. Births were the problem. Multiple births which at had seemed the answer to the problem of how to populate and work productively the huge land mass of Buena-I.

This had claimed by the 500 colonists who emigrated from the home nation on Tierra many years earlier. At first, this seemed the choice. Vast deposits of copper ore was desperately to maintain the precarious economic balance between the two supernations that co-existed on Tierra. The Bonese had become hardened, sun-bronzed people. Had developed in the already independent personalities of the pioneer-type colonists. And a great pride in themselves arose as a of the large of were back to in the robot controlled ferry transports.

The planet was of unusual geography: six-tenths ocean, higher any known in salinity and mineral content; three-tenths dry, mountainous land mass, rich in minerals; one-tenth fertile, rain-washed on the north polar area of the planet.

The colony of 1000 emigrants the opposing on Tierra arrived
at planet Gardine-X-35, they came late of a defect in their propulsion system that had not been anticipated by scientists of their home nation. The big land mass was claimed already and named. All they could was to stake a claim on the smaller land mass on the planet.

They named their new homeland Ralo. It was to have meager, low-grade deposits of the necessary copper, was a hospitable, easy to cultivate, and a healthy, growing agrarian economy soon developed. Life was easy for the Raloans while they waited the to move onto the. Early in their days on Ralo, they elected their most learned scholars to membership on the Committee for Planning Acquisition of Territory. The for the rich ore deposits on Buena-I was to be the main concern of these governing officials, who were led by a named Chan. This goal continued a never forgotten plan of the through the years.

Most Raloans, however, soon ceased to care whether they ever got on Buena-I or not. Life was too on Ralo. At first they worried because they could mine ore to send back to Tierra to justify their existence as a colony, but soon no Raloans would have wanted to the hard labor of miners. Everyone on Ralo became gentleman farmers, enjoying a of relative filled with many social occasions. They of leadership and to Chan, to whom they were completely devoted and loyal.

After about three had passed uneventfully but pleasantly on Ralo, a delegation the Bonese government arrived there under the frequency signal of neutrality. They had unexpected request. They water in great quantity the springs and rivers of Ralo for
use on arid, sparsely vegetated Buena-I. In return they offered a trade contract, bartering quantities of an finished copper. The meeting with the Bonese delegation, and the ruling committee of Ralo (now referred to C-PAT in official telepathic transmissions to their Tierra) retired to consider the trade contract. Felt that this was the golden opportunity to gain a foothold on the mineral land of Buena-I; of the others of the thought was useless now. The original reason for their emigration had been the production of copper for the nation. If Bonese were willing to "give" them the copper in exchange the abundant of Ralo, then let all the work. Reasoned with them, insisting that would be best a temporary arrangement, that more permanent arrangements should be made. Finally the agreed on a plan of and met again the Bonese delegation.

The gentle, patient Chan stood before the taller, muscular Bonese men and gave them the terms of the Raloan contract. They were ready to formulate the agreement of exchange, provided a small settlement of allowed to go to Buena-I to live and to form a receiving for the ferry missiles that would bring in the water and take the minerals. The group would live in area separate the Bonese cities, but conform to the laws of Buena-I, with deportation back to Ralo to be in order for any lawbreaker in the colony. (Chan said nothing of the fact that the Raloans surely would retain their own citizenship and maintain only visitor status far as Bonese loyalty was concerned.)

The Bonese delegation heard him out, then went into a conference of their own. What they had told the Raloans was the
immensity of their. Nothing could grow in from the sea. Indeed, was useless even to cool the coils of their reactors Tierra to power the mining operations, the offices and apartments, and the vast hydroponic "greenhouses" where scientists tended food crops growing roots in chemicals, from which source came adequate dull to the Bonese. Complications had arisen during the past two decades that they dare not communicate to the Raloans. The truth of the matter was that was danger of slowdown or cessation of all productivity in their industry. A assembled water purification and reclamation, operating at full capacity, never produced enough to stay ahead of the real problem, of water for the rapidly growing.

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After the departure of the Bonese, the immediate task facing the was deciding who would leave Ralo for Buena-I. A call for volunteers for the new endeavor resulted in not one recruit. Was so pleasant, none felt the desire to venture into the unknown.

One scholar the C-PAT members remembered a time far back in history when some sort of a lottery was arranged to enforce military service; each man and woman was assigned a and a random selection was made of those who required to serve the present need. Such unpleasant grumbling among the chosen Raloans resulted that the of the C-PAT themselves decided to send half their own number, their families, to become the Ra-Bon.

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This was a new and interesting experience for Bonese miners. They were used to only harsh commands silence work periods in the. All food the Raloans had to come from with the water shipments. The Bonese had grown tired of the monotonous of greenhouse food and they delighted in the opportunity to share the fine food from
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Discussion of this situation their Bonese friends, the learned that these same birth phenomena had been happening for the three decades of colonization. A man and woman initiated a five-year term of marriage, signed the papers required in the contract, as they back on, agreeing to limit their conceptions to the two allowed under laws. They found that their would result in ten or more progeny. The of Buena-I had exploded in a terrifying manner. None of the had been able to find what caused the multiple genetic division of cytoplasm. Conceptions had been banned; frustration of intense degree followed, resulting
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of on Ralo.

Supplies of water on had exhausted and the first drafts of
a of capitulation Konrad and his followers being written a
message from the Bonese was received. "Food: we are starving,
crops dead, is burned and brown and lifeless. Help us. And in
addition to food, also water. Share your water us. The springs
have gone and the rivers have dried. Has been no rain. When
the green died, something happened to the climate. Is and
barren. Please help us."

Sadly, replied, "Cannot help. The people here are dying of
thirst. Sent a to Tierra to rescue ships with greatest haste
to take away from. We suggest you do likewise. There is little
possibility that we can survive long enough for them to arrive.
Are sorry you."

The fleet of new, superdrive light ships circled the small
planet, Gardine-X-35, one time. The second officer reported to
the fleet commander, "Have now searched both land masses with
our scanners. Seem to be still standing on the larger mass, but
through our viewing prism, they appear to untended. Both land
masses are otherwise devoid of vegetation. We regret to report,
sir, that is sign of human. Suggest the mission return to
Tierra."
"Order it," replied the commander. The fleet curved away gracefully, silently; and in seconds disappeared into the darkness of the void.
A point of had been in the long record of population problems of the citizens of Buena-I. Like the increase in number of electrically-charged particles in an atomic until that when a critical mass was and nuclear fission was, so the numbers of Bonese had upwards on the statistical charts of the Government Emergency Population Control Commission. Multiple births were the problem. Multiple births which at first had seemed the answer to the problem of how to and work the huge land mass of Buena-I.

This land had been claimed by the 500 colonists who emigrated from the home nation on Tierra many years earlier. At first, this land mass seemed the best choice. There were vast deposits of copper ore which was needed to maintain the precarious economic the two supernations that co-existed on Tierra. The Bonese had become hardened, sunbronzed people. Violent natures had developed in the independent personalities of the pioneer-type colonists. And a great pride in themselves as a result of the large quantities of copper which were sent back to Tierra in the robot controlled ferry.

The planet was of most: six-tenths ocean, higher than any ever known in and mineral content; three-tenths dry, mountainous land mass, rich in; one-tenth fertile, rain-washed land on the north polar area of the planet.
When the colony of 1000 from the nation on Tierra arrived at planet they came because of a defect in their nuclear propulsion system that had not been anticipated by scientists of their home nation. The big land mass was already and named Buena-I. All they could do was to a claim on the smaller land mass on the planet.

They named their new Ralo. It was found to have only meager, low-grade deposits of the necessary copper ore, but it was a land, to cultivate and a healthy, growing agrarian economy soon developed. Life was easy for the Raloans while they waited for the opportunity to move the large land area. In their on Ralo, they elected their most learned scholars to membership on the for Planning Acquisition of. The need for the rich ore deposits on Buena-I was to be the main concern of these governing officials, who were led by a man named Chan. This as a never of the officials through the years.

Most Raloans, however, soon ceased to care whether they ever got land on Buena-I or not. Life was too good on Ralo. At first they worried because they could not ore to send back to Tierra to their existence as a colony, but soon no Raloans would have to do the hard labor of miners. Everyone on Ralo farmers, a life of relative ease with many social occasions. They left all problems of leadership and government to Chan, to they were completely devoted and loyal.

After about decades had passed but pleasantly on Ralo, a delegation from the Bonese government arrived there under the frequency of neutrality. They had an unexpected request: water. They needed water in great from the springs and rivers of Ralo for
use on arid, vegetated Buena-I. In return they offered a contract, bartering small quantities of both copper ore and copper. After the meeting with the Bonese delegation, Chan and the ruling committee of Ralo (now referred to as C-PAT in official telepathic transmissions to their Tierra station) to consider the trade contract. Chan felt that this was the golden opportunity to gain a foothold on the mineral rich land of Buena-I; most of the members of the C-PAT thought this was useless now. The original for their emigration had been the prospect of copper for the home nation. If Bonese were to "give" them the copper in exchange for the abundant water of Ralo, then let them do all the work. Chan reasoned with them, insisting that this would be at best a temporary arrangement, that more permanent arrangements be made. Finally the C-PAT agreed on a plan of action and met again with the Bonese delegation.

The gentle, patient Chan stood before the taller, muscular Bonese and them the terms of the Raloan contract. They were to formulate the terms of exchange, a small settlement of Raloans be allowed to go to Buena-I to live and to form a station for the ferry missiles that would bring in the water and take out the minerals. The group would live in an area from the Bonese cities, but would conform to the laws of Buena-I, with back to Ralo to be in order for any in the colony. (Chan of the fact that the Raloans surely would retain their own and maintain only visitor status as far as Bonese loyalty was concerned.)

The Bonese delegation heard him out, then went into a conference of their own. What they had not told the Raloans was the immensity of their problem. Nothing could grow in water from the
sea. Indeed, it was useless even to the coils of their nuclear reactors brought from Tierra to power the mining, the offices and apartments, and the hydroponic "greenhouses" where scientists tended food crops growing with roots in chemicals, from which source came an adequate but dull diet for the Bonese. Complications had arisen during the past two decades that they dare not to the Raloans. The truth of the was that there was danger of slowdown or of all productivity in their mining industry. A hastily assembled water and reclamation station, at full capacity, never produced enough to stay ahead of the real problem, lack of water for the rapidly growing population.

The desperate Bonese delegation would have agreed to almost any of ore the Raloans demanded. But the idea of a Raloan infringement on the land of Buena-I had not been anticipated. Violent arguments and flaring were a reaction. One of the delegation, a powerful man named Konrad, was able to calm the group and them into acceptance of the situation, which seemed inevitable. Konrad's was if the number of Raloans were small and the people closely, no great could result. Then they to the chamber of the C-PAT, agreeing forthwith to accept the idea proposed by Chan, but limiting the number. An condition was that a number of Bonese, equal to the Raloans, must live in the area aside on Buena-I to form a Ra-Bon Group. The Bonese would supervise transshipment of the Raloan water to Bonese population centers, and help with the loading of the mineral ore for the return shipment. The contract was then signed.

After the departure of the Bonese, the task facing the C-PAT
was deciding who would leave Ralo for Buena-I. A call for
volunteers for the new endeavor resulted in not one. Life was so,
none felt the desire to venture again into the. One among the
C-PAT members remembered a time far back in history when some sort
of a lottery was to enforce military; so each man and was a
number and a random selection was made of those who would be
required to serve the need. Such unpleasant grumbling among the
Raloans resulted that the members of the C-PAT themselves decided
to send half their own number, with their families, to the Ra-Bon
Group.

Those Raloans who left, under the leadership of Chan, soon
found themselves by the barren land and the unchanging dry climate.
Being used to the long season and fertile of Ralo, they were for
the strange absence of all moisture which existed on the large
land mass. They named the area that was assigned to them New Ralo
City, in the manner immigrant groups on Tierra in the dark ages of
the had given to new land the name of old places. The Bonese
miners who the Ra-Bon Group to the strangeness of the place.
Soon, however, the pleasant natures of the Raloans emerged, their
earlier gloom disappeared, and they sang as they went about the
tiring work of the water cargo.

This was a new and interesting experience for the Bonese
miners. They were used to only or silence during work periods in
the mines. All food for the Raloans had to come from Ralo with
the water shipments. The Bonese had grown tired of the monotonous
diet of greenhouse food and they in the opportunity to share the
food from the crops that grew on Ralo. They watched the Raloan
to make some plants grow as they did with such ease on Ralo. The Bonese decided to show them how to find lichens which were edible that grew in shady. They the attitudes of the Raloans and their lack of anger. Most of all they Chan, who was, yet firm when the occasion demanded, who was and the problems in coping with a group of two such different natures. Slowly, all the Bonese of the Ra-Bon Group came to be as loyal to Chan as the Raloans were.

The Raloans soon unexpected peculiarity of life in the new area. Was happening to their. The children back on Ralo were healthy babies almost always born. The first at New Ralo City resulted in the births of six smaller, and these were followed by multiple births ranging upwards to and nine children. This strange was in Chan's daily back to the C-PAT headquarters on Ralo.

During discussion of this situation with their new Bonese friends, the Raloans learned that these same phenomena had been happening for the three decades of colonization. A man and woman initiated a term contract of marriage, signed the papers required in the contract, as they did back on Tierra, agreeing to limit their conceptions to the two allowed under Tierra laws. They soon found that their two conceptions would result in ten or more. The population of Buena-I had exploded in a terrifying manner. None of the scientists had been able to find what caused the multiple division of cytoplasm. Conceptions had been banned; frustration of intense degree followed, resulting in births and illegal uses of the dwindling water and food supplies. Complete
collapse of the colony was growing nearer by the.

Consternation reigned in the meeting of the C-PAT when these reports were received on Ralo. The wise knew that the water they sent under contract soon would not be sufficient for the growing Bonese population and contract would have to be made. More likely, however, the more numerous Bonese would to take over the small land and use it as their own wellspring from which they would the for the needs of their. To wait would be; they defend themselves by acting first.

Was sent to Chan to go to the government of Buena-I and them that the contract was; that no more water would be sent from Ralo from that moment on, the Bonese to suffer thirst until they would be receptive to the idea of sharing all the mining on Buena-I with Raloans. The Raloans knew now of the desperation of the Bonese water situation. They felt they were in a commanding position, a position of which they were unaware when they made the first contract.

How poorly the C-PAT evaluated the violent, hostile natures of the Bonese was shown by the reaction of the Bonese government officials. Over the of Konrad such action, Chan, the messenger from the Raloans, was killed on the spot.

This action of violence was the result of the anger and that had been building up in the Bonese officials over the impossible situation on Buena-I. Anxious meetings were being held by the Government Emergency Population Control Commission, which hastily had the best scientists away from their previous work at the hydroponic greenhouses and the water reclamation stations. The
challenge of a solution to the problem of the multiple births
had been thrown down to them months. Each was given a and
assistants and equipment, with to work until someone found a clue
to the reversal of the situation. Food was brought in to them,
more and better food than they would have in their old jobs and
far better than that now to the general population. Bunks were
installed in of the, with work going on until someone slept a
few hours to counter the, then awoke to return to the or other of
the sophisticated equipment that had been assembled hastily.

Different tangents of investigation began. Some scientists
looked for an unknown factor in the reclaimed water from the sea
that trigger the. (The delegation that went to Ralo to contract
for water reported no of multiple births or overpopulation at that
colony. No need existed to analyze the water from that source,
especially since the multiple births began long before the time
water was needed from Ralo.)

Other scientists for an answer among the plants that grew in
the greenhouses. This of search was a narrow one. All the
chemicals in which the plants grew came from the original supplies
brought in the emigration from Tierra. Only the atmosphere in
which they spread their green was a new factor. The harsh sun-
shine filtered through the polarized of the greenhouses to cause
the plants grown by the scientists to produce crops.

The most likely source of the agent which caused the human
cells to divide in so a was the sparse vegetation that existed
naturally on Buena-I. Some of the lichens and plants had been
accepted into the diet of the Bonese after earlier tests had them
to be nonpoisonous in nature. One complicating factor of the search was the lack of laboratory animals to the results for proof. When the protein from the lichens and roots was broken for amino analysis and two turned up on the, there was no way to confirm their guilt because of the long wait for shipments of rapidly reproducing experimental animals from Tierra.

Speculating that one of the two was the mysterious factor that was metabolized into the body, absorbed into tissue, and imprinted into the DNA molecules or into the vital RNA of the, the scientists decided that the of the situation demanded "a cure be developed before the virus ever was identified," in the manner of the early pioneers in the of biochemical during the search for knowledge of cancer back in the days of medical science.

This proved the easiest part of the search. A chlorophyll-synthesis inhibitor was developed quickly would eradicate the vegetation from the areas of human habitation on Buena-I. Were to the commission for their consideration. The scientists readied their plant sprayers and large quantities of the inhibitor spray from their of chemicals in anticipation of the approval for the operation that was sure to come.

Until this time the problems of the Bonese government seemed, at this time, the message was brought from Ralo, and the intelligent Chan was killed. Instead of fear, the of the Raloans resulted in immediate anger on the part of the Bonese officials. Aware of their superiority in numbers and technology to the other colony, the officials sent back their reply, "Never!" in the manner of a
large swatting away a bothersome.

A force was assembled hastily and sent to the Ra-Bon Group area with to capture the Raloan members. This was accomplished; but the force was surprised by the fact that some of their own miners who were members of the Ra-Bon Group tried to the prisoners from capture. When this fact was told to the government officials, they refused to it was true, and the Bonese group back to the mining area for work.

While the raider force was at work, the scientists brought the good news of the breakthrough on the population problem. With the population to be stabilized, more water reclamation stations could be built and the Bonese soon would not have to depend on the Raloan water source. This was still some time in the future, however. A message was sent to Ralo the capture of the group at New Ralo City and demanding the of the Raloan government, all of the hostages would be killed.

Chan to counsel or them, the other members of the C-PAT were confused about which action to take. Since all acts of aggression had been outlawed far back in the of Tierra, they had come to the deliberate sacrifice of human life. The thought that the of other Raloans might result from their refusal was to bear. A message of surrender was sent.

All Raloans were moved to Buena-I to work as slaves building water stations. The Bonese did not trust them to be near the mines with the precious ore. The scientists the offending vegetation throughout Buena-I and within months knew of their success when the multiple births. All Bonese who were not needed
to do mining work moved to Ralo to protect the water source and to send shipments of water to Buena-I, since it would be a long time before the stations would supply all needs. Konrad, who was not in good grace with the Bonese officials because of his long record of counseling a to their problems, was left on Buena-I and charged with those Bonese who worked in the mines or who the Raloan slaves.

Once again the good nature of the Raloans came to the surface. Even in slavery, they remained cheerful and worked building and enlarging the water reclamation stations with a dedication as if the project were their own. Bodies, used to the ease of life back on Ralo, became hardened and tanned. Contact with their guards was kept always on a friendly. Soon both Konrad and the entire Bonese guard force were slipping into the same comradeship that had evolved at the earlier of the Ra-Bon Group.

Konrad began to realize that what was needed for the good of all on the planet was a joint with both groups working in harmony. The natures of the Raloans brought out the best in the Bonese; conversely, the physical strength and stamina of the Bonese caused the Raloans to compete and improve instead of soft and indolent.

Konrad and his followers among the Bonese decided to try to organize a union and to attempt to get the Bonese government to accept such a beneficial arrangement. All of the Raloans agreed to this move. Konrad's proposal was sent to the Bonese government officials on Ralo. To receive a reply, Konrad all the slaves
to be free and granted permission to all the Raloans to live where they wished and to work in the mines the Bonese.

A small group of Raloans who had been friends of Chan secret about the union they had joined, with the others, because they felt the Bonese government could not be trusted. And some of the Bonese members of Konrad’s union had been members of the old Ra-Bon Group. They shared the the Raloans felt about, as well as disrespect for their own government. This strange liaison resulted in a group of dissidents who felt that the violent Bonese could understand only more. A pledge of retaliation united them into formation of a Saboteur Team. They hoped Konrad’s union, to which they all belonged, would succeed; but they met to discuss what to do if it did not.

Reaction was not long in coming from Ralo. Unexpectedly, the earth shook and clouds on Buena-I, as detonators on the water reclamation stations were by signal from Ralo. The crafty Bonese officials had left in all the stations before they moved the government; someone had foreseen the possibility of an of the Raloan slaves and had that this action be taken if the need ever arose to control them by denying them water. Konrad checked the wreckage and found a few undamaged of water the complete of all the equipment. This emergency supply would, with rationing, for a while, a while, but then what would they do?

The action of the Bonese officials confirmed the beliefs of those who belonged to the Team. After discussion of courses of action, they chose to load missiles with the unused inhibitor and send them Ralo, to explode on impact and cover that land
with chemicals deadly to all vegetation. They had little water, but plenty of food in the greenhouses on Buena-I; Konrad would soon be in a better position with the Bonese when there was no food but of water on Ralo.

Emergency supplies of water on Buena-I had almost been exhausted and the first drafts of a message of capitulation by Konrad and his followers were being when a message from the Bonese government was received. "Food: we are, our crops are dead, all vegetation is burned and lifeless. Please help us. And in addition to food, we need water. Please share your water with us. The springs have gone and the have up. There has been no rain. When the vegetation, something happened to the climate. All is dry and barren. Please help us."

Sadly, Konrad replied, "We help you. The people are dying of thirst. We have sent a message to Tierra to send rescue with greatest haste to take us away from this land. We you do. There is little possibility that we can survive long for them to arrive. We are for you."

The fleet of new, superdrive light ships the small planet, Gardine-X-35, one more time. The second reported to the fleet commander, "We have now searched both land masses with our. There seem to be greenhouses still on the larger land mass, but through our prism, they appear to be untended. Both land masses are devoid of vegetation. We regret to, sir, that there is no sign of human life. We the mission return to Tierra."

"So order it," replied the commander. The fleet curved away gracefully, silently; and in seconds disappeared into the darkness of the.
A point of decision had been reached in long record population problems of the citizens Buena-I. Like the increase in number electrically-charged particles in an atomic pile until that moment when critical mass achieved and nuclear fission was eminent, so the numbers edged upwards on statistical charts the Government Emergency Population Control Commission. Multiple births were problem. Multiple births which at first seemed answer the problem how to populate work productively the huge land mass of Buena-I.

This land been claimed by 500 colonists who emigrated from home nation on Tierra many years earlier. At first, this land mass seemed best choice. There were vast deposits of copper ore which was needed desperately to maintain precarious economic balance between two supernations that co-existed on Tierra. The Bonese had become hardened, sunbronzed people. Violent natures developed already independent personalities of the pioneer-type colonists. Great pride themselves arose as result of large quantities of copper which were sent back to Tierra robot controlled ferry transports.

The planet of most unusual geography: six-tenths ocean, higher than any ever known in salinity mineral content; three-tenths dry, mountainous land mass, rich in minerals; one-tenth fertile, rain-washed land the north polar area planet.
When the colony 1000 emigrants from opposing nation Tierra arrived at planet Gardine-X-35, they came late because defect in nuclear propulsion system that had not been anticipated by scientists of their home nation. The big land mass claimed already named Buena-I. All could do stake claim smaller land mass planet.

They named new homeland Ralo. It found to have only meager, low-grade deposits of the necessary copper ore, but it hospitable land, easy cultivate, and healthy, growing agrarian economy soon developed. Life easy for the Raloans while they waited for opportunity move onto the large land area. Early their days on Ralo, they elected most learned scholars to membership on the Committee for Planning Acquisition of Territory. Need for the rich ore deposits Buena-I be the main concern of these governing officials, who were led by a man named Chan. This goal continued as a never forgotten plan the officials through the years.

Most Raloans, however, soon ceased to care whether they ever got land on Buena-I or not. Life too good Ralo. At first worried because they could not mine ore send back Tierra justify existence as a colony, but soon no Raloans would have wanted do hard labor of miners. Everyone Ralo became gentleman farmers, enjoying a life of relative ease filled with many social occasions. They left all problems leadership and government Chan, to whom they were completely devoted loyal.

After about three decades had passed uneventfully but pleasantly Ralo, delegation from government arrived there under the frequency signal of neutrality. An unexpected request: water. They needed water great quantity from the springs rivers.
Ralo for use arid, sparsely vegetated Buena-I. Return they offered a trade contract, bartering small quantities both copper ore and finished copper. After the meeting with Bonese delegation, Chan ruling committee of Ralo (now referred as C-PAT in official telepathic transmissions to their Tierra station) retired consider trade contract. Chan felt that this the golden opportunity to gain a foothold on the mineral rich land Buena-I; most others C-PAT thought this useless now. The original reason for their immigration had been the production of copper for the home nation. If were willing to "give" them copper exchange for abundant water Ralo, then let them do all the work. Chan reasoned with them, insisting this would be at best temporary arrangement, that more permanent arrangements should be made. Finally C-PAT agreed plan of action and met again with Bonese delegation.

The gentle, patient Chan stood before the taller, muscular men and gave them the terms of the Raloan contract. Were ready formulate the agreement of exchange, provided small settlement Raloans be allowed go Buena-I live and form a receiving station for the ferry missiles that would bring in the water take out minerals. The group would live an area separate from cities, but would conform to the laws of Buena-I, with deportation back Ralo be order for any lawbreaker in colony. (Chan said nothing fact the Raloans surely would retain their own citizenship maintain only visitor status as far as Bonese loyalty concerned.)

Bonese delegation heard him out, then went into conference own. What they had not told Raloans was immensity of problem. Nothing could grow in water from sea. Indeed, it was useless
even cool the coils nuclear reactors, brought from Tierra power
the mining operations, the offices and apartments, and vast
hydroponic "greenhouses" where scientists tended food crops
growing with roots chemicals, from which source came an adequate
but dull diet for Bonese. Complications had arisen during past
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enough to stay ahead of real problem, lack of water for the
rapidly growing population.

The desperate delegation would have agreed to almost any
quantity of ore Raloans demanded. But the idea of Raloan in-
fringement land of Buena-I not been anticipated. Violent argu-
ments flaring tempers were a unanimous reaction. One member of
the delegation, powerful man named Konrad, finally able calm the
group influence them into acceptance of situation, which seemed
inevitable. Konrad's argument if number of Raloans were kept
small the people closely supervised, no great harm could result.
Then returned council chamber the C-PAT, agreeing forthwith to
accept the idea proposed by Chan, but sharply limiting number.
An added condition a number of, equal the Raloans, must live in
the area set aside on Buena-I to form Ra-Bon Group. Bonese would
supervise transshipment of Raloan water to population centers,
and help with loading mineral ore for the return shipment. The
contract then signed.

After departure of the Bonese, immediate task facing the
C-PAT deciding who would leave Ralo for Buena-I. A call for volunteers for the new endeavor resulted in not one recruit. Life so pleasant, none felt the desire venture again into the unknown. One scholar among C-PAT members remembered time far back in history when some sort of a lottery arranged to enforce military service—so each man and woman assigned number and random selection was made those who would be required serve present need. Such unpleasant grumbling among the chosen Raloans resulted the members the C-PAT themselves decided send half own number, with their families, to become Ra-Bon Group.

Those Raloans who left, under the leadership of Chan, soon found themselves tested by the barren land and unchanging dry climate. Being used long rainy season and fertile greensward of Ralo, they were unprepared for strange absence all moisture which existed the larger land mass. Named the area was assigned to them New Ralo City, the manner immigrant groups on Tierra dark, dim ages of the past had given new land name of old familiar places. Sullen, bronze-skinned miners who joined the Ra-Bon Group added strangeness of place. Soon, however, pleasant natures of the Raloans emerged, earlier gloom disappeared, sang as they went about tiring work of unloading water cargo.

This was a new and interesting experience for Bonese miners. Were used only harsh commands or silence during work periods the mines. All food for Raloans come from Ralo with the water shipments. The Bonese grown tired the monotonous diet greenhouse food and they delighted in opportunity share the fine food from crops grew Ralo. They watched Raloan farmers try unsuccessfully
to make some plants grow as did with such ease on Ralo. Bonese decided show them how find lichens which were edible grew in shady spots. They appreciated the happy attitudes of the Raloans and lack of anger. Most all they admired Chan, who gentle, yet firm when occasion demanded, who was intelligent and patient despite the problems in coping with a group two such different natures. Slowly, all the Ra-Bon Group came to be as loyal to Chan as Raloans were.

The Raloans soon noticed another unexpected peculiarity life new area. Something was happening family structure. Children conceived back Ralo were healthy, normal Tierra-sized babies, almost always born singly. First conception at New Ralo City resulted the births of six smaller babies, and these were followed by multiple births ranging upwards eight and nine children. This strange occurrence was described Chan's daily microsheet reports transmitted back to C-PAT headquarters Ralo.

During discussion this situation with their new Bonese friends, Raloans learned these same birth phenomena been happening for three decades colonization. A man and woman initiated a five-year term contract marriage, signed papers required contract, as did back on Tierra, agreeing to limit their conceptions to the two allowed under Tierra laws. Soon found their two conceptions would result ten or more progeny. The population of Buena-I exploded in a terrifying manner. None of the scientists been able to find what caused the multiple genetic division of cytoplasm. Conceptions had been banned; frustration of intense degree followed, resulting in illegal births and
illegal uses dwindling water and food supplies. Complete collapse the colony was growing nearer by the month.

Consternation reigned in meeting room the C-PAT when these reports were received on Ralo. Wise men knew the water they sent under contract soon would not be sufficient for the growing Bonese population another contract would have be made. More likely, however, more numerous Bonese simply would decided to take over small land and use it as own wellspring from which they would draw vital liquid for the needs their industry. To wait longer would be foolhardy; must defend themselves by acting first.

Word sent to Chan to go to the government of Buena-I and tell them contract was canceled; no more water would be sent from Ralo from moment on, leaving the Bonese to suffer thirst until would be receptive to idea of sharing all mining areas on Buena-I w' aloans. Raloans knew now desperation of the water situation. They felt they were commanding position, position of which were unaware when made first contract agreement.

How poorly C-PAT evaluated violent, hostile natures of the shown by the reaction the government officials. Over the pro-
tests Konrad against such action, Chan, messenger from the Ralo-
ans, was killed on spot.

This action violence was the result of anger frustration had been building up in the Bonese officials over impossible situation on Buena-I. Anxious meetings were being held by the Government Emergency Population Control Commission, which hastily pulled the best scientists away from previous work at hydroponic greenhouses
and water reclamation stations. Challenge finding a solution to problem the multiple births had been thrown down to them months previously. Each given a laboratory and assistants equipment, with orders to work continuously until someone found clue to the reversal of situation. Food brought in to them, more better food than they would have rated old jobs and far better than now available to general population. Bunks were installed in corners of the laboratories, with work going until someone slept few hours counter exhaustion, then awoke return the computers or other of the sophisticated equipment that had been assembled hastily.

Different tangents investigation began. Some scientists looked for an unknown factor in reclaimed water from sea that might trigger phenomena. (Delegation that went Ralo to contract for water reported no evidence multiple births or overpopulation at colony. Therefore, no need existed analyze the water from source, especially since multiple births began long before time water needed from Ralo.)

Other scientists searched for an answer among plants grew in the greenhouses. This path of search was a narrow one. All the chemicals in which plants grew came from the original supplies brought the emigration from Tierra. Only atmosphere in which they spread green leaves was a new factor. The harsh sunshine filtered through polarized panels the greenhouses to cause plants grown by scientists produce bountiful crops.

Most likely source of the unknown agent which caused human cells divide so radical a fashion was the sparse vegetation that
existed naturally Buena-I. Some of lichens and root plants
been accepted into diet the after earlier tests had shown them
be nonpoisonous nature. One complicating factor of the search
the lack of laboratory animals to test the results for proof.
When protein distilled from the lichens and roots broken down
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ment rapidly reproducing experimental animals from Tierra.

Speculating one the two unknowns was mysterious factor
metabolized into body, absorbed into tissue, eventually imprinted
into the DNA molecules or into the vital RNA of reproductive
cells, the scientists decided that expediency the situation
demanded "a cure be developed before the virus ever identified,"
the manner of early pioneers field biochemical medicine during
the search for knowledge cancer back in primitive days medical
science.

This proved easiest part of the search. Chlorophyll-
synthesis inhibitor was developed quickly which would eradicate
dangerous vegetation from the areas of human habitation on
Buena-I. Results were presented to the commission for their
consideration. The scientists readied plant sprayers and pre-
pared large quantities the inhibitor spray from stores chemicals
in anticipation approval for operation was sure come.

Until this time problems of the Bonese government seemed
immense, at this inopportune time, message was brought from
Ralo, and the kind, intelligent Chan was killed. Instead of
fear, demands of Raloans resulted in immediate anger part of
Bonese officials. Aware superiority in numbers and technology the other colony, officials sent back reply, "Never!" much in the manner of large animal swatting away a bothersome insect.

A raider force was assembled hastily sent to the Ra-Bon Group area with orders to capture Raloan members. This was accomplished; but force surprised by fact that some of own miners who were members the Ra-Bon Group tried defend prisoners from capture. When this fact told to government officials, they refused to believe it true, and merely transferred Bonese group back to mining area for future work.

While the raider force at work, scientists brought the good news the breakthrough the population problem. Spraying was ordered to begin at once. With the population to be stabilized, more water reclamation stations could be built the Bonese soon would not have to depend on the Raloan water source. This still some time in the future, however. A message was sent Ralo describing capture the group at New Ralo City and demanding the surrender Raloan government, else all of the hostages would be killed.

Without Chan counsel or guide them, other members of C-PAT were confused about which action take. Since all acts of aggression been outlawed far back history Tierra, they come to abhor the deliberate sacrifice human life. The thought deaths of other Raloans might result from their refusal too much to bear. A message of surrender sent.

All Raloans were moved Buena-I to work as slaves building water stations. Bonese did not trust them to be near the mines
with the precious ore. Scientists sprayed offending vegetation throughout Buena-I and within months knew success when multiple births ceased. All Bonese who were not needed to do mining work moved to Ralo to protect water source send shipments water to Buena-I, since it would be long time before capacity of the stations would supply all needs. Konrad, who not in good grace with the Bonese officials because his long record counseling conservative approach problems, left on Buena-I charged with governing those Bonese who worked mines or who guarded Raloan slaves.

Once again good nature of the Raloans came surface. Even slavery, remained cheerful and worked building and enlarging the water reclamation stations with a dedication as if project were own. Soft bodies, used to ease of life back on Ralo, became hardened and tanned. Contact with their guards kept always a friendly basis. Soon both Konrad entire guard force were slipping into the same comradeship had evolved at earlier experiment of Ra-Bon Group.

Konrad began to realize that what was needed for the good of all on the planet was a joint operation with both groups working harmony. The happy natures Raloans brought out the best Bonese; conversely, the physical strength stamina of the caused Raloans compete improve physically instead staying soft and indolent.

Konrad his followers among the Bonese decided to try to organize union to attempt to get the Bonese government to accept such mutually beneficial arrangement. All Raloans agreed this
move. Konrad's proposal sent to government officials Ralo.
Without waiting receive reply, Konrad proclaimed all slaves to
be free citizens granted permission all Raloans to live where
wished and work in mines alongside Bonese.

Small group of Raloans who had been friends Chan held
secret reservations about union joined, along with the others,
because they felt government could not be trusted. Some of
members of Konrad's union been members old Ra-Bon Group. They
shared bitterness Raloans felt about Chan's death, as well as
disrespect for own government. This strange liaison resulted
in a hardcore group dissidents who felt that violent Bonese could
understand only more violence. A secret pledge of retaliation
united them into formation of Saboteur Team. They hoped Konrad's
union, which they all belonged, would succeed; but secretly met
to discuss what do if it did not.

Reaction was not long coming from Ralo. Unexpectedly, the
earth shook and dust clouds rose on Buena-I, as hidden detonators
the water reclamation stations were triggered by signal from Ralo.
The crafty officials had left explosives hidden all the stations
before they moved government; someone had foreseen possibility
an insurrection Raloan slaves directed that this action be taken
if need ever arose to control them by denying them water.
Konrad checked wreckage and found few undamaged tanks of water
amid the complete ruin all equipment. This emergency supply
would last, with rationing, for while, short while, but then
what would do?

Action Bonese officials confirmed the beliefs those who
belonged to the Saboteur Team. After discussion of several courses of action, they chose load freight missiles with unused inhibitor send them toward Ralo, to explode impact cover that land with chemicals deadly to all vegetation. They little water, but plenty of food in greenhouses Buena-I; Konrad would soon be better bargaining position with Bonese when there no food but plenty of water Ralo.

Emergency supplies water Buena-I had almost been exhausted and first drafts message capitulation by Konrad his followers were being written when a message from Bonese government was received. "Food: we are starving, our crops are dead, all vegetation is burned brown lifeless. Please help us. And addition to food, we also need water. Please share your water with us. Springs have gone the rivers have dried up. There has been no rain. When the green vegetation died, something happened to the climate. All is dry and barren. Please help us."

Sadly, Konrad replied, "We cannot help you. The people here are dying thirst. We have sent a message to Tierra to send rescue ships with greatest haste take us away from this land. We suggest you do likewise. There is little possibility we can survive long enough for them to arrive. We are sorry for you."

Fleet of new, superdrive light ships circled small planet, Gardine-X-35, one more time. The second officer reported to fleet commander, "We have now searched both land masses with our scanners. There seem be greenhouses still standing the larger land mass, but through our viewing prism, they appear be untended. Both land masses are otherwise devoid of vegetation. We regret
report, sir, there is no sign of human life. We suggest mission return to Tierra."

"So order it," replied the commander. The fleet curved away gracefully, silently; in seconds disappeared into the darkness void.
A point of decision had reached in the record of population of the citizens of. Like the increase in number of electrically-charged particles in an atomic pile until that moment when a critical was achieved and fission was eminent, the numbers of Bonese had edged upwards on the statistical charts of the Emergency Commission. Multiple the. Multiple births at first had seemed the answer to the of how to populate and productively the huge land of.

Had claimed the 500 colonists who emigrated from the home nation on many years earlier. At, seemed the choice. Vast deposits of copper ore which was desperately to maintain the precarious economic balance between the two supernations that co-existed on Tierra. The Bonese had become hardened, sunbronzed. Violent had in the already independent personalitites of the pioneer-type colonists. And a pride in themselves arose as a result of the large quantities of copper were back to Tierra in the robot controlled ferry transports.

The was of most unusual geography: six-tenths ocean, higher than any ever known in salinity and mineral content; three-tenths, mountainous, rich in minerals; one-tenth fertile, rain-washed on the north polar area of the.

When the colony of 1000 emigrants from the opposing on arrived at Gardine-X-35, they late of a defect in their
propulsion system that had not been anticipated of their nation. The big land mass was claimed already and named. All they could was to stake a claim on the smaller mass on the planet.

They named their homeland Ralo. Was found to have meager, low-grade deposits of the necessary ore, it was a hospitable land, easy to cultivate, and a healthy, growing agrarian economy. Was easy the Raloans while they waited the opportunity to move onto the area. Early in their days on, they elected their learned scholar to membership on the Committee for Planning Acquisition of Territory. The the rich on was to the main concern of governing officials, who led by a named. This goal continued as a forgotten plan of the officials through the years.

Most Raloans, however, soon ceased to care whether they go on. Life was too on Ralo. They worried because they not mine ore to send to to justify their existence a colony, soon no Raloans would have wanted to do the hard labor of. Everyone on Raio became gentleman farmers, enjoying a of relative ease filled with many social occasions. They all problems of leadership and to Chan, to whom they completely devoted and loyal.

After three had passed uneventfully pleasantly on, a delegation from the Bonese arrived the frequency signal of neutrality. They had an unexpected request. They in great quantity from the springs and rivers of for use on arid, sparsely vegetated. In they offered a trade contract, bartering quantities of both copper and finished copper. After the meeting the Bonese delegation, Chan and the ruling committee of Ralo (referred to in official telepathic transmissions to their Teirra station) retired to
consider the trade contract. Chan felt that this was the golden
to gain a foothold on the mineral rich land of; of the others
of the thought this was useless. The original reason their
emigration had the production of the nation. Bonese were willing
to "give" the copper in exchange for the abundant water of, then
let them do the work. Reasoned them, insisting that this would
be a temporary arrangement, that permanent arrangements should be
made. Finally the on a plan of and met again the Bonese.

The gentle, patient Chan stood before the taller, muscular
Bonese men and gave the terms of the Raloan. They were ready to
formulate the agreement of exchange, provided a small settlement
of Raloan allowed to go to to and to form a receiving station
the ferry m'asiles that would bring in the water and out the
minerals. The would in separate from the Bonese cities, conform
to the laws of, deportation to to be in order any lawbreaker in
the colony. (Said nothing of the that the Raloans surely retain
their own citizenship and maintain only visitor status as Bonese
loyalty was concerned.)

The Bonese heard him, went into
a conference of their own.
They had not told the was the immensity of their problem. Nothing
could grow in water from the sea. Indeed, was useless even to
cool the coils of their reactors brought Tierra to power the
operations, the offices and apartments, and the vast hydroponic
"greenhouses" where scientists tended crops roots in chemicals,
which source adequate but dull diet the Bonese. Complications
had arisen during the past two that they dare communicate to the.
The truth of the matter was that there was danger of slowdown or
cessation of productivity in their industry. A assembled purification and, operating at full capacity, produced enough to stay ahead of the real problem, lack of water the rapidly population.

The desperate Bonese would have to quantity of the. The of a infringement on the land of had anticipated. Arguments and flaring tempers a unanimous reaction. Member of the delegation, a powerful man Konrad, finally was able to calm the group and influence acceptance of the, which inevitable. Argument was the number of Raloans kept and the people closely supervised, no great harm could. Then they returned to the council chamber of the C-PAT, agreeing forthwith to accept the idea proposed by, but sharply limiting the. An added condition was that a of Bonese, equal to the, must in the set aside on to form a group. The Bonese would supervise transshipment of the Raloan water to Bonese population centers, and help with the loading of the mineral ore the return shipment. The was then signed.

The departure of the Bonese, the immediate task facing the C-PAT was deciding who leave Buena-I. A call for volunteers for the endeavor resulted in not recruit. Was so pleasant, none the desire to venture again into the unknown. One scholar among the members remembered a time back in history when some sort of a lottery was arranged to enforce military service; so each man and woman was assigned a and a random selection was made of who required to serve the present. Unpleasant grumbling the chosen Raloans resulted that the of the C-PAT themselves to send half their, with their families, to become the Ra-Bon Group.

Left, under the leadership of, found tested by the barren
land and the unchanging dry climate. To the rainy season and fertile greensward of Ralo, they were unprepared the strange absence of all moisture which on the larger mass. They the area that was assigned to New, in the manner immigrant groups on Tierra in the dark, dim ages of the past had given to new the name of old familiar places. The sullen, bronze-skinned Bonese who joined the group added to the strangeness of the place. Soon, the pleasant of the Raloans emerged, their earlier gloom disappeared, and they sang they the tiring of unloading the cargo.

This was a and interesting experience for the Bonese miners. They used to harsh commands silence periods in the. The had to from the water shipments. The Bonese had grown tired of the monotonous of greenhouse and they delighted in the opportunity to share the fine from the crops that on. They watched the farmers try unsuccessfully to make some grow they with ease on Ralo. The Bonese decided to show to find lichens which were edible that grew in shady spots. They appreciated the happy attitudes of the Raloans and their lack of anger. Most of all they admired Chan, who was gentle, yet firm when the occasion demanded, who was intelligent and patient despite the in coping with a group of two such different natures. Slowly, all the Bonese of the group to loyal to Chan the.

The soon noticed another unexpected peculiarity of in the. Something was happening to their family structure. The children conceived back on Ralo healthy, normal Tierra-sized babies, almost always born singly. The conception at resulted in the of
six smaller babies, and these followed by multiple births ranging upwards to eight and nine children. This occurrence was described in Chan's daily microsheet reports transmitted back to the headquarters on.

During discussion of this situation their Bonese friends, the Raloans learned that these same birth phenomena had been happening the three decades of colonization. A and woman initiated a five-year term of marriage, signed the papers required in the contract, they back on, agreeing to limit their to the two allowed under laws. They that their two would in ten progeny. The population of Buena-I had exploded in a terrifying. None of the scientists had been able to find caused the multiple genetic division of cytoplasm. Conceptions had banned; frustration of intense degree followed, resulting in illegal and illegal uses of the dwindling and supplies. Complete collapse of the was nearer the month.

Consternation reigned in the meeting room of the these reports received on Ralo. The wise men knew that the they sent under contract soon not be sufficient the growing Bonese population and another contract have to made. More likely, the numerous Bonese simply decide to take over the and use as their wellspring from which they would draw the vital liquid for the needs of their industry. To wait longer foolhardy; they must defend by acting.

Word was sent to Chan to go to the of Buena-I and tell them that the was canceled; that no more water be sent from from that moment on, leaving the Bonese to suffer thirst until they
receptive to the idea of sharing the mining areas on Buena-I Raloans. The of the desperation of the Bonese. They they were in a commanding, a position of they were unaware when they made the first contract agreement.

How poorly the C-PAT evaluated the violent, hostile natures of the Bonese was shown the reaction of the Bonese. The protests of Konrad against such action, the message the, was killed on the spot.

This of violence was the of the anger and frustration that had building in the Bonese officials over the impossible situation on Buena-I. Anxious meetings were being held the Population, which had pulled the away from their previous work at the hydroponic greenhouses and the reclamation. The challenge of finding a solution to the of the births had thrown down to them months previously. Each was given a laboratory and assistants and equipment, orders to work continuously someone a clue to the reversal of the. Food was in to them, more and better than they would rated in their old jobs and far better than that now available to the general. Bunks installed in corners of the laboratories, going on until someone slept a few hours to counter the exhaustion, awoke to return to the computers or other of the sophisticated that had hastily.

Different tangents of investigation began. Some looked for unknown in the reclaimed water from the sea that might trigger the phenomena. (The delegation that went to to reported no evidence of multiple overpopulation at that colony. Therefore, no need to analyze the water that source, especially the began
long before the time water was Ralo.)

Other searched for answer the plants that in the greenhouses. Path of was a narrow. The in the grew the original supplies in the emigration from. The atmosphere in which they spread their green leaves was a factor. The harsh sunshine filtered through the polarized panels of the to cause the grown by the to produce bountiful crops.

The likely of the unknown agent which the human cells to divide in so radical a fashion was the sparse vegetation that naturally on. Of the lichens and root plants had been accepted the of the Bonese earlier tests had shown them to be nonpoisonous in nature. One complicating of the was the of laboratory animals to test the results for proof. The protein distilled the and roots was broken down amino acid analysis and two unknowns turned on the analyzers, was way to confirm their guilt of the long wait of rapidly reproducing experimental animals.

Speculating that one of the two unknowns was the mysterious factor that was metabolized into the body, absorbed into tissue, and eventually imprinted the DNA molecules the vital RNA of the reproductive cells, the decided that the expediency of the situation demanded "a cure be before the virus was identified," in the manner of the early pioneers in the field of biochemical medicine the for knowledge of cancer back in the primitive days of medical science.

This proved the easiest part of the. A chlorophyll-synthesis inhibitor was developed quickly which eradicate the dangerous the areas of human habitation on. Results were presented to the
for their consideration. The scientists readied their plant sprayers and prepared of the inhibitor spray from their stores of chemicals in anticipation of the approval the operation that was sure to.

This the problems of the Bonese government seemed immense, this inopportune time, the was brought from Ralo, and the kind, intelligent was. Instead of fear, the demands of the Raloans resulted in immediate on the part of the Bonese. Aware of their superiority in numbers and technology to the, the sent their reply, much in the of a large animal swatting a bothersome insect.

A raider force was hastily and to the Ra-Bon area with orders to capture the Raloan. Was accomplished; but the was surprised the fact that of their own members of the Ra-Bon tried to defend the prisoners. Was told to the, they refused to believe was true, and merely transferred the Bonese group back to the for future.

The raider was at work, the brought the good news of the breakthrough on the population. Spraying was ordered to begin once. The to stabilized, water reclamation stations built and the Bonese soon not to depend on the water. This was still time in the future. A was to describing the of the group New Ralo City and demanding the surrender of the Raloan government, else of the hostages would be.

Without Chan to counsel or guide them, the other of the C-PAT were confused about which to take. All acts of aggression had outlawed far in the history of, they had to abhor the deliberate sacrifice of life. The thought that the deaths of
other Raloans might result their refusal was too much to bear. A message of surrender was.

All Raloans moved to Buena-I to building stations. The Bonese not trust them to be near the with the precious ore. The sprayed the offending vegetation throughout Buena-I and within months of their success when the multiple ceased. All Bonese were to work moved to to protect the water source and to of to, time before capacity of the stations would supply needs. Konrad, who was in good grace the Bonese officials of long record of counseling a conservative approach to their problems, was left on Buena-I and charged governing Bonese worked in the or guarded the.

Once again the good nature of the Raloans came to the surface. Even in slavery, they remained cheerful and worked building and enlarging the water stations with a dedication the project their. Soft bodies, to the ease of life on, became hardened and tanned. Contact with their guards was kept always on a friendly basis. And the entire Bonese guard slipping the same comradeship that had evolved at the experiment of the Ra-Bon.

Konrad began to realize that was needed the good of all on the planet was a joint operation with groups working in harmony. The happy natures of the Raloans the best in the Bonese; conversely, the physical strength and stamina of the Bonese the to compete and improve physically instead of staying soft and indolent.

And his followers among the Bonese to try to organize a
The action of the Bonese confirmed the beliefs of belonged to the Saboteur Team. Discussion of several courses of, they chose to load freight missiles with the unused inhibitor and toward Ralo, to explode on impact and cover that with deadly to vegetation. They had little water, plenty of in the greenhouses on; Konrad would in a bargaining position the Bonese when was no food but plenty of water on.

Of on Buena-I had almost been exhausted and the first drafts of a message of capitulation and followers were being written when a from the Bonese government was received. "Starving, are dead, vegetation is burned and brown and lifeless. Help. And in addition to, we also water. Please share your with us. The springs have gone and the rivers have dried up. Has rain. When the green vegetation died, something happened to the climate. All is and barren. Us."

Sadly, Konrad replied, "Cannot. The people here are dying of thirst. Have a to Tierra to rescue ships with greatest haste to away from this land. We suggest do likewise. Little possibility that we can survive enough for to arrive. Sorry for."

The of new, superdrive light ships circled the Gardine-X-35, time. The second officer reported to the commander, "Have searched both masses with our scanners. Seem to still standing on the larger land mass, through our viewing prism, they appear to untended. Land masses otherwise devoid of vegetation. We regret to report, sir, that there is sign of. Suggest the mission to."

"Order," replied the commander. The curved gracefully, silently; and in seconds disappeared into the darkness of the void.
and to attempt to get the Bonese government to accept such a mutually beneficial arrangement. Of the Raloans to move. Konrad's proposal was to the Bonese officials on. Without waiting to receive a reply, proclaimed the to free citizens and granted permission to all the Raloans to where they wished and to work in the alongside the Bonese.

A small of Raloans who had friends of held secret reservations the union they had joined, along the others, because they felt the Bonese could not be trusted. And some of the Bonese members of Konrad's had been members of the old Ra-Bon Group. They shared the bitterness the Raloans felt Chan's death, well disrespect their. This strange liaison resulted in a hardcore group of dissidents who felt that the violent Bonese could understand violence. A secret pledge of retaliation united into formation of a Saboteur Team. They hoped, to which they belonged, succeed; but they secretly met to discuss what to if it not.

Reaction was long in coming from. Unexpectedly, the earth shook and dust clouds rose on Buena-I, as hidden detonators on the were triggered by signal. The crafty Bonese had left explosives hidden in the stations they they government; someone had foreseen the possibility of insurrection of the and had directed that this action be taken if the ever arose to control them by denying water. Checked the wreckage and found a few undamaged tanks of amid the complete ruin of all the equipment. Emergency supply would last, rationing, for a while, a short, but then they do?
A point of had been reached in the long record of population problems of the of Buena-I. The in number of electrically-charged particles in an atomic until that when a mass was achieved and nuclear fission was, so the numbers of Bonese had edged on the statistical charts of the Government Emergency Population Control Commission. Multiple births were the problem. Multiple births which at first had seemed the to the problem of how to populate and work productively the land mass of Buena-I.

This land had been by the 500 who emigrated from the home nation on Tierra many earlier. At first, this land mass seemed the best choice. There were vast deposits of copper ore which was needed desperately to maintain the precarious between the two that co-existed on Tierra. The Bonese had become hardened, sunbronzed people. Violent natures had developed in the already independent personalities of the pioneer-type colonists. And a great pride in themselves arose as a result of the large quantities of copper which were sent back to Tierra in the robot controlled ferry transports.

The planet was of most unusual geography: six-tenths, higher than any ever known in salinity and mineral; dry, land mass, rich in minerals; one-tenth, rain-washed land on the north polar area of the planet.

When the colony of from the nation on Tierra at planet
Gardine-X-35, they came late because of a nuclear propulsion that had not been by scientists of their home nation. The land mass was already and named Buena-I. All they could do was to stake a claim on the smaller land mass on the planet.

They named their new Ralo. It was found to have only meager, low-grade deposits of the copper ore, but it was a hospitable land, to cultivate, and a healthy, growing soon developed. Life was easy for the Raloans while they waited for the opportunity to move onto the large land area. In their days on Ralo, they their most scholars to membership on the for Acquisition of Territory. The need for the rich ore deposits on Buena-I was to be the of these governing officials, who were by a man named Chan. This continued as a never of the officials through the years.

Most Raloans, however, soon ceased to care whether they ever land on Buena-I or not. Life was too good on Ralo. At first they because they could not mine ore to send back to Tierra to justify their as a colony, but soon no Raloans would have to do the hard of miners. Everyone on Ralo became gentleman, a life of ease filled with social occasions. They left all problems of leadership and government to Chan, to whom they were and.

After about three decades had uneventfully but pleasantly on Ralo, a delegation from the Bone government arrived there under the signal of. They had an unexpected request: water. They needed water in great quantity from the and of Ralo for use on sparsely vegetated Buena-I. In return they offered a trade contract, bartering small quantities of both copper ore and copper. After the with the Bone delegation, Chan and the
ruling committee of Ralo (now referred to as C-PAT in official
telepathic to their Tierra station) to consider the trade
contract. Chan felt that this was the opportunity to a foot-
hold on the mineral rich land of Buena-I; most of the of the
C-PAT this was useless now. The reason for their had been the
production of copper for the home nation. If Bonese were to
take the copper in for the abundant water of Ralo, then let
them do all the work. Chan reasoned with them, that this
would be at best a arrangement, that more should be made.
Finally the C-PAT agreed on a plan of action and again with
the Bonese delegation.

The gentle, patient Chan before the, muscular Bonese men
and gave them the of the loan contract. They were ready to
formulate the of, a small settlement of Raloans be to go to
Buena-I to live and to form a station for the that would bring
in the water and take out the minerals. The group would live
in an area from the Bonese cities, but would to the laws of
Buena-I, with deportation back to Ralo to be in for any law-
breaker in the colony. (Chan said nothing of the fact that the
Raloans surely would retain their own and only status as far as
Bonese was.)

The Bonese delegation him out, then went into a of their
own. What they had not told the Raloans was the immensity of
their problem. Nothing could grow in water from the. It was
to the of their nuclear reactors brought from Tierra to the
mining operations, the offices and, and the vast "greenhouses"
where scientists tended food crops growing with in chemicals,
from which source came an but diet for the Bonese. Had during the past two decades that they dare not communicate to the Raloans. The of the was that there was of or cessation of all in their mining. A hastily assembled water and reclamation station, at capacity, never produced to ahead of the problem, lack of water for the growing population.

The Bonese delegation would have agreed to almost any quantity of ore the Raloans demanded. But the idea of a Raloan infringement on the land of Buena-I had not been. Violent and were a unanimous reaction. One of the delegation, a powerful man named Konrad, finally was able to calm the group and them into of the situation, which seemed. Konrad's argument was if the number of Raloans were small and the people supervised, no great harm could result. Then they returned to the chamber of the C-PAT, to accept the idea by Chan, but sharply limiting the number. An condition was that a number of Bonese, equal to the Raloans, must live in the area set on Buena-I to a Ra-Bon Group. The Bonese would supervise transshipment of the Raloan water to Bonese population, and help with the loading of the mineral ore for the return shipment. The contract was then.

After the departure of the Bonese, the immediate task facing the C-PAT was who would Ralo for Buena-I. A call for for the new resulted in not one. Life was so, felt the desire to again into the unknown. One scholar among the C-PAT members remembered a time far back in when some sort of a was arranged to enforce military service; so man and woman was a number and a was made of those who would be required to serve the present
need. Such unpleasant grumbling among the Raloans resulted that the members of the C-PAT themselves decided to send half their own number, with their families, to the Ra-Bon Group.

Those Raloans who left, under the of Chan, soon found themselves by the land and the unchanging dry. Being used to the long and greensward of Ralo, they were for the strange absence of all moisture which existed on the larger land mass. They named the area that was to them New Ralo City, in the manner groups on Tierra in the ages of the had to new land the of old familiar places. The sullen, bronze-skinned Bonese miners who the Ra-Bon Group added to the of the place. Soon, however, the natures of the Raloans, their earlier gloom, and they sang as they went about the tiring work of the water cargo.

This was a new and interesting experience for the Bonese miners. They were used to only harsh commands or silence during work periods in the mines. All food for the Raloans had to come from Ralo with the water shipments. The Bonese had grown tired of the diet of food and they delighted in the opportunity to the fine food from the crops that grew on Ralo. They watched the Raloan farmers try to some plants as they did with such ease on Ralo. The Bonese decided to show them how to lichens which were edible that grew in. They the of the Raloans and their lack of anger. Most of all they admired Chan, who was gentle, yet when the occasion demanded, who was and despite the problems in with a group of two such natures. Slowly, all the Bonese of the Ra-Bon Group came to be as to Chan as the Raloans were.

The Raloans soon noticed another of life in the new area.
Something was to their structure. The conceived back on Ralo were, normal babies, almost always born. The first conception at New Ralo City resulted in the births of six smaller, and these were by multiple births ranging upwards to eight and nine children. This strange was in daily microsheet transmitted back to the C-PAT headquarters on Ralo.

During of this situation with their new Bonese, the Raloans that these had been for the three decades of. A man and woman initiated a term contract of, signed the papers in the contract, as they did back on Tierra, agreeing to their conceptions to the two under Tierra laws. They soon found that their two conceptions would result in or more. The population of Buena-I had in a terrifying manner. None of the scientists had been to what caused the multiple of. Conceptions had been banned; frustration of followed, in births and of the dwindling water and food supplies. Collapse of the colony was growing by the month.

Consternation reigned in the meeting room of the C-PAT when these were received on Ralo. The wise men knew that the water they sent under contract soon would not be sufficient for the growing Bonese population and contract would have to be made. More, however, the more Bonese would decide to take over the small land and use it as their own from which they would draw the liquid for the needs of their. To would be; they must themselves by first.

Word was sent to Chan to go to the government of Buena-I and them that the contract was canceled; that no more water would be sent from Ralo from that on, the Bonese to until they would be
to the idea of sharing all the mining on Buena-I with Raloans. The Raloans knew now of the Bonese water situation. They felt they were in a position, a position of which they were unaware when they made the first contract.

How the C-PAT evaluated the violent, hostile natures of the Bonese was by the reaction of the Bonese government officials. Over the protests of Konrad such action, Chan, the messenger from the Raloans, was killed on the.

This action of violence was the result of the anger and that had been building up in the Bonese officials over the situation on Buena-I. Anxious meetings were being held by the Government Emergency Population Control Commission, which hastily had the best scientists away from their previous work at the greenhouses and the water reclamation station. The challenge of finding a solution to the problem of the multiple births had been thrown down to them months previously. Was a laboratory and and equipment with to work continuously until someone found a clue to the of the situation. Food was brought in to them, more and better food than they would have rated in their old and far better than that now to the general population. Were in of the, with work on until someone slept a to the then awoke to return to the or other of the equipment that had been assembled hastily.

Different tangents of began. Some scientists looked for an factor in the water from the sea that trigger the. (The delegation that went to Ralo to contract for water reported no of multiple births or at that colony. No need existed to the
water from that source. Especially since the multiple births began long before the time water was needed from Ralo.)

Other scientists searched for an among the plants that grew in the greenhouses. This of search was a one. All the chemicals in which the plants grew came from the supplies brought in the from Tierra. Only the atmosphere in which they spread their green leaves was a new factor. The harsh filtered through the of the greenhouses to the plants grown by the scientists to bountiful crops.

The most likely source of which caused the human cells to in so radical a was the vegetation that existed on Buena-I. Some of the lichens and plants had been into the diet of the Bonese after earlier had them to be nonpoisonous in nature. One complicating factor of the search was the lack of laboratory to test the results for proof. When the distilled from the lichens and was broken for and two unknowns up on the, there was no way to their guilt because of the long wait for shipments of reproducing animals from Tierra.

Speculating that one of the two was the mysterious factor that was into the, into, and into the DNA molecules or into the vital of the reproductive, the scientists decided that the of the situation demanded "a cure be developed before the ever was," in the manner of the early pioneers in the of during the search for knowledge of cancer back in the primitive days of science.

This the easiest of the search. A chlorophyll-synthesis inhibitor was developed quickly which would eradicate the vegetation from the areas of human on Buena-I. Results were presented
to the commission for their consideration. The scientists their and large quantities of the inhibitor from their stores of chemicals in of the approval for the operation that was sure to come.

Until this time the problems of the Bonese government seemed, at this inopportune time, the message was brought from Ralo, and the kind, intelligent Chan was killed. Of fear, the demands of the Raloans resulted in immediate anger on the part of the Bonese officials. Of their superiority in numbers and technology to the other colony, the officials sent back their, "Never!" in the manner of a large animal swatting away a bothersome insect.

A raider force was assembled hastily and sent to the Ra-Bon Group area with to capture the Raloan members. This was, but the force was by the fact that some of their own miners who were members of the Ra-Bon Group tried to the from capture. When this fact was told to the government officials, they refused to it was true, and the Bonese group back to the mining area for work.

While the raider force was at work, the scientists brought the good news of the breakthrough on the population problem. Was to begin at once. With the population to be stabilized, more water reclamation stations could be and the Bonese soon would not have to depend on the Raloan water source. This was some time in the future, however. A message was sent to Ralo the capture of the group at New Ralo City and the surrender of the Raloan government, else all of the would be killed.

Chan to counsel or them, the other members of the C-PAT were about which action to take. Since all acts of aggression had been far back in the of Tierra, they had come to abhor the
sacrifice of human life. The thought that the deaths of other Raloans might result from their refusal was too much to. A message of surrender was sent.

All Raloans were moved to Buena-I to work as slaves building water stations. The Bonese did not trust them to be near the mines with the precious ore. The scientists sprayed the offending vegetation throughout Buena-I and within knew of their success when the multiple births. All Bonese who were not needed to do mining work moved to Ralo to protect the water source and to send shipments of water to Buena-I, since it would be a long time before of the stations would all. Konrad, who was not in good grace with the Bonese officials because of his long record of a to their problems, was left on Buena-I and with those Bonese who worked in the mines or who guarded the Raloan slaves.

Once again the good of the Raloans came to the. In, they remained and worked building and the water reclamation stations with a dedication as if the project were their own. Bodies, used to the ease of life back on Ralo, and. Contact with their was kept on a. Soon both Konrad and the entire Bonese guard force were slipping into the comradeship that had at the earlier of the Ra-Bon Group.

Konrad began to realize that what was needed for the good of all on the planet was a joint with both groups in. The natures of the Raloans brought out the best in the Bonese; the and stamina of the Bonese caused the Raloans to and improve of and.

Konrad and his followers among the Bonese decided to to a union and to attempt to get the Bonese government to such a
mutually beneficial. All of the Raloans agreed to this. Konrad's proposal was sent to the Bonese government officials on Ralo. Without to receive a reply, Konrad proclaimed all the slaves to be free citizens and granted to all the Raloans to live they wished and to work in the mines the Bonese.

A small group of Raloans who had been of Chan held about the union they had, with the others, because they felt the Bonese government could not be. And some of the Bonese members of Konrad's union had been members of the old Ra-Bon Group. They the the Raloans felt about Chan's death, as as for their own government. This strange liaison resulted in a hardcore group of who felt that the violent Bonese could understand only more. A secret of retaliation united them into formation of a Saboteur. They Konrad's union, to which they all, would succeed; but they secretly met to what to do if it did not.

Reaction was not long in coming from Ralo. Unexpectedly, the and rose on Buena-I, as detonators on the water reclamation stations were triggered by from Ralo. The Bonese officials had left explosives hidden in all the stations before they moved the government; someone had foreseen the possibility of an insurrection of the Raloan slaves and had directed that this action be if the need ever arose to control them by them water. Konrad the and found undamaged of water the complete ruin of all the equipment. This emergency would last with, for a while, a while, but then what would they do?

The action of the Bonese officials confirmed the of those who to the Saboteur Team. After of of action, they to freight
missiles with the unused inhibitor and send them toward Ralo, to on and that land with chemicals deadly to all vegetation. They had water, but of food in the greenhouses on Buena-I; Konrad would soon be in a better bargaining position with the Bonese when there was no food but of water on Ralo.

Emergency supplies of water on Buena-I had almost been exhausted and the first of a message of by Konrad and his followers were being written when a message from the Bonese government was. "Food: we are starving, our crops are, all vegetation is burned and and. Please help us. And in addition to food, we also need water. Please your water with us. The have and the have dried up. There been no. When the vegetation died, happened to the. All is dry and barren. Please help us."

Sadly, Konrad, "We cannot help you. The people are of. We have sent a message to Tierra to send ships with haste to take us away from this land. We you do. There is that we can long for them to arrive. We are sorry for you."

The fleet of new, superdrive circled the small planet one more time. The second to the fleet, "We have now both land with our scanners. There to be greenhouses still on the larger land mass, but through our, they appear to be untended. Both land are of vegetation. We regret to report that there is no of human life. We the mission return to Tierra."

"So order it," replied the commander. The fleet away silently; and in into the darkness of the void.
Point of decision had been reached in long record of population problems of the citizens of Buena-I. Like increase number of electrically-charged particles in atomic pile until that moment when critical mass was achieved and nuclear fission was eminent, so numbers of Bonese had edged upwards on the statistical charts of the Government Emergency Population Control Commission. Multiple births were problem. Multiple births which first had seemed the answer to problem of how to populate and work productively huge land mass of Buena-I.

This land had been claimed by 500 colonists who emigrated from home nation on Tierra many years earlier. First this land mass seemed the best choice. Were vast deposits of copper ore which was needed to maintain precarious economic balance between the two supernations that co-existed on Tierra. Bonese had become hardened, sunbronzed people. Violent natures had developed in already independent personalities of the pioneer-type colonists. Great pride in themselves arose as a result of large quantities of copper which were sent back to Tierra in the robot controlled ferry transports.

Planet was most unusual geography: six-tenths ocean, higher any known in salinity and mineral content; three-tenths dry, mountainous land mass, rich in minerals; one-tenth fertile, rainwashed land on the north polar area of the planet.
When colony 1000 emigrants from opposing nation Tierra arrived at planet Gardine-X-35, they came late because of a defect in their nuclear propulsion system that had not been anticipated by scientists of their home nation. Big land mass was claimed already and named Buena-I. All they could do was to stake claim on smaller land mass on the planet.

They named new homeland Ralo. It was found to have only meager low-grade deposits of necessary copper ore, but it was hospitable land, easy to cultivate, and healthy, growing agrarian economy soon developed. Life was easy for Raloans while they waited for opportunity to move onto the large land area. Early in days on Ralo, they elected their most learned scholars to membership on Committee for Planning Acquisition of Territory. Need for rich ore deposits on Buena-I was to be the main concern of these governing officials, who were led by man named Chan. This goal continued as never forgotten plan of the officials through the years.

Most Raloans soon ceased to care whether they ever got land on Buena-I not. Life was too good Ralo. First they worried because they could not mine ore to send back to Tierra to justify their existence colony, but soon no Raloans would have wanted to do hard labor of miners. Everyone Ralo became gentleman farmers, enjoying life of relative ease filled with many social occasions. They left all problems of leadership government to Chan, to whom they were completely devoted, loyal.

After about three decades had passed uneventfully but pleasantly on Ralo, delegation from Bonese government arrived
there under frequency signal of neutrality. They had unexpected request: water. They needed water in great quantity from springs, rivers of Ralo for use on arid, sparsely vegetated Buena-I. Return they offered trade contract, bartering small quantities of both copper ore and finished copper. After meeting with Bonese delegation, Chan and ruling committee of Ralo (now referred to as C-PAT in official telepathic transmissions to their Tierra station) retired to consider the trade contract. Chan felt that this was golden opportunity to gain foothold on mineral rich land of Buena-I; most of the others of the C-PAT thought this was useless now. Original reason for their emigration had been production of copper for the home nation. If Bonese were willing to "give" them copper in exchange for abundant water of Ralo, then let them do all the work. Chan reasoned them, insisting that this would be at best temporary arrangement, that more permanent arrangements should be made. Finally C-PAT agreed on plan of action and met again with the Bonese delegation.

Gentle, patient Chan stood before taller, muscular Bonese men and gave them the terms of the Raloan contract. They were ready to formulate agreement exchange, provided small settlement Raloans be allowed to go to Buena-I to live and to form a receiving station for the ferry missiles that would bring in the water and take out the minerals. Group would live in area separate from Bonese cities, but would conform to laws of Buena-I, with deportation back to Ralo to be in order for any lawbreaker in the colony. (Chan said nothing of fact that Raloans would
retain their own citizenship and maintain only visitor status as far as Bonese loyalty was concerned.)

Bonese delegation heard him out, then went into a conference of their own. What they had not told Raloans was the immensity of their problem. Nothing could grow in water from sea. It was useless even to cool coils of nuclear reactors brought from Tierra to power the mining operations, offices and apartments, and vast hydroponic "greenhouses" where scientists tended food crops growing with roots in chemicals, from which source came an adequate but dull diet for the Bonese. Complications had arisen during past two decades that they dare not communicate to Raloans. Truth of matter was that there was danger of slowdown or cessation of all productivity in their mining industry. Hastily assembled water purification and reclamation stations, operating at full capacity, never produced enough to stay ahead of real problem lack of water for rapidly growing population.

Desperate Bonese delegation would have agreed to almost any quantity of ore Raloans demanded. Idea of a Raloan infringement on the land of Buena-I had not been anticipated. Violent arguments and flaring tempers were unanimous reaction. One member of delegation, powerful man named Konrad, finally was able to calm group and influence them into acceptance of the situation, which seemed inevitable. Konrad's argument was if number of Raloans were kept small and people closely supervised, no great harm could result. They returned to council chamber of the C-PAT, agreeing forthwith to accept the idea proposed by Chan,
but sharply limiting the number. Added condition was that number of Bonese equal to Raloans must live in the area set aside on Buena-I to form a Ra-Bon Group. Bonese would supervise trans-shipment of Raloan water to Bonese population centers, and help with the loading of mineral ore for the return shipment. Contract was then signed.

After departure of Bonese, the immediate task facing the C-PAT was deciding who would leave Ralo for Buena-I. Call for volunteers for the new endeavor resulted in not one recruit. Life was so pleasant, none felt desire to venture again into the unknown. Scholar among C-PAT members remembered time far back history when some sort of lottery was arranged to enforce military service; so each man and woman was assigned a number and a random selection was made of those who would be required to serve the present need. Unpleasant grumbling among chosen Raloans resulted that members of the C-PAT themselves decided to send half their own number, with their families, to become the Ra-Bon Group.

Raloans who left, under leadership of Chan, soon found themselves tested by the barren land and the unchanging dry climate. Used to long rainy season and fertile greensward of Ralo, they were unprepared for strange absence of all moisture which existed on the larger land mass. They named area was assigned to them New Ralo City, in manner immigrant groups on Tierra in dark, dim ages of the past had given to new land the name of old familiar places. Sullen, bronze-skinned Bonese miners who joined Ra-Bon Group added to the strangeness of the
place. Soon pleasant natures of Raloans emerged, their earlier gloom disappeared, and they sang as they went about the tiring work of unloading the water cargo.

This was new and interesting experience for the Bonese miners. They were used to harsh commands or silence during work periods in mines. All food for Raloans had to come from Ralo with the water shipments. Bonese had grown tired of monotonous diet of greenhouse food and they delighted in opportunity to share the fine food from the crops that grew on Ralo. They watched Raloan farmers try unsuccessfully to make plants grow as they did with such ease on Ralo. Bonese decided show them how to find lichens which were edible that grew in shady spots. They appreciated happy attitudes of the Raloans and their lack of anger. Most all they admired Chan, who was gentle, yet firm when the occasion demanded, was intelligent and patient, despite problems in coping with a group of two such different natures. Slowly, all Bonese of the Ra-Bon Group came to be as loyal to Chan as Raloans were.

Raloans soon noticed another unexpected peculiarity of life in the new area. Something was happening their family structure. Children conceived on Ralo were healthy, normal Tierra-sized babies, almost always born singly. First conception New Ralo City resulted in births of six smaller babies, and these were followed by multiple births ranging upwards to eight and nine children. Strange occurrence was described in Chan's daily microsheet reports transmitted back to C-PAT headquarters on Ralo.
During discussion of situation with their new Bonese friends, Raloans learned that these same birth phenomena had been happening for three decades of colonization. Man and woman initiated five-year term contract of marriage, signed papers required in contract, as they did back on Tierra, agreeing to limit their conceptions to the two allowed under Tierra laws. They soon found their two conceptions would result in ten or more progeny. Population of Buena-I had exploded in a terrifying manner. None of scientists had been able to find what caused multiple genetic division of cytoplasm. Conceptions had been banned; frustration intense degree followed, resulting in illegal births and illegal uses of dwindling water and food supplies. Complete collapse of colony was growing nearer by the month.

Consternation reigned in meeting room of C-PAT when these reports were received on Ralo. Wise men knew that water they sent under contract soon would not be sufficient for growing population and another contract would have to be made. Likely more numerous Bonese simply would decide to take over small land and use it as their own wellspring from which they would draw the vital liquid for the needs of their industry. Wait longer would be foolhardy; they must defend themselves by acting first.

Word sent to Chan to go to government of Buena-I; tell them that contract canceled, that no more water would be sent from Ralo from that moment on, leaving Bonese to suffer thirst until they would be receptive to the idea of sharing all the mining areas on Buena-I with Raloans. Raloans knew now of the desperation of the Bonese water situation. Felt they were in
commanding position of which they were unaware when they made
the first contract agreement.

How poorly C-PAT evaluated the violent, hostile natures of
Bonese was shown by the reaction of the Bonese government of-
ficials. Over protests of Konrad against such action, Chan, the
messenger from Raloans, was killed on the spot.

Action of violence was result of the anger and frustration
that had been building up in Bonese officials over the impos-
sible situation on Buena-I. Meetings were being held by Govern-
ment Emergency Population Control Commission, which hastily had
pulled best scientists away from their previous work at the
hydroponic "greenhouses" and the water reclamation stations.
Challenge of finding a solution to the problem of multiple births
had been thrown down to them months previously. Each was given
laboratory, assistants, and equipment, with orders to work
continuously until someone found a clue to reversal of the situa-
tion. Food was brought them, more better food than they would
have rated in their old jobs and far better than that now avail-
able to the general population. Bunks were installed in corners
laboratories, with work going until someone slept few hours to
counter the exhaustion, then awoke to return to the computers
or other of the sophisticated equipment that had been assembled
hastily.

Tangents of investigation began. Scientists looked for an
unknown factor in reclaimed water from the sea that might trigger
the phenomena. (Delegation went to Ralo to contract for water
reported no evidence of multiple births or overpopulation at
that colony. No need existed to analyze water from that source since the multiple births began long before the time water was needed from Ralo.)

Scientists searched for an answer among the plants that grew in the greenhouses. This path of search was narrow one. All chemicals in which plants grew came from the original supplies brought in the emigration from Tierra. Only atmosphere in which they spread their green leaves was a new factor. Harsh sunshine filtered through polarized panels of the greenhouses to cause the plants grown by the scientists to produce bountiful crops.

Most likely source of unknown agent which caused human cells to divide in so radical a fashion was the sparse vegetation that existed naturally on Buena-I. Some lichens and root plants had been accepted into the diet of Bonese after earlier tests had shown them to be nonpoisonous in nature. One complicating factor of search was lack of laboratory animals to test the results for proof. Protein distilled from lichens and roots was broken down for amino acid analysis and two unknowns turned up on analyzers, there was no way to confirm their guilt because of the long wait for shipments of rapidly reproducing experimental animals from Tierra.

Speculating one of two unknowns was mysterious factor that was metabolized into the body, absorbed into tissue, and eventually imprinted into DNA molecules or into vital RNA of reproductive cells, scientists decided that expediency of the situation demanded "a cure be developed before the virus ever was identified," in the manner of the early pioneers in the field of biochemical
medicine during the search for knowledge of cancer back in the primitive days of medical science.

This proved easiest part of the search. Chlorophyll-synthesis inhibitor was developed quickly which would eradicate dangerous vegetation from the areas of human habitation on Buena-I. Results were presented to commission for their consideration. Scientists readied plant sprayers and prepared large quantities of inhibitor spray from their stores of chemicals in anticipation of the approval for the operation was sure to come.

Until this time problems of Bonese government seemed immense; at this inopportune time, message was brought from Ralo, and the kind, intelligent Chan was killed. Instead of fear, demands of the Raloans resulted in immediate anger on the part of Bonese officials. Aware of their superiority in numbers and technology to other colony, officials sent back their reply, "Never!" much in manner of a large animal swatting away a bothersome insect.

Raider force was assembled hastily and sent to Ra-Bon Group area with orders to capture the Raloan members. This was accomplished, but force was surprised by fact that some of their own miners who were members of Ra-Bon Group tried to defend the prisoners from capture. When fact was told to government officials, they refused to believe it was true, and merely transferred the Bonese group back to mining area for future work.

While raider force was at work, the scientists brought the good news of breakthrough on the population problem. Spraying
was ordered to begin once. With population to be stabilized, more
water reclamation stations could be built, and Bonese soon would
not have to depend on Raloan water source. This was still some-
time in the future. Message was sent to Ralo describing capture
of group at New Ralo City and demanding the surrender of the
Raloan government, else all of the hostages would be killed.

Without Chan to counsel or guide them, other members of
C-PAT were confused about which action to take. Since acts of
aggression had been outlawed far back in history of Tierra, they
had come to abhor deliberate sacrifice of human life. Thought
that deaths of other Raloans might result from refusal was too
much to bear. Message of surrender was sent.

Raloans were moved to Buena-I to work as slaves building
water stations. Bonese did not trust them to be near mines
with the precious ore. Scientists sprayed offending vegetation
throughout Buena-I and within months knew of their success when
multiple births ceased. Bonese not needed to do mining work
moved to Ralo to protect water source and to send shipments of
water to Buena-I, since it would be a long time before capacity
of the stations would supply all needs. Konrad, not good grace
with Bonese officials because of long record of counseling a
conservative approach to their problems, was left on Buena-I
and charged with governing those Bonese who worked in the mines
or who guarded the Raloan slaves.

Once again good nature of the Raloans came to the surface.
In slavery they remained cheerful and worked building and enlarg-
ing water reclamation stations with dedication as if the project
were their own. Soft bodies, used to ease life back on Ralo, became hardened and tanned. Contact with their guards was kept always on friendly basis. Soon both Konrad and entire Bonese guard force were slipping into same comradeship that had evolved at the earlier experiment of Ra-Bon Group.

Konrad began to realize what was needed for good of all on planet was a joint operation with both groups working in harmony. Happy natures of Raloans brought out best in Bonese; conversely, the physical strength and stamina of the Bonese caused the Raloans to compete and improve physically instead of staying soft and indolent.

Konrad and followers among Bonese decided to try to organize a union and attempt to get the Bonese government to accept such a mutually beneficial arrangement. All the Raloans agreed to this move. Konrad's proposal was sent to Bonese government officials on Ralo. Without waiting to receive reply, Konrad proclaimed all slaves free citizens, and granted permission to all the Raloans to live where they wished and work in the mines alongside the Bonese.

Small group Raloans who had been friends of Chan held secret reservations about the union they had joined, along with others, because they felt the Bonese government could not be trusted. Some of Bonese members of Konrad's union had been members of the old Ra-Bon Group. They shared bitterness Raloans felt about Chan's death, as well as disrespect for their own government. Strange liaison resulted in hardcore group of dissidents who felt that the violent Bonese could understand only
more violence. Secret pledge of retaliation united them into formation of a Saboteur Team. They hoped Konrad's union, they all belonged, would succeed; but they secretly met to discuss what to do if it did not.

Reaction was not long coming from Ralo. Unexpectedly earth shook, dust clouds rose on Buena-I as hidden detonators on the water reclamation stations were triggered by signal from Ralo. Crafty Bonese officials had left explosives hidden in stations before they moved government; someone had foreseen possibility of an insurrection of the Raloan slaves and had directed that this action be taken if the need ever arose to control them by denying them water. Konrad checked wreckage and found a few undamaged tanks of water amid the complete ruin of all equipment. Emergency supply would last with rationing for while, a short while, but then what would they do?

Action of Bonese officials confirmed the beliefs of those who belonged to the Saboteur Team. After discussion several courses of action, they chose to load freight missiles with unused inhibitor, send them toward Ralo to explode on impact and cover land with chemicals deadly to all vegetation. Had little water but plenty food in greenhouses Buena-I; Konrad would soon be in a better bargaining position with the Bonese when there was no food, but plenty of water on Ralo.

Emergency supplies water on Buena-I had almost been exhausted; first drafts of message of capitulation by Konrad and his followers were being written when a message from the Bonese government was received. "Food; we are starving, crops are dead,
all vegetation is burned, brown, and lifeless. Please help us. In addition to food, we also need water. Share your water with us. Springs have gone and the rivers have dried up. Has been no rain. When green vegetation died, something happened to the climate. All is dry, barren. Please help us."

Konrad replied, "We cannot help you. People here are dying of thirst. We have sent message to Tierra to send rescue ships greatest haste to take us away from this land. Suggest you do likewise. Is little possibility that we can survive long enough for them to arrive. We are sorry you."

Fleet of superdrive light ships circled the small planet, Gardine-X-35, one more time. Second officer reported to fleet commander, "We have now searched both land masses with our scanners. Seem to be greenhouses still standing on larger land mass, but through our viewing prism, they appear to be untended. Both land masses are devoid of vegetation. We regret to report, sir, there is no sign of human life. We suggest mission return to Tierra."

"So order it," replied commander. Fleet curved away silently and in seconds disappeared into the darkness of the void.
Buena-I and Ralo
30% Subjective Deleted Version

Point decision had been reached long record of population problems citizens of Buena-I. Like increase number electrically-charged particles atomic pile until moment when critical mass achieved nuclear fission was eminent, numbers Bonese had edged upwards on statistical charts of Government Emergency Population Control Commission. Multiple births problem. Multiple births first seemed answer problem how to populate and work productively huge land mass of Buena-I.

Land claimed by 500 colonists who emigrated from home nation Tierra many years earlier. First, land mass seemed best choice. Vast deposits copper ore needed to maintain precarious economic balance between two supernations that co-existed on Tierra. Bonese become hardened, sunbronzed people. Violent natures developed in independent personalities of pioneer-type colonists. Great pride themselves arose as result of large quantities copper were sent back to Tierra in robot controlled ferry transports.

Planet was unusual geography: six-tenths ocean, higher salinity and mineral content; three-tenths dry, mountainous land mass, rich minerals; one-tenth fertile, rain-washed land north polar area of planet.

When colony emigrants opposing nation Tierra arrived planet Gardine-X-35, they came late because of defect in
nuclear propulsion system not anticipated by scientists of their home nation. Big land mass was claimed named Buena-I. They could do was stake claim on smaller land mass on planet.

They named homeland Ralo. It was found have meager, low-grade deposits of copper ore, but it was hospitable land, easy cultivate, healthy, growing agrarian economy developed. Life easy for Raloans while they waited opportunity move onto large land area. Early days on Ralo, they elected learned scholars membership on Committee Planning Acquisition of Territory.

Need for rich ore deposits on Buena-I was be main concern of governing officials, were led by man Chan. Goal continued as never forgotten plan of officials through years.

Raloans ceased to care whether they got land on Buena-I not. Life was good Ralo. First worried they could not mine ore send back Tierra justify existence colony, but soon no Raloans would have wanted to do hard labor miners. Everyone Ralo became gentleman farmers, enjoying life ease filled with social occasions. They left problems of leadership government to Chan, they were completely devoted loyal.

After three decades passed uneventfully pleasantly on Ralo, delegation from Bonese government arrived under frequency signal neutrality. They unexpected request: water. Needed water great quantity from springs rivers Ralo for use arid, sparsely vegetated Buena-I. Return they offered trade contract, bartering small quantities copper ore finished copper. After meeting with Bonese delegation, Chan and ruling committee of Ralo (referred C-PAT telepathic transmissions
their Tierra station) retired to consider trade contract. Chan felt this was golden opportunity to gain foothold on mineral rich land Buena-I; most others C-PAT thought this was useless now. Original reason emigration had been production of copper for home nation. Bonese were willing "give" them copper in exchange for abundant water Ralo, let them do all work. Chan reasoned them, insisting this would be temporary arrangement, more permanent arrangements should be made. C-PAT agreed on plan action and met again with Bonese delegation.

Chan stood before taller, muscular Bonese men and gave them terms of Raloan contract. They ready formulate agreement exchange, provided small settlement Raloans allowed go to Buena-I live and to form receiving station for ferry missiles that would bring in water and take out minerals. Group would live area separate from Bonese cities, conform to laws Buena-I, with deportation back to Ralo in order for any lawbreaker in colony. (Chan said nothing fact Raloans would retain own citizenship and maintain visitor status far as Bonese loyalty was concerned.)

Bonese delegation heard him out, went into conference their own. They had not told Raloans was immensity of problem. Nothing could grow in water sea. Useless to cool coils of nuclear reactors from Tierra to power mining operations, offices, apartments, vast hydroponic "greenhouses" where scientists tended food crops growing roots in chemicals, from which came adequate but dull diet for Bonese. Complications arisen past two decades they dare not communicate to Raloans. Truth was there was danger of slowdown or cessation of all productivity in mining industry.
Hastily assembled water purification reclamation station, operating full capacity, never produced enough to stay ahead of problem, lack water growing population.

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Departure Bonese, immediate task facing C-PAT was deciding who would leave Ralo for Buena-I. Call for volunteers new endeavor resulted not one recruit. Life was pleasant, none felt desire venture again into unknown. Scholar remembered time back history when of lottery was arranged to enforce military service; each man and woman was assigned number and random selection was made of those who would be required to serve present need. Grumbling among chosen Raloans resulted members C-PAT themselves decided send half their own number, with their families, to become Ra-Bon Group.

Raloans left, under leadership Chan, found themselves tested
by barren land and unchanging dry climate. Used to rainy season and fertile greensward Ralo, they were unprepared for absence of moisture existed on larger land mass. They named area assigned New Ralo City, in manner immigrant groups Tierra in dark ages of past had given to new land name of old familiar places. Sullen, bronze-skinned Bonese miners joined Ra-Bon Group added to strangeness of place. Pleasant natures of Raloans emerged, their gloom disappeared, they sang as they went about tiring work of unloading water cargo.

Was new and interesting experience for Bonese miners. They used harsh commands silence during work periods in mines. Food for Raloans had come from Ralo with water shipments. Bonese tired of monotonous diet greenhouse food and they delighted opportunity to share fine food from crops that grew on Ralo. Watched Raloan farmers try unsuccessfully make plants grow they did with such ease Ralo. Bonese decided show how find lichens were edible that grew in shady spots. They appreciated happy attitudes of Raloans lack of anger. They admired Chan, who was gentle, firm when occasion demanded, intelligent and patient despite problems coping with group of two such different natures. All Bonese Ra-Bon Group came to be loyal to Chan as Raloans were.

Raloans noticed another unexpected peculiarity of life new area. Something was happening family structure. Children conceived Ralo were healthy, normal Tierra-sized babies, born singly. First conception New Ralo City resulted in births six smaller babies were followed by multiple births upwards eight, nine children. Occurrence was described in Chan's daily macrosheet reports transmitted to C-PAT headquarters Ralo.
Discussion situation their Bonese friends, Raloans learned these same birth phenomena had been happening for three decades of colonization. Man and woman initiated five-year term contract marriage, signed papers required contract, back Tierra, agreeing to limit their conceptions to two allowed under Tierra laws. They found two conceptions would result ten or more progeny. Population of Buena-I had exploded terrifying manner. None scientists been able to find what caused multiple genetic division cytoplasm. Conceptions banned; frustration intense degree followed, resulting illegal births illegal uses of dwindling water food supplies. Complete collapse colony was growing nearer by month.

Consternation reigned in meeting room C-PAT when reports received on Ralo. Mean knew water sent under contract soon would not be sufficient for growing Bonese population another contract would be made. Numerous Bonese would decide take over small land and use it as their own wellspring from which they would draw vital liquid for needs of industry. Wait be foolhardy; must defend themselves by acting first.

Word sent to Chan go to government Buena-I tell them contract canceled; no more water sent from Ralo moment leaving Bonese to suffer thirst until they would be receptive to idea of sharing all mining areas on Buena-I with Raloans. Raloans knew of desperation of Bonese water situation. They were in commanding position, position which were unaware when they made first contract agreement.

Poor." C-PAT evaluated violent, natures of Bonese was shown by reaction of Bonese government officials. Over protests of Konrad against action, Chan, messenger from Raloans, was killed spot.
Action violence was result of anger and frustration been building up in Bonese officials over impossible situation on Buena-I. Meetings held by Government Emergency Population Control Commission, which pulled best scientists away from previous work at hydroponic greenhouses and water reclamation stations. Challenge finding solution to problem of multiple births had been thrown down them months previously. Each given laboratory, assistants, equipment, orders to work continuously until someone found clue to reversal of situation. Food brought them, more better food than they have rated in their old jobs, better than now available to general population. Bunks were installed laboratories, work going until someone slept few hours to counter exhaustion, then awoke to return to computers or other of equipment that had been assembled.

Tangents investigation began. Scientists looked for unknown factor in reclaimed water from sea might trigger phenomena. (Delegation went Ralo contract water reported no evidence multiple births or overpopulation at that colony. No need existed analyze water from that source, multiple births began before time water was needed from Ralo.)

Scientists searched for answer among plants that grew in greenhouses. Path of search was narrow one. Chemicals in which plants grew came from original supplies brought emigration from Tierra. Only atmosphere they spread their green leaves was new factor. Sunshine filtered through polarized panels of greenhouses cause plants grown by scientists to produce bountiful crops.

Likely source unknown agent which caused human cells to divide
radical fashion was sparse vegetation that existed naturally on Buena-I. Lichens and root plants had been accepted into diet Bonese after earlier tests shown them to be nonpoisonous nature. Complicating factor search was lack of laboratory animals to test results for proof. Protein distilled from lichens roots broken down amino acid analysis two unknowns turned up on analyzers, no way to confirm guilt because long wait for shipments of rapidly reproducing experimental animals from Tierra.

Speculating one, two unknowns mysterious factor metabolized into body, absorbed into tissue, imprinted into DNA molecules or into vital RNA of reproductive cells, scientists decided expediency of situation demanded "cure be developed before virus ever identified," in manner of early pioneers in field of biochemical medicine during search for knowledge of cancer back in primitive days of medical science.

This proved easiest part of search. Chlorophyll-synthesis inhibitor developed would eradicate dangerous vegetation from areas of human habitation on Buena-I. Results presented to commission for consideration. Scientists readied plant sprayers prepared quantities inhibitor spray from stores of chemical in anticipation of approval for operation was sure to come.

Time problems Bonese government seemed immense, at inopportune time, message was brought from Ralo, and kind, intelligent Chan was killed. Instead fear, demands of Raloans resulted in immediate anger part of Bonese officials. Aware superiority numbers, technology other colony, officials sent back their reply, "Never!" much in manner of large animal swatting away
bothersome insect.

Raider force was assembled and sent to Ra-Bon Group area orders capture Raloan members. This was accomplished; force was surprised fact some of own miners were members of Ra-Bon Group tried to defend prisoners from capture. When fact was told government officials, they refused believe it true, transferred Bonese group back to mining area for future work.

While raider force was at work, scientists brought good news of breakthrough population problem. Spraying was ordered begin once. With population be stabilized, water reclamation stations could be built Bonese would not have depend on Raloan water source. This was still time in future. Message was sent Ralo describing capture of group at New Ralo City demanding surrender of Raloan government, else all hostages be killed.

Without Chan counsel guide them, members C-PAT were confused about which action to take. Acts of aggression had been outlawed back history Tierra, they had come to abhor deliberate sacrifice human life. Thought that deaths of Raloans might result from refusal was too much bear. Message surrender was sent.

Raloans moved Buena-I work as slaves building water stations. Bonese did not trust them near mines with precious ore. Scientists sprayed vegetation throughout Buena-I within months knew success when multiple births ceased. Bonese not needed do mining work moved Ralo protect water source and send shipments water to Buena-I, since would be long time before capacity of stations would supply needs. Konrad, not good grace Bonese because record counseling conservative approach problems, was left on Buena-I charged with
governing those Bonese who worked in the mines or who guarded the Raloan slaves.

Again good nature of Raloans came to surface. Slavery, they remained cheerful worked building enlarging water reclamation stations with dedication as project were their own. Soft bodies, used ease life Ralo, became hardened and tanned. Contact with guards kept always on friendly basis. Konrad and Bonese guard force were slipping into same comradeship that evolved at earlier experiment of Ra-Bon Group.

Konrad began realize what needed good of all planet was joint operation with both groups working in harmony. Happy natures Raloans brought best Bonese; conversely, physical strength and stamina of Bonese caused Raloans to compete and improve physically instead staying soft and indolent.

Konrad and followers among Bonese decided organize union and attempt to get Bonese government to accept such mutually beneficial arrangement. All Raloans agreed to this move. Konrad's proposal was sent Bonese government officials Ralo. Without waiting receive reply, Konrad proclaimed all slaves free citizens granted permission Raloans to live where they wished and work in mines alongside Bonese.

Small group Raloans been friends Chan held secret reservations about union they had joined, others, because they felt Bonese government could not be trusted. Some Bonese members Konrad's union had been members of old Ra-Bon Group. They shared bitterness Raloans felt about Chan's death, disrespect for their own government. Liaison resulted hardcore group
dissidents who felt that violent Bonese could understand only more violence. Secret pledge retaliation united them into formation Saboteur Team. Hoped Konrad's union, belonged, would succeed; they secretly met to discuss what do if it did not.

Reaction not long coming from Ralo. Unexpectedly, earth shook, dust clouds rose Buena-I, hidden detonators on water reclamation stations triggered by signal Ralo. Bonese officials left explosives hidden in stations before they moved government; someone foreseen possibility insurrection of Raloan slaves directed this action be taken if need ever arose to control them by denying them water. Konrad checked wreckage found few undamaged tanks of water amid complete ruin of equipment. Emergency supply would last, rationing, while, short while, then what would they do?

Action Bonese officials confirmed beliefs of those who belonged to Saboteur Team. After discussion courses action, they chose load freight missiles with unused inhibitor send toward Ralo, explode on impact cover land with chemicals deadly to vegetation. Little water, plenty food greenhouses Buena-I; Konrad would soon be in better bargaining position with Bonese when there was no food but plenty water Ralo.

Supplies water Buena-I almost exhausted first drafts message capitulation by Konrad and followers were being written when a message from the Bonese government was received. "Food; we are starving, crops dead, vegetation is burned, brown, lifeless. Help us. Additional food, we also need water. Share water with us. Springs have gone, rivers have dried up. Been no rain."
Green vegetation died, something happened to climate. All dry, barren. Help us."

Konrad replied, "We cannot help. People are dying of thirst. We have sent message Tierra send rescue ships greatest haste take us away from land. You do likewise. Little possibility we can survive long enough for them arrive. We sorry you."

Fleet light ships circled small planet, Gardine-X-35, one more time. Officer reported to fleet commander, "We have searched both land masses with scanners. Be greenhouses standing on larger land mass, but viewing prism, they appear to be un-tended. Land masses are devoid of vegetation. We report there is no sign of human life. Suggest mission return to Tierra."

"Order it," replied commander. Fleet curved away in seconds disappeared into darkness of the void.

Land claimed by colonists emigrated from home Tierra years earlier. Land seemed best choice. Deposits copper ore needed maintain economic balance between two supernations co-existed Tierra. Bonese become hardened. Violent natures developed personalities pioneer-type colonists. Pride arose result of quantities copper sent back to Tierra robot controlled ferry transports.

Planet unusual geography: six-tenths ocean, higher salinity, mineral; three-tenths dry, mountainous, minerals; one-tenth fertile, rain-washed land north polar area.

Colony emigrants opposing nation Tierra arrived Gardine-X-35, came late because defect nuclear propulsion system not anticipated scientists home nation. Land mass claimed named Buena-I. They could do stake claim smaller land planet.

Named homeland Ralo. Found meager, deposits copper ore, was hospitable land, easy cultivate, healthy, growing agrarian economy developed. Life easy Raloans while waited opportunity move onto land. Early days Ralo, they elected scholars
membership Committee Planning Acquisition Territory. Need rich ore deposits Buena-I was main concern of officials, led by Chan. Goal continued never forgotten plan officials years.

Raloans ceased care whether they got land Buena-I. Life good Ralo. Worried could not mine ore send Tierra justify existence colony, no Raloans would wanted to hard labor miners. Everyone became farmers, enjoying life ease, social occasions. Left problems leadership government to Chan, were devoted loyal.

Three decades passed Ralo, delegation Bonese government arrived under frequency signal neutrality. Unexpected request: water. Needed water quantity springs, rivers Ralo arid, sparsely vegetated Buena-I. Offered trade contract, bartering copper ore finished copper. After meeting Bonese delegation, Chan ruling committee Ralo (C-PAT transmissions Tierra station) retired consider trade contract. Chan felt this opportunity gain foothold on mineral rich land Buena-I; others C-PAT thought useless. Reason emigration been production copper for home nation. Bonese willing "give" copper exchange for water Ralo, let them do work. Chan reasoned insisting temporary arrangement, permanent arrangements should be made. C-PAT agreed on plan action met Bonese delegation.

Chan stood before Bonese men gave them terms Raloan contract. Ready formulate agreement exchange, provided settlement Raloans allowed go Buena-I live form receiving station ferry missiles bring water and take out minerals. Group live area separate from Bonese cities, conform laws Buena-I, deportation Ralo for any lawbreaker in colony. (Said nothing fact Raloans
retain citizenship, maintain visitor status as Bonese loyalty concerned.)


Desperate Bonese delegation would agreed quantity ore demanded. Idea Raloan infringement land Buena-I not been anticipated. Arguments, tempers unanimous reaction. Member delegation, man Konrad, was able calm group influence them into acceptance situation, inevitable. Argument number Raloans were small, people supervised, no harm result. They returned council chamber C-PAT, agreeing accept idea proposed Chan, limiting number. Condition number Bonese, equal Raloans, must live area aside Buena-I form Ra-Bon Group. Bonese supervise transshipment Raloan water Bonese centers, help loading mineral ore return shipment. Contract signed.

Departure, task C-PAT was deciding who leave Ralo for Buena-I. Call volunteers resulted not one recruit. Life pleasant, none felt desire venture unknown. Remembered lottery arranged enforce military service; each man, woman was assigned
number random selection made of those who would be required to serve present need. Grumbling Raloans resulted members C-PAT decided send half own number, with families, become Ra-Bon Group.

Raloans left, Chan, found themselves tested barren land unchanging dry climate. Used rainy season greensward Ralo, they were unprepared absence of moisture existed land mass. They named area assigned New Ralo City, immigrant groups Tierra ages past given new land name of familiar places. Bonese miners joined Ra-Bon Group added strangeness place. Pleasant natures Raloans emerged, gloom disappeared, they sang went tiring work unloading water cargo.

New interesting experience Bonese miners. Used commands silence during work periods mines. Food Raloans come from Ralo water shipments. Bonese tired diet greenhouse food, delighted opportunity share fine food from crops grew on Ralo. Watched Raloan farmers try unsuccessfully make plants grow ease Ralo. Bonese decided show how find lichens edible grew spots. Appreciated happy attitudes Raloans lack anger. They admired Chan, was gentle, firm, intelligent and patient despite problems coping with group different natures. Bonese Ra-Bon Group came to loyal to Chan Raloans.

Raloans noticed unexpected peculiarity life area. Something happening family. Children conceived Ralo were healthy, born singly. First conception Ralo City resulted births six smaller babies followed multiple births eight, nine. Occurrence was described in Chan's microsheet reports transmitted
headquarters.

Discussion situation friends, Raloans learned same birth
phenomena had been happening three decades. Man, woman ini-
tiated five-year contract marriage, signed papers contract,
Tierra, agreeing limit conceptions two allowed under Tierra
laws. They found conceptions would result ten progeny. Pop-
ulation Buena-I exploded terrifying manner. None scientists
able find what caused division cytoplasm. Conceptions banned;
frustration followed, resulting illegal births, uses water,
food supplies. Collapse colony growing nearer month.

Consternation reigned room C-PAT when reports received
Ralo. Men knew water sent contract not sufficient for Bonese
population, another contract be made. Numerous Bonese decide
take land use as wellspring from which they would draw vital
liquid for needs industry. Wait foolhardy; must defend acting
first.

Word sent Chan go to government Buena-I tell contract
canceled; no water from Ralo leaving Bonese suffer thirst
until receptive to idea sharing mining areas Buena-I with
Raloans. Raloans knew desperation Bonese water situation.
They were commanding position, position unaware when made
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Poorly C-PAT evaluated natures Bonese shown by reaction
Bonese government officials. Over protests Konrad against
action, Chan, messenger Raloans, killed.

Action violence was result anger, frustration building in
Bonese officials over situation Buena-I. Meetings held by
Government Emergency Population Control Commission, pulled scientists from work greenhouses, water reclamation stations. Challenge finding solution problem of multiple births been thrown them. Each given laboratory equipment, orders work until someone found clue reversal situation. Food brought, better food than rated in old jobs, better than available to general population. Bunks installed laboratories, work until someone slept hours counter exhaustion, then awoke return to computers or other equipment been assembled.

Investigation began. Scientists looked factor in reclaimed water sea trigger phenomena. (Delegation Ralo water reported no evidence multiple births overpopulation colony. No need existed analyze water source, multiple births began before water needed Ralo.)

Scientists searched answer among plants grew greenhouses. Path search was narrow. Chemicals plants grew came from original supplies brought Tierra. Atmosphere they spread leaves was new factor. Sunshine filtered panels greenhouses cause plants grown scientists produce bountiful crops.

Source unknown agent caused human cells divide radical fashion was sparse vegetation existed Buena-I. Lichens and root plants been accepted diet Bonese after tests shown non-poisonous nature. Factor search was lack laboratory animals test results proof. Protein distilled lichens roots broken amino acid analysis unknowns turned analyzers, no way confirm guilt because wait shipments rapidly reproducing experimental animals Tierra.
One, two unknowns factor metabolized body, absorbed tissue, imprinted DNA molecules or vital RNA reproductive cells, scientists decided expediency situation demanded "cure developed before virus identified," manner pioneers field biochemical medicine during search for knowledge cancer in primitive days of medical science.

Proved easiest part search. Inhibitor developed eradicate dangerous vegetation from areas human habitation Buena-I. Results presented commission consideration. Scientists readied sprayers prepared quantities inhibitor spray stores chemicals anticipation approval operation sure to come.

Problems Bonese government immense, time, message brought from Ralo, kind, intelligent Chan was killed. Instead fear, demands Raloans resulted anger part Bonese officials. Aware superiority numbers technology colony, officials sent back their reply, "Never!" manner animal swatting away insect.

Force was assembled sent Ra-Bon Group area capture Raloan members. Accomplished; force was surprised fact some own miners, members Ra-Bon Group, tried defend prisoners capture. Fact was told officials, they refused believe true, transferred Bonese group back mining area work.

Raider force was work, scientists brought news breakthrough population problem. Spraying ordered begin. Population stabilized, water reclamation stations be built Bonese not depend Raioan water source. This was time future. Message sent Ralo describing capture group New Ralo demanding surrender Raioan government, else hostages be killed.
Without Chan counsel guide, members C-PAT were confused action take. Acts aggression been outlawed history Tierra, they had come abhor sacrifice human life. Thought that deaths Raloans result refusal too much bear. Message surrender sent.

Raloans moved Buena-I, work slaves stations. Bonese not trust them near mines ore. Scientists sprayed vegetation Buena-I, months success multiple births ceased. Bonese not needed mining moved Ralo protect water source send shipments water Buena-I, be long time before capacity stations supply needs. Konrad, not record conservative approach problems, left Buena-I charged with governing Bonese who worked the mines or who guarded the Raloan slaves.

Good nature Raloans came to surface. Remained cheerful worked building enlarging water reclamation stations dedication project were own. Bodies, ease life Ralo, became hardened, tanned. Contact guards kept always friendly. Konrad and Bonese guard force slipping comradeship that evolved earlier experiment Ra-Bon Group.

Konrad realize needed good all planet was joint operation both groups working harmony. Natures Raloans brought best Bonese; physical strength stamina Bonese caused Raloans compete improve physically instead staying soft, indolent.

Konrad followers Bonese decided organize union attempt get Bonese government accept mutually beneficial arrangement. Raloans agreed this move. Proposal sent Bonese officials Ralo. Without waiting reply, Konrad proclaimed slaves free citizens, granted permission Raloans live wished work mines
alongside Bonese.

Group Raloans, friends Chan, held secret reservations about union joined, because felt Bonese government not be trusted. Some Bonese members union been members Ra-Bon Group. Shared bitterness Raloans felt Chan's death, disrespect own government. Liaison resulted group dissidents felt violent Bonese understand only violence. Pledge retaliation united formation Saboteur Team. Hoped union would succeed; secretly met discuss what if it did not.

Reaction long coming Ralo. Earth shook, clouds rose Buena-I, detonators water reclamation stations triggered signal Ralo. Bonese officials left explosives hidden stations before moved government; foreseen possibility insurrection slaves directed action taken need arose to control by denying them water. Konrad checked wreckage, found undamaged tanks water amid ruin equipment. Emergency supply would last, rationing, while, what would do?

Action Bonese officials confirmed beliefs belonged Saboteur Team. Discussion courses action, chose load missiles unused inhibitor send toward Ralo, explode impact cover land chemicals deadly vegetation. Little water, plenty food greenhouses Buena-I; Konrad better bargaining position with Bonese when no food plenty water Ralo.

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Share water us. Springs gone, rivers have dried. No rain. Vegetation died, something happened climate. Dry, barren. Help."

Konrad, "Cannot help. People dying thirst. Sent message Tierra send rescue ships haste take us land. You likewise. Little possibility we can survive enough arrive. Sorry you."


"Order it," commander. Fleet curved away disappeared into darkness of void.


Planet geography: six-tenths ocean, salinity, mineral; three-tenths dry, mountainous minerals; one-tenth fertile, rain-washed.

Colony emigrants Tierra arrived Gardine-X-35 late, defect propulsion system not anticipated scientists nation. Land claimed Buena-I. Could stake claim smaller land planet.

Named homeland. Found deposits copper ore, hospitable land, easy cultivate, economy developed. Life easy Raloans waited move land. Ralo elected scholars Committee Planning Acquisition Territory. Need ore deposits Buena-I was concern officials, led Chan. Goal continued forgotten plan officials.

Ceased care got land Buena-I. Life good. Worried could not mine ore send Tierra existence, no Raloans wanted labor.
Farmers enjoying life ease social occasions. Problems leadership government Chan, devoted, loyal.


Chan stood Bonese gave terms Raloan contract. Ready formulate agreement exchange, settlement Raloans Buena-I form station, missiles bring water take out minerals. Group live separate Bonese cities, conform laws Buena-I, deportation Ralo lawbreaker colony. (Raloans retain citizenship maintain visitor status Bonese loyalty concerned.)


Delegation agreed quantity ore demanded. Idea infringement Buena-I not anticipated. Arguments, tempers reaction. Delegation Konrad, able calm group influence into acceptance

Task C-PAT deciding who leave Ralo, Buena-I. Volunteers resulted not one. Life pleasant, none desire unknown. Lottery enforce military service; each woman assigned number random selection made those be required serve present need. Grumbling resulted, members C-PAT send half own, families, become Group.

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Word sent Buena-I contract canceled; no water, leaving Bonese suffer thirst until receptive idea sharing mining areas with Raloans. Raloans knew desperation water. Were commanding position unaware made contract agreement.

C-PAT evaluated natures Bonese shown reaction officials. Over protests Konrad, Chan, messenger, killed.

Action violence result anger, frustration building Bonese officials situation. Meetings held Government Population Control Commission, pulled scientists from work stations. Challenge finding solution problem multiple births thrown. Equipment, orders work until found clue reversal situation. Food brought, better than old jobs, better than available population. Bunks installed laboratories, work until slept counter exhaustion, awoke return to computers, equipment.

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Force assembled sent area capture Raloan members. Accomplished; force surprised miners, members group, tried defend prisoners capture. Fact told officials, refused believe true,
transferred Bonese group work.


Without Chan, members C-PAT confused action take. Acts aggression outlawed had come abhor sacrifice human life. Thought deaths Raloans result refusal bear. Surrender sent.


Konrad realize needed good was operation groups working harmony. Natures Raloans best Bonese; strength, stamina caused Raloans compete improve physically, indolent.

Raloans, friends Chan, held reservations union joined, felt government not trusted. Bonese members union members Ra-Bon Group. Bitterness felt Chan's death, disrespect government. Liaison resulted dissidents, felt Bonese understand violence. Pledge united Saboteur Team. Hoped union would succeed; met discuss if not.

Reaction long coming. Earth shook, rose, detonators water stations triggered signal. Officials left explosives stations before moved foreseen possibility insurrection slaves directed action need control denying water. Konrad checked wreckage, found tanks water equipment. Emergency supply would last, what do?

Bonese officials confirmed beliefs Saboteur Team. Action, load missiles inhibitor send Ralo, explode cover land chemicals deadly vegetation. Water, plenty food better bargaining position, Bonese no food plenty water Ralo.


Fleet ships circled planet, Gardine-X-35, more time. Officer reported commander, "Searched land masses. Greenhouses standing larger land mass, appear untended. Land

"Order," commander. Fleet curved, disappeared into darkness.
A point of decision had been reached in long record of population problems of citizens of Buena-I. Like the increase in number of electrically-charged particles in atomic pile until that moment when critical mass was achieved and nuclear fission was eminent, so numbers of Bonese had edged upwards on statistical charts of Government Emergency Population Control Commission.

Multiple births were problem. At first multiple births had seemed to answer problem of how to populate and work productively the huge land mass of Buena-I.

This land had been claimed by 500 colonists who emigrated from home nation on Tierra many years earlier. At first, this land mass seemed best choice. There were vast copper ore deposits which were desperately needed to maintain precarious economic balance between two supernations that co-existed on Tierra.

Bonese had become hardened, sunbronzed people. Violent natures had developed in the already independent personalities of pioneer-type colonists. And great pride in themselves arose as result of large quantities of copper which were sent back to Tierra in the robot controlled ferry transports.

Planet had most unusual geography: six-tenths ocean, higher than any ever known in salinity & mineral content; three-tenths dry, mountainous land mass, rich in minerals; one-tenth fertile, rain-washed land on north polar area of planet.
When colony of 1000 emigrants from the opposing nation on Tierra arrived at planet Gardine-X-35, they came late because of defect in their nuclear propulsion system that was unanticipated by scientists of their home nation. Big land mass was claimed already and named Buena-I. All they could do was to stake claim on the smaller land mass on planet.

They named new homeland Ralo. It was found to have only meager, low-grade deposits of the necessary copper ore, but it was hospitable land, easy to cultivate, and healthy, growing agrarian economy developed. Life was easy for the Raloans while they waited for opportunity to move onto large land area. Early in their days on Ralo, they elected most learned scholars to membership on Committee for Planning Acquisition of Territory. The need for rich ore deposits on Buena-I was to be main concern of the governing officials, who were led by man named Chan. This goal continued as never forgotten plan of the officials through the years.

Most Raloans, however, soon ceased to care whether they ever got land on Buena-I. Life too good on Ralo. At first they worried because they could not mine ore to send Tierra to justify their existence as colony, but soon no Raloans would have wanted to do hard labor of miners. Everyone on Ralo became gentleman farmers, enjoying life of ease filled with many social occasions. Left all leadership & government problems to Chan, to whom they were completely devoted & loyal.

After about 3 decades had passed uneventfully but pleasantly on Ralo, delegation from Bonese government arrived there under
frequency signal of neutrality. They had unexpected request: water. They needed water in great quantity from springs, rivers of Ralo for use on arid, sparsely vegetated Buena-I. In return they offered trade contract, bartering small quantities of copper ore & finished copper. After meeting with Bonese delegation, Chan & ruling committee of Ralo (now referred to as C-PAT in official telepathic transmissions to their Tierra station) retired to consider the trade contract. Chan felt that this was golden opportunity to gain foothold on mineral rich land of Buena-I; most of the others of the C-PAT thought this was useless now. Original reason for their emigration had been production of copper for the home nation. If Bonese were willing to "give" them copper in exchange for abundant water of Ralo, then let them do all the work. Chan reasoned with them, insisting this would be at best temporary arrangement, that more permanent arrangements should be made. Finally C-PAT agreed on plan of action & met again with the Bonese delegation.

Gentle, patient Chan stood before the taller, muscular Bonese men & gave them the terms of Raloan contract. They were ready to formulate agreement of exchange, provided small settlement of Raloans be allowed to go to Buena-I to live & to form receiving station for ferry missiles that would bring in the water & take out the minerals. The group would live in area separate from Bonese cities, but would conform to laws of Buena-I, with deportation back to Ralo to be in order for any lawbreaker in colony. (Chan said nothing of fact that Raloans surely would retain own citizenship & maintain only visitor status as far as
Bonese loyalty was concerned.

Bonese delegation heard him out, then went into a conference of their own. What they had not told Raloans was the immensity of their problem. Nothing could grow in water from sea. Indeed, it was useless even to cool coils of their nuclear reactors brought from Tierra to power mining operations, offices & apartments, and vast hydroponic "greenhouses" where scientists tended food crops growing with roots in chemicals, from which source came adequate but dull diet for the Bonese. Complications had arisen during past two decades that they dare not communicate to Raloans. Truth of matter was that there was danger of slowdown or cessation of all productivity in their mining industry. Hastily assembled water purification & reclamation station, operating at full capacity, never produced enough to stay ahead of real problem, lack of water for rapidly growing population.

Desperate Bonese delegation would have agreed to almost any quantity of ore Raloans demanded. But idea of Raloan infringement on the land of Buena-I had not been anticipated. Violent arguments & flaring tempers were unanimous reaction. One member of delegation, powerful man named Konrad, finally was able to calm group & influence them into acceptance of the situation, which seemed inevitable. Konrad's argument was if number of Raloans was kept small & people closely supervised, no great harm could result. Then they returned to council chamber of C-PAT, agreeing forthwith to accept the idea proposed by Chan, but sharply limiting the number. An added condition was that number of Bonese, equal to Raloans, must live in area set aside
on Buena-I to form a Ra-Bon Group. Bonese would supervise trans-shipment of Raloan water to Bonese population centers, & help with loading of the mineral ore for the return shipment. Contract was then signed.

After departure of Bonese, the immediate task facing the C-PAT was deciding who would leave Ralo for Buena-I. Call for volunteers for the new endeavor resulted in not one recruit. Life was so pleasant, none felt desire to venture again into the unknown. One scholar among C-PAT members remembered time far back in history when some sort of lottery was arranged to enforce military service; so each man & woman was assigned number & random selection was made of those who would be required to serve the present need. Such unpleasant grumbling among chosen Raloans resulted that members of C-PAT themselves decided to send half their own number, with their families, to become the Ra-Bon Group.

Those Raloans who left, under leadership of Chan, soon found themselves tested by barren land and the unchanging dry climate. Being used to long rainy season & fertile greensward of Ralo, they were unprepared for strange absence of all moisture which existed on larger land masses. They named area that was assigned to them New Ralo City, in manner immigrant groups on Tierra in dark, dim ages of past had given to new land the name of old familiar places. The sullen, bronze-skinned Bonese miners who joined Ra-Bon Group added to strangeness of the place. Soon, however, pleasant natures of Raloans emerged, their earlier gloom disappeared, & they sang as they went about tiring work of unloading the water cargo.
This was new & interesting experience for the Bonese miners. They were used to only harsh commands or silence during work in mines. All food for Raloans had to come from Ralo with the water shipments. Bonese had grown tired of monotonous diet of greenhouse food & they delighted in opportunity to share the fine food from the crops that grew on Ralo. They watched Raloan farmers try unsuccessfully to make plants grow as they did with such ease on Ralo. Bonese decided to show them how to find lichens which were edible, grew in shady spots. They appreciated happy attitudes of the Raloans & their lack of anger. Most of all they admired Chan, who was gentle, yet firm when occasion demanded, who was intelligent & patient despite problems in coping with group of two such different natures. Slowly, all Bonese of Ral-Bon Group came to be as loyal to Chan as the Raloans were.

Raloans soon noticed another unexpected peculiarity of life in the new area. Something was happening to family structure. Children conceived in Ralo were healthy, normal Tierra-sized babies, almost always born singly. First conception at New Ralo City resulted in births of six smaller babies; these were followed by multiple births ranging upwards to 8 & 9 children. This strange occurrence was described in Chan's daily microsheet reports transmitted to C-PAT headquarters on Ralo.

During discussion of situation with their new Bonese friends, Raloans learned that these same birth phenomena had been happening for 3 decades of colonization. A man & woman initiated five-year term contract of marriage, signed papers required in contract, as they did back on Tierra, agreeing to limit their conceptions to
two allowed under Tierra laws. They soon found their 2 conceptions would result in 10 or more progeny. Population of Buena-I had exploded in a terrible manner. None of scientists had been able to find what caused multiple genetic division of cytoplasm. Conceptions had been banned; frustration of intense degree followed, resulting in illegal births & illegal uses of dwindling water, food supplies. Complete collapse of colony was growing nearer by the month.

Consternation reigned in meeting room of C-PAT when these reports were received on Ralo. Wise men knew that water they sent under contract soon would not be sufficient for growing Bonese population & another contract would have to be made. More likely, however, more numerous Bonese simply would decide to take over small land & use it as their own wellspring from which they would draw vital liquid for needs of their industry. To wait longer would be foolhardy; must defend themselves by acting first.

Word was sent to Chan to go to government of Buena-I & tell them that contract was canceled; no more water would be sent from Ralo from that moment on, leaving Bonese to suffer thirst until they would be receptive to idea of sharing all mining areas on Buena-I with Raloans. Raloans knew now of the desperation of the Bonese water situation. They felt they were in a commanding position, position of which they were unaware when they made first contract agreement.

How poorly C-PAT evaluated the violent, hostile natures of the Bonese was shown by the reaction of Bonese government
officials. Over protests of Konrad against such action, Chan, messenger from the Raloans, was killed on the spot.

This action of violence was result of anger & frustration that had been building up in Bonese officials over the impossible situation on Buena-I. Anxious meetings were being held by Government Emergency Population Control Commission, which hastily had pulled best scientists away from their previous work at hydroponics greenhouses & the water reclamation station. Challenge of finding solution to the problem of the multiple births had been thrown down to them months previously. Each was given laboratory & assistants & equipment, with orders to work continuously until someone found clue to reversal of the situation. Food was brought to them, more & better food than they would have rated in old jobs & far better than that now available to general population. Bunks were installed in corners of laboratories, with work going on until someone slept few hours to counter exhaustion, then awoke to return to computers or other of the sophisticated equipment that had been assembled hastily.

Different investigation tangents began. Some scientists looked for an unknown factor in reclaimed water from sea that might trigger the phenomena. (Delegation that went to Ralo to contract water reported no evidence of multiple births or overpopulation at that colony. Therefore, no need existed to analyze water from there, especially since the multiple births began long before time water was needed from Ralo.)

Other scientists searched for an answer among plants that grew in the greenhouses. This path of search was narrow one.
All chemicals in which the plants grew came from original supplies brought in the emigration from Tierra. Only atmosphere in which they spread their green leaves was a new factor. Harsh sunshine filtered through polarized panels of the greenhouses to cause the plants grown by the scientists to produce bountiful crops.

Most likely source of unknown agent which caused human cells to divide in so radical a fashion was the sparse vegetation that existed naturally on Bvena-I. Some of lichens & root plants had been accepted into diet of Bonese after earlier tests had shown them to be nonpoisonous in nature. One complicating factor of search was lack of laboratory animals to test the results for proof. When protein distilled from lichens & roots was broken down for amino acid analysis & 2 unknowns turned up on analyzers, there was no way to confirm their guilt because of long wait for shipments of rapidly reproducing experimental animals from Tierra.

Speculating that one of the two unknowns was mysterious factor that was metabolized into body, absorbed into tissue, & eventually imprinted into DNA molecules or into vital RNA of reproductive cells, scientists decided that expediency of situation demanded "a cure be developed before the virus was ever identified," in the manner of the early pioneers in the field of biochemical medicine during the search for knowledge of cancer back in the primitive days of medical science.

This proved the easiest part of search. A chlorophyll-synthesis inhibitor was developed quickly which would eradicate
dangerous vegetation from areas of human habitation on Buena-I. Results were presented to Commission for their consideration. Scientists readied their plant sprayers & prepared large quantities of inhibitor spray from their stores of chemicals in anticipation that approval for the operation was sure to come.

Until this time problems of Bonese government seemed immense; at this inopportune time, message was brought from Ralo, & the kind, intelligent, Chan was killed. Instead of fear, demands of Raloans resulted in immediate anger on the part of Bonese officials. Aware of their superiority in numbers & technology to other colony, officials sent back their reply "Never!" much in manner of a large animal swatting away a bothersome fly.

Raider force was assembled hastily & sent to Ra-Bon Group area with orders to capture the Raloan members. This was accomplished, but the force was surprised by fact that some of their own miners who were members of Ra-Bon Group tried to defend prisoners from capture. When this fact was told to government officials, they refused to believe it was true, & merely transferred Bonese group back to mining area for future work.

While raider force was at work, scientists brought the good news of the breakthrough on the population problem. Spraying ordered to begin at once. With population to be stabilized, more water reclamation stations could be built & Bonese soon would not have to depend on Raloan water source. This was still some time in future, however. Message was sent to Ralo describing capture of group at New Ralo City & demanding the surrender
of the Raloan government, else all of the hostages would be killed.

Without Chan to counsel or guide them, other members of C-PAT were confused about which action to take. Since all aggressive acts had been outlawed far back in history of Tierra, they had come to abhor deliberate sacrifice of human life. Thought that deaths of other Raloans might result from their refusal was too much to bear. Message of surrender was sent.

All Raloans moved to Buena-I to work as slaves building water stations. Bonese did not trust them to be near mines with the precious ore. Scientists sprayed offending vegetation throughout Buena-I & within months knew of their success when the multiple births ceased. All Bonese who were not needed to do mining work moved to Ralo to protect water source & to send water shipments to Buena-I, since it would be long time before capacity of stations would supply all needs. Konrad, who was not in good grace with Bonese officials because of his long record of counseling conservative approach to problems, was left on Buena-I & charged with governing those Bonese who worked in mines or who guarded Raloan slaves.

Once again good nature of the Raloans came to the surface. Even in slavery, they remained cheerful & worked building & enlarging water reclamation stations with dedication as if project were their own. Soft bodies, used to ease of life back on Ralo, became hardened, tanned. Contact with their guards was kept always on friendly basis. Soon both Konrad & entire Bonese guard force were slipping into same comradeship that had evolved
at earlier experiment of the Ra-Bon Group.

Konrad began to realize that what was needed for good of all on planet was joint operation with both groups working in harmony. Happy natures of Raloans brought out best in Bonese; conversely, the physical strength & stamina of the Bonese caused the Raloans to compete & improve physically instead of staying soft & indolent.

Konrad & his followers among Bonese decided to try to organize union & to attempt to get Bonese government to accept such a mutually beneficial arrangement. All of Raloans agreed to this move. Konrad's proposal was sent to Bonese government officials on Ralo. Without waiting to receive reply, Konrad proclaimed all slaves to be free citizens & granted permission to all Raloans to live where they wished & work in mines alongside the Bonese.

Small group of Raloans who had been friends of Chan held secret reservations about union they had joined, along with others, because they felt the Bonese government could not be trusted. And some of Bonese members of Konrad's union had been members of old Ra-Bon Group. They shared bitterness Raloans felt about Chan's death, as well as disrespect for their own government. This strange liaison resulted in hardcore group of dissidents who felt that violent Bonese could understand only more violence. Secret pledge of retaliation united them into formation of a Saboteur Team. They hoped Konrad's union, to which all belonged, would succeed; but secretly met to discuss what to do if it did not.
Reaction not long in coming from Ralo. Unexpectedly, earth shook & dust clouds rose on Buena-I, as hidden detonators on water reclamation stations were triggered by signal from Ralo. Crafty Bonese officials had left explosives hidden in all stations before they moved government; someone had foreseen possibility of insurrection of the Raloan slaves & had directed that this action be taken if the need ever arose to control them by denying them water. Konrad checked wreckage & found a few undamaged tanks of water amid the complete ruin of all equipment. This emergency supply would last, with rationing, for while, short while, but then what would they do?

Action of Bonese officials confirmed the beliefs of those who belonged to the Saboteur Team. After discussing several courses of action, they chose to load missiles with unused inhibitor & send them toward Ralo, to explode on impact & cover land with chemicals deadly to all vegetation. They had little water, but plenty of food in Buena-I greenhouses; Konrad would soon be in better bargaining position with Bonese when there was no food but plenty of water on Ralo.

Emergency supplies of water on Buena-I had almost been exhausted & first drafts of message of capitulation by Konrad & his followers were being written when message from Bonese government was received. "Food! we are starving; our crops are dead; all vegetation is burned, brown, lifeless. Please help us. In addition to food, we also need water. Please share water with us. Springs have gone & the rivers have dried up. Has been no rain. When green vegetation died, something happened
to the climate. All is dry, barren. Please help us."

Sadly Konrad replied, "We cannot help. People here are
dying of thirst. We have sent message to Tierra to send rescue
ships with greatest haste to take us from this land. Suggest
you do likewise. There is little possibility that we can
survive long enough for their arrival. Are sorry for you."

Fleet of new, superdrive light ships circled small planet,
Gardine-X-35, one more time. Second officer reported to fleet
commander, "We have now searched both land masses with our scan-
ners. There seem to be greenhouses standing on larger land
mass, but through our viewing prism they appear to be untended.
Both land masses otherwise devoid of vegetation. We regret to
report that there is no sign of human life. We suggest mission
return to Tierra."

"So order it," replied commander. Fleet curved away
gracefully, silently, & in seconds disappeared into darkness
of the void.
Decision point arrived in long record of population problems of citizens of Buena-I. Like increase in electrically-charged particles in atomic pile until moment when critical mass was achieved and nuclear fission eminent, so Bonese numbers edged upwards on charts of Government Emergency Population Control Commission. Problem: multiple births. At first multiple births seemed to answer problem of populating and productively working Buena-I's huge land mass.

Buena-I claimed by 500 colonists who emigrated from home nation on Tierra years earlier. At first, this land seemed best. It contained vast copper ore deposits desperately needed to maintain precarious economic balance between Tierra's two supernations. Bonese had become hardened, sunbronzed. Violent natures developed in pioneer-type colonists' already independent personalities. Great pride in themselves arose as result of large quantities of copper sent to Tierra in robot controlled ferry transports.

Planet's geography unusual: six-tenths ocean, highest known in salinity & mineral content; three-tenths dry, mountainous, rich in minerals; one-tenth fertile, rain-washed on north polar area of planet.

When 1000 emigrants from opposing Tierra nation arrived planet Gardine-X-35, they came late due to defect in nuclear
propulsive system that was unanticipated by home nation's scientists. Big land mass already claimed--named Buena-I. All they could do was stake claim on smaller land on planet.

Named new homeland Ralo. It had only meager, low-grade deposits of needed copper, but it was hospitable land, easily cultivated, and healthy, growing agrarian economy developed. Life easy for Raloans while waiting for opportunity to move onto large land. Early in Ralo days they elected most learned to Committee for Planning Acquisition of Territory. Need for Buena-I's ore deposits was to be main concern of these governing officials, led by man named Chan. Goal continued as never forgotten plan of officials through years.

Most Raloans ceased to care whether they got land on Buena-I. Ralo life too good. At first they worried because they could not mine ore to send Tierra to justify colony's existence, but soon no Raloans wanted miners' hard labor. All Raloans became gentleman farmers, enjoying easy life filled with social occasions. Left leadership & government problems to Chan, to whom they were devoted, loyal.

After 3 decades passed uneventfully on Ralo, delegation from Bonese government arrived under frequency signal of neutrality. Had unexpected request: water. Needed quantities water from Ralo's springs, rivers for use on arid, sparsely vegetated Buena-I. In return they offered trade, bartering both copper ore & finished copper. After meeting Bonese delegation, Chan & Ralo's ruling committee (now called C-PAT in official telepathic transmissions to Tierra) retired to consider
trade contract. Chan felt this was golden opportunity to gain foothold on mineral rich Buena-I; most others of C-PAT thought this was useless now. Original reason for emigration had been copper production for home nation. If Bonese willing to "give" copper in exchange for Ralo's abundant water, let them do all work. Chan reasoned with them, insisting this would be temporary; more permanent arrangements should be made. Finally C-PAT agreed on plan & met again with Bonese delegation.

Gentle, patient Chan stood before taller, muscular Bonese & gave them Raloan contract terms. They were ready to formulate exchange agreement provided small Raloan settlement be allowed in Buena-I to live & form receiving station for ferry missiles bringing in water & taking out minerals. Groups would live in area separate from Bonese cities, but would conform to Buena-I laws, with deportation to Ralo for any lawbreaker in colony. (Chan did not mention Raloans would retain citizenship & maintain visitor status concerning Bonese loyalty.)

Bonese delegation heard him out, then went into own conference. What they had not told Raloans was problem's immensity. Nothing could grow in sea water. It was useless to cool nuclear reactor coils, brought from Tierra to power mining operations, offices, apartments, & vast hydroponic "greenhouses" where scientists tended food crops growing in chemicals, from which came adequate, dull Bonese diet. Complications developed during past two decades--they dared not tell Raloans. Truth of matter: danger of slowdown or cessation of all productivity in their mining industry. A hastily assembled water purification &
Reclamation, operating at full capacity, never produced enough water for the rapidly growing population.

Desperate Bonese would have accepted almost any ore quantity Raloans demanded. But idea of Raloan infringement on Buena-I had not been anticipated. Unanimous reaction: violent arguments, flaring tempers. One delegation member, powerful man named Konrad, finally was able to calm group & influence them into accepting inevitable situation. Konrad's argument was if Raloan number kept small & closely supervised, no harm could result. They returned to C-PAT council chamber, agreeing to accept idea proposed by Chan, but sharply limiting number. Additional condition was that Bonese number equal to Raloans live in same area on Buena-I to form Ra-Bon Group. Bonese would supervise transshipment of Raloan water to Bonese population centers, help load mineral ore for return shipment. Contract was signed.

After Bonese departure, task facing C-PAT was deciding who would leave Ralo for Buena-I. Call for volunteers for endeavor resulted in no recruits. Life so pleasant, none felt desire to venture into unknown. One scholar in C-PAT remembered historical time when lottery was arranged to enforce military service; so each man & woman was assigned number & random selection was made of those who would be required to serve. Chosen Raloans grumbled so that C-PAT members decided to send half their own number, with their families, to become Ra-Bon Group.

Those Raloans who left, led by Chan, were tested by barren land, unchanging dry climate. Being used to Ralo's rainy season & fertile greensward, they were unprepared for larger land mass's
absence of all moisture. They named area assigned them New Ralo City, in manner immigrant groups on Tierra in past ages had given to new land name of old familiar places. The sullen, bronze-skinned Bonese miners who joined Ra-Bon Group increased place's strangeness. Soon Raloans' pleasant natures emerged, earlier gloom disappeared, & they sang as went about tiring work of unloading water cargo.

This was new, interesting experience for Bonese miners. Used to only harsh commands or silence during mine work. All Raloan food must come from Ralo with water shipments. Bonese had grown tired of monotonous greenhouse food diet & they delighted in opportunity to share fine food from Raloan crops. Watched Raloan farmers try unsuccessfully to grow plants as they did easily on Ralo. Bonese showed them how to find edible lichens that grew in shady spots. They appreciated Raloans' happy attitudes & lack of anger. Most important, they admired Chan, who was gentle, yet firm when necessary; intelligent, patient despite problems in coping with group of different natures. Slowly, all Ra-Bon Group Bonese became as loyal to Chan as Ralo were.

Raloans noticed another unexpected peculiarity in the new area. Something happening to family structure. Children in Ralo healthy, normal, Tierra-sized babies, always born singly. New Ralo City: first birth--six smaller babies, these were followed by multiple births ranging to 8 & 9 children. Strange occurrence described in Chan's daily reports transmitted to C-PAT headquarters on Ralo.
Discussing situation with Bonese friends, Raloans learned these same birth phenomena had been happening for 3 decades of colonization. Man, woman initiated 5-year term marriage contract, signed papers required, as they did on Tierra, agreeing to limit conceptions to 2 allowed under Tierra laws. Found 2 conceptions would result in 10 or more progeny. Population of Buena-I exploded in terrible manner. No scientist able to find what caused multiple genetic division of cytoplasm. Conceptions banned; intense frustration followed, resulting in illegal births & illegal uses of dwindling water, food. Complete collapse of colony growing nearer by month.

Consternation reigned in C-PAT meeting room when reports received on Ralo. Wise men knew water sent under contract not sufficient for growing Bonese population; another contract would have to be made. Probably more numerous Bonese would decided to take over small land & use it as own wellspring from which to draw vital liquid for industrial needs. Waiting longer foolhardy; must defend themselves by acting first.

Word sent Chan to go to Buena-I’s government & tell them contract canceled; no water would be sent from Ralo from then on, leaving Bonese to suffer thirst until they were receptive to sharing all Buena-I’s mining areas with Raloans. Raloans knew now of desperation of Bonese water situation. Felt they were in commanding position of which they were unaware when making first contract.

How poorly C-PAT evaluated violent, hostile Bonese natures was shown by Bonese government officials’ reactions. Over
Konrad's protests against such, Chan, messenger from Raloans, was killed on spot.

Violent action result of anger & frustration that had been building up in Bonese officials over Buena-I's impossible situation. Anxious meetings held by Government Emergency Population Control Commission which hastily pulled best scientists from previous work at greenhouses & water reclamation station. Challenge of finding solution to multiple births problem had been given to them months before. Each was given laboratory, assistants, equipment; ordered to work continuously until finding clue to reversal of situation. Food was brought them—more, better food than they would have rated in old jobs; far better than general population's food. Bunks installed in laboratory corners, with work continuing until someone slept few hours to counter exhaustion, then returned to computers or other sophisticated equipment that had been assembled.

Different investigations began. Some looked for unknown factor in reclaimed sea water that might trigger phenomena. (Delegation to Ralo to contract water reported no evidence of multiple births or overpopulation there. Therefore no need to analyze water from there, especially since multiple births began before water needed from Ralo.)

Other scientists searched for answer among plants growing in greenhouses. This path of search was narrow. All chemicals in which plants grew came from original emigration supplies from Tierra. Only atmosphere where they spread their leaves was new factor. Harsh sunshine filtered through polarized
greenhouse panels, causing plants grown by scientists to produce bountiful crops.

Most likely source of unknown agent causing human cells to divide so radically was sparse vegetation existing naturally on Buena-I. Some lichens & root plants had been accepted into Bonese diet after tests showed them as nonpoisonous in nature. One complicating factor was lack of laboratory animals for testing results for proof. When protein distilled from lichens & roots received amino acid analysis, 2 unknowns showed up on analyzers; no way to confirm guilt because of long wait for rapidly reproducing experimental animals from Tierra.

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This proved easiest part of search. Chlorophyll-synthesis inhibitor was developed to eradicate vegetation from Buena-I's areas of human habitation. Results were presented Commission for consideration. Scientists readied plant sprayers & prepared large quantities of inhibitor spray from chemical stores in anticipation of operation's approval sure to come.

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part of Bonese officials. Aware of numerical & technological superiority to other colony, officials sent reply, "Never!" much in manner of large animal swatting bothersome insect.

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While raider force was working, scientists brought good news of breakthrough on population problem. Spraying ordered to begin immediately. With population stabilized, more water reclamation stations could be built; Bonese would not have to depend on Raloan water. This still some time in future. Message sent Ralo describing capture of group at New Ralo City, demanding surrender of Raloan government, else all hostages would be killed.

Without Chan to guide, counsel them, C-PAT members confused about what action to take. Since all aggressive acts had been outlawed early in Tierra's history, they abhorred deliberate sacrifice of human life. Thought that Raloan deaths might result from refusal was too much to bear. Surrender message was sent.

All Raloans became Buena-I slaves--worked building water stations. Bonese did not trust them near mines with precious ore. Scientists sprayed offending Buena-I vegetation & within months knew of success--multiple births ceased. All Bonese
not needed for mining moved to Ralo to protect water supply, ship Buena-I water, since it would be long time before station's capacity would supply all needs. Konrad, not in good graces with Bonese officials because of his record of conservative counseling, was left on Buena-I charged with governing Bonese who worked in mines or who guarded Raloan slaves.

Once again good nature of Raloans came to surface. Even in slavery they remained cheerful; built, enlarged water reclamation stations as if project were their own. Soft bodies, used to Raloan easy life, became hardened, tanned. Contact with guards was always on friendly basis. Soon Konrad & entire Bonese guard force were slipping into same comradeship that had evolved at Ra-Bon Group.

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Reaction from Ralo not long coming. Earth shook & dust clouds rose on Buena-I as hidden detonators on water reclamation stations were triggered. Bonese officials had left explosives hidden in all stations before moving government; someone had foreseen possibility of Raloan slave insurrection & had directed this action if need arose to control them by denying water. Konrad checked wreckage; found few undamaged tanks of water amid complete ruin of equipment. This emergency supply would last short while, with rationing, but then what happens?

Bonese officials' action confirmed beliefs of those who belonged to Saboteur Team. After discussing several plans, they loaded missiles with unused inhibitor & sent them toward Ralo, to explode on impact & cover land with deadly chemicals. Had little water but plenty food in Buena-I greenhouses; Konrad soon be in bargaining position with Bonese when no food but plenty water on Ralo.

Buena-I's emergency water supplies were almost exhausted; first drafts of capitulation message by Konrad & followers were being written when received message from Bonese government.

"Food; we are starving; crops dead; all vegetation is buried,
brown, lifeless. Please help. Besides food, we also need water. Please share your water. Springs have gone & rivers have dried. Have no rain. When vegetation died, something happened to climate. All dry, barren. Please help."

Konrad replied, "We cannot help. People here dying of thirst. We have sent Tierra message to send rescue ships with haste to take us away. You do likewise. There is little possibility we can survive until they arrive. We are sorry."

Fleet of new, superdrive light ships circled Gardine-X-35 once more. Second officer reported to fleet commander, "We searched both land masses with scanners. Seem to be green-houses on larger land mass, but through viewing prism they appear untended. Both lands otherwise devoid of vegetation. Regret to report there is no sign of life. Suggest mission return to Tierra."

"So ordered," replied commander. Fleet curved away gracefully, silently, & in seconds disappeared into darkness.
Decision point arrived in population problems of Buena-I citizens. As particles increase in atomic pile until reach critical mass bringing fission, so Bonese numbers soared on Government Emergency Population Control Commission charts. Problem: multiple births. At first multiple births seemed solution to populating and working Buena-I's land mass.


Geography: 6/10 ocean--saline & minerals; 3/10 dry, mountainous--minerals; 1/10 fertile, rainwashed--on planet's north pole.

1000 emigrants from opposing Tierra nation arrived planet Gardine-X-35 late; had unanticipated defect in nuclear propulsion system. Big land already claimed--Buena-I. They could only stake claim on smaller land mass.

Named it Ralo. Had only meager low-grade copper deposits but was hospitable land--easily cultivated--agrarian economy developed. Raloan's life easy while awaiting opportunity move
onto Buena-I. Elected most learned scholars to Committee for Planning Acquisition of Territory. Main concern: need for Buena-I's rich ore deposits; governing officials led by Chan. Officials' goal never forgotten through the years.

Raloans ceased caring whether they got Buena-I land. Ralo life good. Worried because could not send Tierra ore to justify colony's existence, but soon no Raloans wanted miner's labor. All Raloans gentleman farmers--easy life filled with socials. Left Chan leadership, government problems; devoted, loyal to him.

After 3 uneventful decades, Bonese government delegation arrived Ralo under neutrality frequency signal. Unexpected request: water. Needed quantities water from Ralo for arid, sparsely vegetated Buena-I. In return they offered copper ore & finished copper. After meeting Bonese delegation, Chan & Ralo's ruling committee (now called C-PAT) retired to consider trade contract. Chan saw opportunity to gain foothold on mineral rich Buena-I; others thought this useless now. Original emigration reason: copper production for home nation. Bonese willing to exchange copper for water; let them do all work. Chan reasoned this would be temporary, permanent arrangements should be made. Finally C-PAT agreed on plan, met with Bonese.

Gentle, patient Chan gave tall, muscular Bonese Raloan contract terms. Small Raloan settlement must be allowed in Buena-I to live and form receiving station for ferry missiles bringing water and taking minerals. Groups would live separate from Bonese cities, but obey Buena-I laws--deportation to Ralo
for any lawbreaker. (Unmentioned: Raloans would retain own citizenship & maintain visitor status concerning Bonese loyalty.)

Bonese delegation listened; went into own conference. Had not told Raloans problem's immensity. Sea water grew nothing. Useless to cool nuclear reactor coils, used to power mining, offices, apartments, and "greenhouses" where scientists tended crops growing in chemicals—source of adequate, dull Bonese diet. Dared not tell Raloans past two decade's complications. Danger of slowdown or cessation of all productivity in mining industry. Water purification, reclamation station, operating at full capacity, never produced enough water for growing population.


After Bonese departure, C-PAT decide who leave Ralo for Buena-I. Call for volunteers resulted in no recruits. Life pleasant, none desired venture into unknown. One C-PAT scholar remembered historical time when lottery enforced military service; each man, woman received number & random selection made
of those required to serve now. Chosen Raloans grumbled; C-PAT decided to send half themselves, with families, to become Ra-Bon Group.

Barren land, dry climate tested Raloans who left, led by Chan. Accustomed to Ralo's rainy season, fertile greensward, they were unprepared for Buena-I's absence of moisture. Named area assigned them New Ralo City, as historical Tierran immigrants had named new land for old familiar places. Sullen, bronze-skinned Bonese joined Ra-Bon Group--increased place's strangeness. Soon Raloans' pleasant natures emerged; gloom disappeared; sang during tiring work unloading water cargo.

New, interesting experience for Bonese. Used to harsh commands, silence while mining. All Raloan food came with water shipments. Bonese tired of monotonous greenhouse diet & delighted in sharing fine food from Raloan crops. Watched farmers fail to grow plants--although easy on Ralo. Bonese showed them edible lichens, growing in shady spots. Appreciated Raloans' happy attitudes, lack of anger. Most important, they admired Chan--gentle, firm when needed; intelligent; patient despite problems with different natured groups. All Ra-Bon Group Bonese loyal to Chan as Raloans.


Bonese friends told Raloans that same birth phenomena
occurring for 3 decades colonization. Couple initiated 5-year marriage contract, signed required papers agreeing to limit conceptions to 2 allowed under Tierra laws, 2 conceptions produce 10 or more progeny. Buena-I's population exploded--terrifying manner. Scientists unable find cause of multiple division of cytoplasm. Conception banned; result: intense frustration, illegal births, using dwindling food, water. Colony's collapse growing nearer monthly.

Consternation reigned in C-PAT when Ralo received reports. Scholars knew water sent not sufficient for growing Bonese population; another contract would be required. Probably Bonese would take over Ralo & use it as own wellspring for drawing liquid vital for industrial needs. Waiting longer foolhardy; acting first best defense.

Word sent Chan to tell Bonese government contract canceled; no water sent from then on; Bonese suffer thirst until receptive to sharing all Buena-I's mining areas with Raloans. Raloans knew desperation of Bonese situation. Felt in commanding position of which unaware when making first contract. Officials' reactions showed how poorly C-PAT evaluated violent, hostile Bonese natures. Over Konrad's protests, Chan, Raloan messenger, was killed immediately.

Violent action result of Bonese officials' anger & frustration about Buena-I's impossible situation. Government Emergency Population Control Commission held anxious meetings; pulled best scientists from greenhouses & water reclamation work. Finding solution to multiple births problem was assigned them months
before. Each given laboratory, assistants, equipment; must work continuously until finding clue to reversal. More, better food--than had in old jobs; than general population had--was brought them. Bunks installed in laboratory corners; work continued until someone slept few hours, countering exhaustion, then returned computers, other sophisticated equipment.

Different investigations began. Some looked for unknown factor in reclaimed sea water. (Delegation to Ralo to contract water reported no multiple births there. Needless to analyze Raloan water since multiple births began before Raloan water necessary.)

Others searched for answer among greenhouse plants. This path was narrow. All chemicals growing plants came from original Tierran supplies. Only new factor: atmosphere where they grew. Sunshine filtered through polarized greenhouse panels, causing plants to produce bountifully.

Most likely source of agent causing radical cell division: sparse vegetation existing naturally on Buena-1. Lichens & root plants part of Bonese diet--tests showed them as nonpoisonous. Complication: lack of laboratory animals for testing, proving results. Amino acid analysis of lichen & root protein showed 2 unknowns; couldn't confirm guilt--must wait for rapidly reproducing experimental animals from Tierra.

Speculating that 1 of 2 unknowns was factor metabolized into body, absorbed into tissue, imprinted into DNA or reproductive cells' RNA, scientists decided "cure before virus identified" expedient, imitating biochemical medicine pioneers during search
for cancer knowledge in medical sciences' primitive days.

This was easiest part. Chlorophyll-synthesis inhibitor developed to eradicate Buena-I's vegetation from habitation areas. Results presented Commission for consideration. Scientists readied plant sprayers; prepared large quantities inhibitor spray from chemical stores, anticipating operation's approval.

Bonese government's problems seemed immense; at inopportune time Raloan message came; Chan was killed. Anger, not fear by Bonese resulted from Raloan demands. Aware of numerical & technological superiority, Bonese officials replied "Never!" like large animal swatting bothersome fly.

Raider force ordered to Ra-Bon Group to capture Raloan members. Task accomplished; but some of their own miners, Ra-Bon Group members, tried to defend prisoners. Government officials refused to believe report, merely transferred Bonese to mining area for future work.

While raiders worked, scientists brought news—population problem breakthrough. Immediate spraying ordered. Stabilized population allows more water reclamation stations, making Bonese independent of Raloan water. This was still in future. Message sent Ralo describing New Ralo City's capture, demanding Raloan government's surrender, else all hostages die.

Without Chan, C-PAT members confused about what action to take. All aggression was outlawed early in Tierran history—they abhored deliberate human sacrifice. Thought that deaths might result from refusal was unbearable. Surrender message sent.
All Raloans became slaves--built water stations. Bonese did not trust them near mines. Scientists sprayed Buena-I vegetation; soon knew success--multiple births ceased. Bonese not mining moved to Ralo to protect & ship water, since time long before stations capable of supplying all needs. Konrad, not in good with Bonese officials because of conservative counseling, was left on Buena-I to govern Bonese mining or guarding Raloan slaves.

Once again Raloan good nature surfaced. Remained cheerful in slavery; built, enlarged water reclamation stations as if their own. Bodies used to ease became hardened, tanned. Contact with guards always friendly. Konrad, entire Bonese guard force slipped into comradeship like that at Ra-Bon Group.

Konrad realized what was needed for good of all was joint, harmonious operation. Raloans' happy natures brought out best in Bonese; Bonese physical strength & stamina caused Raloans to improve physically.

Konrad, Bonese followers decided to organize union, get Bonese government to accept mutually beneficial arrangement. All Raloans for this. Proposal sent officials on Ralo. Without receiving reply, Konrad freed all slaves, granted all permission to live where wished, work in mines.

Small Raloan group, Chan's friends, held reservations about union; they felt Bonese government could not be trusted. Union had Bonese members who belonged old Ra-Bon Group. Shared Raloans' bitterness about Chan's death; disrespected Bonese government. Result of liaison: hardcore dissenters; felt Bonese could
understand only violence. Retaliation pledge united them--
formed Saboteur Team. Wished Konrad's union (all belonged)
success; secretly discussed alternative should it fail.

Quick reaction from Ralo. Buena-I shook, dust clouds rose--
hidden detonators on reclamation stations were triggered. Bonese
left explosives hidden in all stat. before moving government;
someone foresaw possibility of slave insurrection; means for
controlling them was denying them water. Konrad found few un-
damaged water tanks amid equipment's complete ruin. Emergency
supply last short while with rationing, then what?

Officials' action confirmed belief of those on Saboteur
Team. They loaded missiles with inhibitor, sent them toward
Ralo; to explode on impact, cover land with deadly chemicals.
Buena-I had little water, plenty greenhouse food; Konrad bargain
with Bonese when no food, plenty water on Ralo.

Buena-I's water almost exhausted; Konrad & followers writing
drafts of capitulation message when received message from Bonese
government. "Food; we starve; crops dead; all vegetation life-
less. Help. Besides food, we need water. Please share water.
Springs gone & rivers dry. Have no rain. Vegetation death
cause climate change. All dry, barren. Help."

Answer: "We cannot. Dying of thirst. We have sent Tierra
message to send ships to rescue us. You do likewise. We
probably won't survive until they arrive. We are sorry."

New superdrive ships circled Gardine-X-35 once more.
Second officer reported, "We searched both lands with scanners.
Greenhouses on larger land mass; through viewing prism they
appear untended. Lands otherwise devoid vegetation. There is no sign of human life. Suggest return Tierra."

"So ordered," commander. Fleet curved away gracefully, silently, disappearing into darkness
Although originally allowing for populating & productively working Buena-I's huge land mass, multiple births created population crisis for Bonese people.

500 emigrants from home nation on Tierra claimed Buena-I due to vast copper ore deposits desperately needed for economic balance of 2 supernations on Tierra. Bonese became sunbronzed, hardened, violent, independent, & proud due to copper quantities sent Tierra by robot controlled ferry transports.

Planet's geography: 6/10 ocean--high saline & mineral content; 3/10 dry, mountainous--mineral-rich; 1/10 fertile, rainwashed--north pole.

1000 emigrants from opposing Tierra nation arrived planet Gardine-X-35 late due to defective propulsion system. Could only claim smaller land.

New homeland Ralo: meager deposits copper ore; easily cultivated. Elected scholars to Committee for Planning Acquisition of Territory, headed by Chan. Goal: never forgotten; Buena-I's ore.

Raloan life good, easy, many social events. All gentleman farmers. None wanted miners' hard labor. All loyal to Chan. He handled leadership, government problems.

30 years later Bonese delegation arrived Ralo requesting large quantities of water in return for small quantities copper
ore & finished copper. Chan saw opportunity for foothold in Buena-I. Most others on ruling committee (C-PAT) thought Bonese should do mining work, not Raloans. C-PAT finally agreed.

Contract terms: Raloan settlement in Buena-I as receiving station for water & minerals. Raloans separate from Bonese cities, but under Buena-I laws. Lawbreaking meant deportation. (Unstated: Raloan citizenship retained, no Bonese loyalty.)

Bonese dared not tell Raloans their problem's immensity: nothing could grow in sea water. Food restricted to "greenhouse" crops grown in chemicals--adequate but dull. Danger of mining shutdown. Water purification & reclamation station could not produce enough water for growing population.

Bonese desperate but Raloan infringement unanticipated. Arguments, tempers. Konrad, delegation leader, argued no harm would result if Raloan numbers small & supervised. Accepted Chan's idea; sharply limited number. Added equal Bonese number to live at receiving station. Formed Ra-Bon Group. Bonese supervise water shipment, help load mineral ore. Contract signed.

Life so pleasant no one wanted to leave Ralo for Buena-I. Lottery arranged but resulted in much unpleasant grumbling. C-PAT decided half of themselves with their families would become Ra-Bon Group.

Those Raloans who left, under leadership of Chan, were tested by barren land, dry climate, absence of all moisture in Buena-I. Named their area New Ralo City. Bonese miners added to strangeness. Soon Raloans pleasant natures emerged;
they sang while unloading the water cargo.

Interesting experience for Bonese: used to only harsh commands or silence while working. Got to share food grown on Ralo. Watched Raloan farmers try unsuccessfully to grow plants. Showed Raloans how to find edible lichens. Appreciated Raloans happy attitudes & lack of anger. Admired gentle, firm, intelligent, patient Chan. All Bonese of Ra-Bon Group became loyal to Chan too.

Chan's daily reports to C-PAT headquarters on Ralo reported change in family structure. Although babies on Ralo were born singly, healthy, & normal Tierra-size, New Ralo City babies were smaller & born in groups up to 8-9 children.

Raloans learned multiple births had been happening to Bonese since colonization. Although couples signed a 5-year marriage contract, as on Tierra, limiting conceptions to two, they found this would result in 10 or more progeny. Due to population explosion & scientists' inability to find cause, conceptions had been banned, resulting in intense frustration & illegal births, thus illegal use of dwindling food & water.

C-PAT scholars knew contracted water soon would not suffice for growing Bonese population. Probably the more numerous Bonese would just decide to take over Ralo. They must defend themselves by acting first.

Since the Bonese situation was desperate, Raloans felt in a commanding position. Ordered Chan to tell Buena-I government that contract was canceled; no more water would be sent until Bonese agreed to share mining areas.
Over Konrad's protests, Chan was killed on the spot.

The Government Emergency Population Control Commission pulled best scientists from greenhouse & water reclamation work; solution to multiple births problem must be found. Each had laboratory, assistants, equipment, food brought in, & bunks in laboratory corners. They were ordered to work continuously until someone found a way to reverse the situation.

Some looked for a factor in the reclaimed sea water; since Ralo had no population problem it was unnecessary to analyze the water from there.

Others searched for an answer among the greenhouse plants. Since all chemicals growing there were from original Tierran supplies, only the atmosphere was a new factor.

The most likely cause was Buena-I's natural vegetation as lichens & root plants had been incorporated into the Bonese diet when tests proved them nonpoisonous. Problem: when amino acid analysis of lichen & root protein showed 2 unknown factors, it was impossible to confirm causation due to lack of rapidly reproducing laboratory animals.

Speculating that one of the two unknowns was the factor, the scientists decided expediency demanded a cure be developed before the virus was identified.

A chlorophyll-synthesis inhibitor was developed to eradicate the dangerous vegetation from Buena-I.

Meanwhile, aware of their superior numbers & technology, the Bonese officials replied "Never!" to the Raloan message.

A raider force was sent to the Ra-Bon Group area to capture
the Raloans. Although this was accomplished, the Bonese members of the Ra-Bon Group tried to defend the Raloans. Government officials just transferred the Bonese to the mining area.

The Commission ordered vegetation spraying to begin immediately, and sent the Raloans an ultimatum to surrender or all hostages would be killed.

The Raloans abhored deliberate human sacrifice so they surrendered.

All Raloans became slaves on Buena-I, building water stations as they were not trusted to mine. All Bonese not mining or guarding slaves moved to Ralo to protect & send the water to Buena-I. Multiple births had ceased since the spraying, but water stations still were incapable of supplying all needs. Konrad, too conservative for the Bonese officials, was left on Buena-I to govern those remaining.

Again Raloans' cheerful natures surfaced, & they worked as if the project were theirs. Contact with guards was always friendly. Soon comradeship evolved.

Konrad realized that a joint operation was necessary for the good of all. Raloans brought out best in Bonese; Bonese physical strength challenged Raloans to improve physically.

Konrad, with Raloans' approval, organized a union & sent the proposal to the Bonese officials on Ralo. He freed all slaves & allowed Raloans to live & work wherever they wished.

A small group of Raloans, Chan's friends, & some Bonese from the Ra-Bon Group shared bitterness about Chan's death & reservations about the union's success. They felt the Bonese
government could not be trusted & could understand only more violence. They formed a Saboteur Team for retaliation. All were union members, but they met to discuss alternatives if the union failed.

The Bonese officials had hidden explosives in all water stations so that a slave insurrection could be controlled by denying them water. The detonators were triggered from Ralo. Only a few undamaged tanks of water were found amid the complete ruin.

This action caused the Saboteur Team to send missiles filled with inhibitor to Ralo to explode on impact, thus killing all vegetation. Buena-I had food, no water & Ralo would have water, no food so Konrad could bargain.

Emergency supplies were almost depleted & Konrad was composing surrender message when he received a message from Bonese government:

"We are starving. We need food, water. When vegetation died, climate changed. All is dry, barren. Please help us."

Konrad replied, "We are dying of thirst. We have sent for rescue ships from Tierra, but we probably cannot survive until their arrival."

The fleet of superdrive ships circled Gardine-X-35 once more. The second officer reported "Our scanners report untended greenhouses on the larger land mass; otherwise no vegetation & no sign of human life. Suggest mission return to Tierra."

"So ordered." In seconds the fleet disappeared into darkness.
Buena-I and Ralo

Multiple Choice Test

1. Two opposing nations sent colonists to a planet because they needed:
   1) more water
   2) to take their religion to the heathen natives
   3) additional copper
   4) to get rid of them because there were too many people

2. The largest land, Buena-I, was:
   1) flat, dry, barren
   2) mountainous, wet, fertile
   3) mountainous, barren, arid
   4) wet, fertile, flat

3. The Bonese colonists:
   1) ate a variety of native fruit and vegetables
   2) drank water from the sea
   3) lived on food grown in greenhouses by scientists
   4) had learned to exist on protein pills alone

4. Raloans on the smaller land:
   1) mined the desert sand for ore
   2) lived off the vast schools of fish in the rivers
   3) harvested the adequate variety of native crops
   4) lived in the north polar area and killed walrus

5. Bonese citizens:
   1) developed robots to do all their mining
   2) became hard and surly from heavy physical labor
3) lived a computer-directed life of ease
4) had a carefree social life

6. Chan, citizen of Ralo, wanted land on Buena-I because:
   1) he rebelled at the social affairs and wanted to found a monastery
   2) he was aware of the original purpose of the colony
   3) his father died landless, leaving Chan no inheritance
   4) he wanted to study the flora and fauna of Buena-I

7. The land of Ralo was:
   1) fertile and arid
   2) mountainous and arid
   3) mountainous with rainy season
   4) fertile with rainy season

8. Raloans did no mining because:
   1) the equipment got lost on the trip from Tierra
   2) the Bonese became their slaves and did mining for them
   3) more money could be made in being farmers
   4) so little ore was on Ralo it was not worth the labor

9. There were no farmers on Buena-I because:
   1) scientists grew the food in chemicals
   2) computer-controlled farms existed in greenhouses
   3) miners grew a variety of mushrooms in the mines
   4) nothing would grow in the dry, mineral-rich soil

10. C-PAT was the abbreviation for:
   1) Commission for Populating Acquired Territory
   2) Commission for Planning of Afternoon Teas
   3) Committee for Politically Acquiring Terrain
   4) Committee for Planning Acquisition of Territory
11. An explosion on Buena-I was caused by:
   1) work overload at sea water reclamation station
   2) nuclear reactor which powered mining equipment
   3) too many babies being born
   4) wrong chemicals mixed in greenhouses

12. The Bonese delegation came to Ralo to trade:
   1) ore for water
   2) reclaimed sea water for ore
   3) greenhouse-grown food for water
   4) native lichens for food

13. C-PAT agreed to trade with Bonese if they received:
   1) materials to build greenhouses of their own
   2) fertilizer for their crops
   3) immigrants from Buena-I
   4) land rights for Raloans on Buena-I

14. Konrad was:
   1) the leader of the C-PAT
   2) the leader of the Bonese delegation to Ralo
   3) a leading scientist on Buena-I
   4) a member of the Bonese delegation to Ralo

15. Konrad advocated:
   1) that the Raloans not be allowed to move to Buena-I
   2) that Ralo became a province of Buena-I
   3) that equal numbers of Bonese should live with Raloans on Buena-I
   4) that equal numbers of Bonese be allowed to immigrate to Ralo
16. Bonese citizens were mainly:
   1) miners and scientists
   2) farmers and miners
   3) apartment-builders and farmers
   4) scientists and farmers

17. Bonese citizens were proud because they were:
   1) able to grow enough food for all in their greenhouses
   2) reclaiming sea water so efficiently they had water to export to the thirsty Raloans
   3) so industrious in their mining they were able to send large copper shipments back to Tierra
   4) having so many children to populate the vast lands of Buena-I

18. Chan was:
   1) a spokesman in the C-PAT for all the farmers on Ralo
   2) not trusted by many of the Raloans
   3) the very unpopular leader of the C-PAT
   4) the man to whom all Raloans were loyal

19. For the new area on Buena-I:
   1) all the Raloan citizens wanted to be allowed to go
   2) only half the Raloan citizens were interested in going
   3) all the C-PAT was moving, but leaving families behind
   4) half of C-PAT members and their families would go

20. Ra-Bon Group was:
   1) the confederation of the two governments when the contract was signed
   2) the name of the people who would live in the area set aside for them under the terms of the contract
3) the name of the mission that sent the colonists from Tierra
4) a company name chosen for the corporation that would trade water, food, and ore between the two colonies

21. The relationship of the Bonese miners to the Raloans of Ra-Bon Group was:
   1) amazement at their cheerfulness at work
   2) admiration of their physical stamina
   3) complete distrust
   4) a "live and let live" attitude

22. Raloans in the Ra-Bon Group had been instructed to:
   1) keep their Raloan citizenship
   2) become Bonese citizens
   3) keep their Raloan citizenship and obey only Raloan laws
   4) keep their Raloan citizenship and obey Bonese laws

23. Raloans of the Ra-Bon Group were depressed by:
   1) the strange environment and climate
   2) the hard physical labor they had to do
   3) the sullenness of the Bonese miners
   4) the onset of multiple births in their group

24. The Bonese and the Raloans of the Ra-Bon Group:
   1) planted and harvested crops together
   2) ate food shipped from Ralo and native lichens from Buena-I
   3) built greenhouses to supply their food
   4) had their own food, but could not tolerate each others
25. The Bonese of the Ra-Bon Group:
   1) tried to assassinate the Raloan leader
   2) killed Chan in anger
   3) elected their own leader to deal with the Raloans
   4) became loyal, after a time, to Chan

26. The Bonese of the Ra-Bon Group told the Raloans that their government:
   1) was greatly worried over the declining number of colonists
   2) was happy with the extra people who would someday work in the mines
   3) had decided to send some colonists back to Tierra to make the colony smaller
   4) had banned further conceptions among the Bonese couples

27. Bonese colonists responded to the government order:
   1) with frustration because they did not know what caused the phenomena
   2) with depression because they liked large families
   3) with apathy because they had outgrown a need for marriage anyway
   4) with joy because they would not have so many mouths to feed

28. The Bonese responded to the government order with:
   1) complete cooperation
   2) migration away from Buena-I to Ralo
   3) illegally giving birth to more children
   4) taking vows of poverty, chastity, and obedience
29. The C-PAT on Ralo received a message from Chan, telling them of:

1) difficulties arising between members of the Ra-Bon Group
2) conditions of starvation among the Raloans in the group
3) the real nature of the Bonese problem, the population growth
4) attempts by the Bonese to assassinate him

30. The C-PAT on Ralo decided, after receiving Chan's message:

1) to cancel their contract with the Bonese
2) to send more Raloans to join the Ra-Bon Group
3) to sharply limit the water traded to the Bonese
4) to allow Bonese to come to live on Ralo

31. The fears of the C-PAT on Ralo were based on:

1) the growing need of Buena-I for more water
2) the possibility of the growth of the Bonese population making them want more land
3) the growing need for more food for the Bonese
4) the attempts to kill a member of the Ra-Bon Group

32. The Raloan C-PAT hoped their action in regard to the contract would:

1) force the Bonese to agree to share the mining area
2) cause some Bonese to die of thirst, thus stabilizing the population
3) allow their own people to do without water rationing
4) encourage the Bonese to build more water reclamation stations
33. Scientists on Buena-I searched for the cause of the birth problem because they wanted to:
   1) send the solution back to Tierra to help eliminate the problem there
   2) find a method to stop the population growth on Buena-I
   3) be able to make it contagious to the Raioans
   4) have test tube babies

34. The Raloan C-PAT message was:
   1) sent to the home nation on Tierra to be presented to the governing nation of the Buena-I colonists
   2) delivered to the Bonese government by Chan
   3) presented to the leader of the Bonese in the Ra-Bon Group
   4) transmitted by means of closed circuit television

35. The reaction of the Bonese government to the message was one of:
   1) extreme anger and violent feelings
   2) relief that the Bonese would not have to send more ore to Ralo
   3) resignation because they were expecting it
   4) happiness at receiving such good news from Ralo

36. The Bonese government members, except one:
   1) decided to award their highest decoration to the brave Chan
   2) presented Chan with a framed resolution saluting the peaceful union through the Ra-Bon Group
   3) gave Chan a secret message in reply to transmit to the C-PAT
4) ordered Chan killed

37. Konrad, of the Bonese governing body,: 
   1) protested their extreme reaction to Chan's message 
   2) ordered the whole Ra-Bon Group deported 
   3) ordered the whole Ra-Bon Group sent to the mines 
   4) fled to safety among the Raloans 

38. The Raloans of the Ra-Bon Group: 
   1) fled to Ralo 
   2) hid in the mines 
   3) were captured by the Bonese government forces 
   4) died trying to defend their Bonese friends 

39. The Bonese of the Ra-Bon Group: 
   1) fled to Buena-I 
   2) hid in the mines 
   3) died trying to defend themselves 
   4) attempted to defend their Raloan friends 

40. The disposition of the Bonese of the Ra-Bon Group was: 
   1) they were commended for their bravery as spies 
   2) they were executed on the spot for treason 
   3) they were sent back to work as miners 
   4) they were sent to Ralo to take the answer to the C-PAT 

41. The Bonese scientists discovered: 
   1) lichens native to the planet were deadly poison and must never be eaten 
   2) lichens eaten by Bonese caused multiple births in some unknown manner
the de-mineralized sea water would make single births occur

that they could not find the answer to the problem in their primitive laboratories

42. The scientists developed:
1) an additive to the sea water to make the people sterile
2) a vaccination to make them immune to the poison
3) an inhibitor that would destroy vegetation
4) a radioactive shield for the miners to work behind

43. The lichens had been eaten by:
1) Bonese colonists only
2) Bonese and members of the Ra-Bon Group
3) all Bonese and all Raloans
4) Raloan colonists only

44. The Raloans:
1) had single births only at the Ra-Bon Group area on Buena-I
2) had multiple births on Ralo
3) lived forever so they never gave birth to young
4) began to have multiple births when they joined the Ra-Bon Group

45. The Bonese government:
1) killed the scientists so no one would know of their discovery
2) offered to spray the vegetation on both lands
3) ordered spraying commenced on Buena-I
4) sprayed the mines to kill the mosquitos
46. The Bonese government sent a message to the C-PAT telling them:
1) no more water would be needed because of sea water reclamation station expansion
2) Raloans would be allowed to immigrate in large numbers to Buena-I
3) multiple births were forcing abandonment of all mining activity so they could no longer send ore to Ralo
4) captives from the Ra-Bon Group would be killed unless Ralo surrendered

47. Raloan reaction to the Bonese message was to:
1) surrender to save the captives' lives
2) raise an army to attack Buena-I
3) blow up the Bonese water station
4) rescue the captives by a sudden raid on Buena-I

48. After spraying of the plant inhibitor, the Bonese noticed:
1) a new variety of plant life began to grow
2) the climate on Buena-I began to change
3) almost a year later, multiple births ceased
4) absolutely no change in their previous pattern of life

49. After slaves were acquired, the Bonese government:
1) moved to Ralo to enjoy plentiful water and food
2) decided slavery was illegal and published an emancipation proclamation
3) decided slaves were a useless luxury and deported them all back to Tierra
4) made secret plans to kill all the slaves in gas ovens
50. The slaves on Buena-I worked at:
   1) the water reclamation station only
   2) the water station and the greenhouses only
   3) the greenhouses only
   4) the mines only

51. The slaves on Buena-I were:
   1) at first belligerent and angry; later depressed
   2) constantly plotting escape
   3) at first depressed; later cheerful
   4) making efforts to bribe their guards

52. The slaves on Buena-I became:
   1) emaciated from starvation rations
   2) pale but hardened from hard work in the mines
   3) sickly and weak from the climate on Buena-I
   4) hardened and tanned from their outdoor work

53. The slaves' attitudes caused Konrad and the guard force to:
   1) become harsher in their treatment of them
   2) become friendly to them
   3) steal extra food from the greenhouses for them
   4) become lax in their guard duty

54. Konrad was intelligent and unprejudiced enough to:
   1) understand the anger the Raloans continued to feel
   2) realize the need for joint operations between the colonies
   3) anticipate the slaves' desire to plan an escape
   4) know without a doubt that the Bonese were a superior race

55. Konrad and his Bonese friends who agreed with him decided to:
   1) inform the nation on Tierra of the true situation
2) abandon guard duty and go to Ralo, too
3) openly declare Konrad king of Buena-I
4) invite Raloans to form a union with them

56. The union proposed by Konrad was:
1) joined by all Raloans plus most of Bonese left on Buena-I
2) joined by all Raloans but few of the Bonese left on Buena-I
3) rejected completely by the Raloans
4) rejected by the Bonese left on Buena-I

57. Secret reservations about Konrad's Union were held by both Raloans and Bonese of the old Ra-Bon Group because:
1) they felt Konrad would become another dictator
2) they wanted a true communistic form of government
3) they thought the Bonese government could not be trusted
4) they wanted to abandon Buena-I completely and all live on Ralo

58. Action taken by those with secret reservations was:
1) to depend upon what Konrad decided to do next
2) an appeal to Konrad to form his own government
3) to join in forming a Saboteur Team which would be kept secret
4) mainly to cooperate completely in the new union

59. The Saboteur Team plans for the future included:
1) invasion of Ralo eventually to seize water supply
2) retaliation if Bonese government used further violence
3) murder of Konrad to remind Bonese government of Chan
4) assassination of Bonese government leaders
60. Konrad sent a message to the Bonese government informing them:
   1) of his intention to take over the mines for the Raloans
   2) that all the slaves had been killed in an uprising
   3) of his new position as dictator of Buena-I
   4) about the formation of the union, with his further
      action of freeing all the slaves

61. Before the Bonese government moved to Ralo, they had:
   1) made plans to flood the mines with sea water so Raloans
      could never have the ore
   2) loaded missiles with dangerous chemicals to contaminate
      greenhouse food supplies
   3) arranged for a nuclear power plant failure in the event
      of war
   4) hidden explosives in water reclamation station to be
      detonated by a signal from Ralo

62. Reaction from the Saboteur Team was to:
   1) destroy immediately all vegetation on Ralo, using
      inhibitor
   2) destroy all greenhouse crops on Buena-I, using
      inhibitor spray
   3) destroy all remaining water left in tanks on Buena-I
   4) call for volunteers for a raider force to invade Ralo

63. The Saboteur Team thought their actions would:
   1) force the Bonese government to surrender because of
      hunger
   2) force the Bonese government to surrender because of
      thirst
3) allow Konrad to trade water to the Bonese government for recognition of his union
4) allow Konrad to trade food to the Bonese to gain recognition

64. An unforeseen result of the Saboteur Team's action was:
1) springs on Ralo became contaminated from the inhibitor
2) the climate on Buena-I became rainy because of the nuclear power explosion
3) greenhouse food was ruined by the addition of the chemicals
4) the climate of Ralo changed with no more rain falling

65. A rescue mission from Tierra found:
1) only a few of Konrad's union had enough water and food to survive
2) only the miners deep in the ground survived the radiation
3) that the Raloans had built a new water reclamation station using Bonese slave labor
4) no sign of human life on either land mass
Buena-I and Ralo

Set Relations Test

The following sentences describe life in Buena-I and in Ralo before the surrender of Ralo.

66. A. All of the miners were members of the Ra-Bon Group.
   B. Only some of the miners were members of the Ra-Bon Group.

67. A. All of the farmers were followers of Chan.
   B. Only some of the farmers were followers of Chan.

68. A. Only some of the miners were Bonese citizens.
   B. All of the miners were Bonese citizens.

69. A. Only some of the followers of Chan were Bonese citizens.
   B. All of the followers of Chan were Bonese citizens.

70. A. No miners were farmers.
   B. Only some of the miners were farmers.

71. A. All of the Bonese citizens were members of the Ra-Bon Group.
   B. Only some of the Bonese citizens were members of the Ra-Bon Group.

72. A. Only some of the followers of Chan were miners.
   B. All of the followers of Chan were miners.

73. A. Only some of the Bonese citizens were farmers.
   B. No Bonese citizens were farmers.

74. A. Only some of the members of the Ra-Bon Group were followers of Chan.
   B. All of the members of the Ra-Bon Group were followers of Chan.
75. A. All of the Raloans were members of the Ra-Bon Group.
   B. Only some of the Raloans were members of the Ra-Bon Group.

The following sentences describe life in Buena-I and in Ralo after the Raloans became slaves on Buena-I.

76. A. Only some of the Bonese citizens belonged to the Saboteur Team.
   B. All of the Bonese citizens belonged to the Saboteur Team.

77. A. All of the slaves were members of Konrad's union.
   B. Only some of the slaves were members of Konrad's union.

78. A. Only some of the miners were slaves.
   B. No miners were slaves.

79. A. Only some of the Saboteur Team were members of Konrad's Union.
   B. All of the Saboteur Team were members of Konrad's union.

80. A. All of the slaves belonged to the Saboteur Team.
   B. Only some of the slaves belonged to the Saboteur Team.

81. A. All of the miners were Bonese citizens.
   B. Only some of the miners were Bonese citizens.

82. A. Only some of the members of Konrad's union were miners.
   B. All of the members of Konrad's union were miners.

83. A. All of the miners belonged to the Saboteur Team.
   B. Only some of the miners belonged to the Saboteur Team.

84. A. Only some of the Bonese citizens were slaves.
   B. No Bonese citizens were slaves.

85. A. Only some of the members of Konrad's union were Bonese citizens.
   B. All of the members of Konrad's union were Bonese citizens.
1. Raloans on the smaller land:
   1) mined the desert sand for ore
   2) lived off the vast schools of fish in the rivers
   3) harvested the adequate variety of native crops
   4) lived in the north polar area and killed walrus

2. Raloans did no mining because:
   1) the equipment got lost on the trip from Tierra
   2) the Bonese became their slaves and did mining for them
   3) more money could be made in being farmers
   4) so little ore was on Ralo it was not worth the labor

3. C-PAT agreed to trade with Bonese if they received:
   1) materials to build greenhouses of their own
   2) fertilizer for their crops
   3) immigrants from Buena-I
   4) land rights for Raloans on Buena-I

4. Konrad advocated:
   1) that the Raloans not be allowed to move to Buena-I
   2) that Ralo become a province of Buena-I
   3) that equal numbers of Bonese should live with Raloans on Buena-I
   4) that equal numbers of Bonese be allowed to immigrate to Ralo

5. Bonese citizens were proud because they were:
1) able to grow enough food for all in their greenhouses
2) reclaiming sea water so efficiently they had water to export to the thirsty Raloans
3) so industrious in their mining they were able to send large copper shipments back to Tierra
4) having so many children to populate the vast lands of Buena-I

6. For the new area on Buena-I:
   1) all the Raloan citizens wanted to be allowed to go
   2) only half the Raloan citizens were interested in going
   3) all the C-PAT was moving, but leaving families behind
   4) half of C-PAT members and their families would go

7. The Bonese of the Ra-Bon Group:
   1) tried to assassinate the Raloan leader
   2) killed Chan in anger
   3) elected their own leader to deal with the Raloans
   4) became loyal, after a time, to Chan

8. The Bonese of the Ra-Bon Group told the Raloans that their government:
   1) was greatly worried over the declining number of colonists
   2) was happy with the extra people who would some day work in the mines
   3) had decided to send some colonists back to Tierra to make the colony smaller
   4) had banned further conceptions among the Bonese couples

9. The C-PAT on Ralo decided, after receiving Chan's message:
   1) to cancel their contract with the Bonese
2) to send more Raloans to join the Ra-Bon Group
3) to sharply limit the water traded to the Bonese
4) to allow Bonese to come to live on Ralo

10. The Raloan C-PAT hoped their reaction in regard to the contract would:
1) force the Bonese to agree to share the mining area
2) cause some Bonese to die of thirst, thus stabilizing the population
3) allow their own people to do without water rationing
4) encourage the Bonese to build more water reclamation stations

11. Scientists on Buena-I searched for the cause of the birth problem because they wanted to:
1) send the solution back to Tierra to help eliminate the problem there
2) find a method to stop the population growth on Buena-I
3) be able to make it contagious to the Raloans
4) have test tube babies

12. The reaction of the Bonese government to the message about the contract was one of:
1) extreme anger and violent feelings
2) relief that the Bonese would not have to send more ore to Ralo
3) resignation because they were expecting it
4) happiness at receiving such good news from Ralo

13. The Bonese government members, except one:
1) decided to award their highest decoration to the brave Chan
2) presented Chan with a framed resolution
3) gave Chan a secret message in reply to transmit to the
C-PAT
4) ordered Chan killed

14. The Raloans of the Ra-Bon Group:
1) fled to Ralo
2) hid in the mines
3) were captured by the Bonese government forces
4) died trying to defend their Bonese friends

15. The Bonese of the Ra-Bon Group:
1) fled to Buena-I
2) hid in the mines
3) died trying to defend themselves
4) attempted to defend their Raloan friends

16. The Bonese scientists discovered:
1) lichens native to the planet were deadly poison and
   must never be eaten
2) lichens eaten by Bonese caused multiple births in some
   unknown manner
3) the de-mineralized sea water would make single births
   occur
4) that they could not find the answer to the problem in
   their primitive laboratories

17. The scientists developed:
1) an additive to the sea water to make the people sterile
2) a vaccination to make them immune to the poison
3) an inhibitor that would destroy vegetation
4) a radioactive shield for the miners to work behind

18. The lichens had been eaten by:
   1) Bonese colonists only
   2) Bonese and members of the Ra-Bon Group
   3) all Bonese and all Raloans
   4) Raloan colonists only

19. The Raloans:
   1) had single births only at the Ra-Bon Group area on Buena-I
   2) had multiple births on Ralo
   3) lived forever so they never gave birth to young
   4) began to have multiple births when they joined the Ra-Bon Group

20. The Bonese government:
   1) killed the scientists so no one would know of their discovery
   2) offered to spray the vegetation on both lands
   3) ordered spraying commenced on Buena-I
   4) sprayed the mines to kill the mosquitos

21. The Bonese government sent a message to the C-PAT telling them:
   1) no more water would be needed because of sea water reclamation station expansion
   2) Raloans would be allowed to immigrate in large numbers to Buena-I
   3) multiple births were forcing abandonment of all mining activity so they could no longer send ore to Ralo
   4) captives from the Ra-Bon Group would be killed unless Ralo surrendered
22. Raloan reaction to the Bonese message was to:
   1) surrender to save the captives' lives
   2) raise an army to attack Buena-I
   3) blow up the Bonese water station
   4) rescue the captives by a sudden raid on Buena-I

23. After spraying of the plant inhibitor, the Bonese noticed:
   1) a new variety of plant life began to grow
   2) the climate on Buena-I began to change
   3) almost a year later, multiple births ceased
   4) absolutely no change in their previous pattern of life

24. The slaves' attitudes caused Konrad and the guard force to:
   1) become harsher in their treatment of them
   2) become friendly to them
   3) steal extra food from the greenhouses for them
   4) become lax in their guard duty

25. Konrad was intelligent and unprejudiced enough to:
   1) understand the anger the Raloans continued to feel
   2) realize the need for joint operations between the colonies
   3) anticipate the slaves' desire to plan an escape
   4) know without a doubt that the Bonese were a superior race

26. Action taken by those with secret reservations about Konrad's union was:
   1) to depend upon what Konrad decided to do next
   2) to appeal to Konrad to form his own government
   3) to join in forming a Saboteur Team which would be kept secret
4) mainly to cooperate completely in the new union

27. Before the Bonese government moved to Ralo, they had:

1) made plans to flood the mines with sca water so Raloans could never have the ore

2) loaded missiles with dangerous chemicals to contaminate greenhouse food supplies

3) arranged for a nuclear power plan failure in the event of war

4) hidden explosives in water reclamation stations to be detonated by a signal from Ralo

28. Reaction from the Saboteur Team was to:

1) destroy immediately all vegetation on Ralo, using inhibitor

2) destroy all greenhouse crops on Buena-I, using inhibitor spray

3) destroy all remaining water left in tanks on Buena-I

4) call for volunteers for a raider force to invade Ralo
Buena-I and Ralo
Experiment VIII Completion Test

1. _______ handled all of the Raloan leadership and government problems.

2. Raloans living in the Ra-Bon Group area were subject to _______ laws.

3. The banning of conceptions by the Bonese government produced _______ in the Bonese citizens.

4. The Raloans elected their _______ to the C-PAT.

5. Bonese scientists developed the cure before the virus was _______.

6. The Raloan slaves built water stations as they were not trusted to _______.

7. Copper ore was needed for _______ balance of the two supernations on Tierra.

8. The numbers of Bonese and Raloans at the receiving station were _______.

9. The C-PAT chose people to go to Buena-I by arranging a _______, but this resulted in such unpleasant grumbling that half the C-PAT members decided to go instead.

10. The greenhouse crops were grown in _______.

11. _______ was left on Buena-I to govern the Bonese remaining there.

12. The members of the Saboteur Team felt the Bonese government could understand only more _______.
13. The message from the Bonese government indicated that when the vegetation died, the climate became ________.

14. It was impossible to confirm causation of the multiple births due to a lack of experimental ________.

15. The Bonese refused to share their mining areas with the Raloans because they were aware of their superior numbers and ________.

16. The Raloans had ________ natures.

17. The Bonese on Ralo needed ________ and ________.

18. The home planet of the Bonese and Raloans was ________.

19. The goal of the C-PAT was Buena-I's ________.

20. The Bonese were used to harsh commands or ________ while working.

21. Raloan farmers were ________ at growing plants on Buena-I.

22. Buena-I's natural vegetation had been incorporation into the Bonese diet when tests proved them ________.
APPENDIX N

SAN FRANCISCO

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San Francisco
Traditional Version

The popular Mayor St. John and his city councilmen were well aware of the two identities of the city of San Francisco. The rich, cultured layer overlaid the deeper problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock laborers who lived high with their hands deep in the treasury. Perhaps there was a third layer, the level of the deep crust of earth beneath the city. Its identity was known only when it groaned or twitched, occasionally reminding the leaders of government in the city that it was there, and should be considered, too. But the other problems always seemed more pressing.

In June that year, the first earthquake came. More than halfway up the Richter scale, it was strong enough to cause a pretty solid loss of life in the old buildings, those relics of rebuilding in 1906 that had somehow weathered urban renewal and freeway right-of-way acquisition. The mayor hopped into his helicopter to the flight to Sacramento to seek state help. The governor passed him in mid-air, a few miles apart, while flying to inspect the damaged city. It was a "disaster area" in the older sections, that was for sure. On return to the capital, the governor found the mayor already in conference with members of the Senate Committee on Urban Problems. The state government had set up this committee to deal with almost every ailment of
modern-day cities in the big state. But not really to "deal" with them, for there were no easy answers or quick solutions to most of the problems. "Be aware" of them would be more of a correct attitude.

"We need to know of your immediate plans, Mayor," stated a young senator who had been appointed to this committee for his freshman term, since it was the least prestigious of all. The older, wiser Chairman suggested, "Perhaps if we coordinate our efforts from the start we will avoid the fiscal waste of overlapping programs." Mayor St. John looked around the group, answering, "I hope we have enough time for plans to be made and carried out. Right now, I'm not worried about fiscal overlapping or finances, Honorable Chairman. Now, I'm worried that the next earthquake may be the big one instead of an aftershock. I am here to ask that you appoint some of your members to a joint committee--let's call it the 'Action Group'--that will also have members from my city council. When this group starts operating, we can have some plans made."

"I'll volunteer," said Senator Salliman, the young man who asked the first question. Names of others of the senate committee who wanted to help the mayor were being jotted on the list when Governor Smedley burst into the room. "Just back from a look-see," he announced. "Glad you're here, St. John. Wanted to tell you I'm calling in State Civil Defense Chief Palmer. Mayor, you're to be in complete charge of the whole San Francisco operation, with Palmer acting as liaison between you and me. He'll be here for a briefing as soon as we get in touch with him.
down at the tracks in Santa Anita. Know he'll want to have a meeting with you boys right away."

Inwardly groaning, the mayor accepted the inevitable. His new Action Group would be "hamstrung" at every turn by the inept Palmer. But there wasn't time to grieve. "Tell Palmer to come directly to the meeting room next to my office in City Hall, Governor. I'm taking these senators who have volunteered to go back in the helicopter with me. We'll have our Action Group assembled by the time Palmer arrives. But tell him to get the hell up there fast, you hear?"

The Action Group met—all the hardest working members of the city council jumped at the chance to work with the state senators. Not surprising, the hardest working also turned out to be the youngest men. The mayor looked around the group and guessed their average age was about thirty-six years at the most. The older fellows had said, "Call me if I can help," then left quickly to tend to their extensive business interests. But businesses and families, and even eating, was forgotten by this group as they met in session around the clock. State Director Palmer had arrived, but by the time he got there a great many plans had already been made and machinery already in operation to carry them out. The important plans were taken care of first, rapidly. For when Palmer and his two assistants arrived on the scene, sure enough, things began to slow down and finally just bogged down completely in quibbling by the three latecomers over petty, unnecessary details. The youngest city councilman of the group, Will Atkins, coughed nervously, got up as
inconspicuously as he could and walked past the mayor as if he were going to the restroom. But he rested his hand on the table by the mayor and a short memo was left behind as he went through the door. "Have heard by grapevine of serious trouble out at State Children's Mental Hospital in foothills. Am going to take a breather before I slug this SOB. Will see what's going on out there and be back in two hours."

One hour and thirty minutes later, doomsday arrived. In one sickening shudder, accompanied by a groan of metal that rose to a shriek, with loud pops of glass shattering, City Hall was reduced to a dust-shrouded mound of rubble, all twelve floors of it. The mayor's suite of rooms was on the second floor. He had moved down there from the top level because he would be right above the ground floor police rooms if he were ever needed. A police helicopter overhead was about to land on the roof when the earthquake hit. They told later that the whole surface level of the block on which City Hall was located and other blocks north of it seemed to drop suddenly about twenty feet. It was like the first three floors disappeared, then the top nine collapsed all at once.

Atkins had been elected by the youth of San Francisco. The charter had been revised the year before to allow citizens two years younger than the previous limit of thirty-two years to serve on the city government. He had pitched his campaign frankly at the young. The eighteen-year-olds had been delighted at finally getting to vote. Now they could show an approved legal voice to make known their disenchantment with the
establishment. Using an unorthodox slogan, "You can just barely trust someone just barely over thirty," Atkins had been victorious on his first try. And he hadn't let the kids down either. From the first day in office, he was their spokesman to the city fathers. His office door was always open, and somehow he was always there to hand out the beer to whatever groups came, and listen to their ideas or their grievances. He announced, "Get together, decide, appoint a group. Then come to see me. There aren't enough minutes in the day for me to see individuals. So have your meetings at the grass roots, thresh out some of the problems and then bring me the rest." And it worked. Better than he had ever hoped for. There was a noticeable lessening of riots, senseless vandalism, grudge fights and such throughout the city. He had their confidence on that day in June. He would need it more than he ever dreamed.

One of the police helicopters that was over the city when it happened found Atkins pretty quickly, thanks to citizen band radios that require no central transmitting stations, for none were left. While one of the policemen went behind the helicopter and vomited quietly because of what he had seen from above, the other ran to him, ashen-faced, almost in hysterics. "Thank God, you are alive, Councilman. You are the man-on-the-spot now. You are the Mayor, the State Civil Defense Director, and the Police Chief all rolled together. What do we do first?"

Almost complete destruction--almost total disaster--what does anyone in authority do first? He forgets about his own loved ones; he does not even think of them one moment lest all
resolve disintegrat completely.

Atkins left on the helicopter to see where he could establish some sort of temporary headquarters. They flew high to get a total picture at first; from low altitude the destruction seemed unreal, with unending blocks of rubble where buildings once stood. Atkins was surprised there was no smoke. The 1906 disaster had triggered fires almost from the start. But the laws had been rewritten since then and building codes enforced so that shut-off valves were standard on any equipment that might cause fires after an earthquake. He could see more water than he expected. The whole level of the peninsula must have dropped, with sinking still going on. Aftershocks would probably make it worse, he guessed. The area from where Fisherman's Wharf should have been, down the whole dock area of the east side, was only water. In the distance he could see a vast lake spreading down the Santa Clara Valley. The bay bridge had dropped, the middle spans gone from view. Only a smudge in the ocean showed where the Naval Station Island once was. On around towards the Golden Gate—that bridge was gone, too, with tidal waves rushing into the bay from beyond the Presidio. The land seemed a little higher than he remembered on the Pacific side, like the peninsula had been tilted inland toward the bay. They turned down the west coast and he wondered what happened to the animals at the zoo on the west side, making another mental note to find out and deal with that problem, too. The parks were the obvious gathering spots for survivors. Destruction seemed complete over the whole peninsula as far as he could see back past Daly City and from the Santa Cruz Mountains.
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professor down at USC had measured the quake at almost nine on
the scale.

Heldia led the group, laden with their dishes and pans, down
from the old buildings of the commune in the mountain valley.
All the food they had was piled into the old farm wagon they
pulled. They might have gone part of the way in the van, but
the roadbed would soon have been impassible, so they loaded the
wagon and pulled it down from the valley. They knew they would
be needed. Heldia had learned to boss a kitchen crew to turn
out quantities of food for an unpredictable number of persons.
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first step of bureaucratic government to establish a committee,
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wondered Atkins. He realized that the new committee must be
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No older person was given one except those directly in charge of the group. Those in charge were a few of the younger-minded senators from the governor's disaster committee, those especially cooperative with the young mayor and willing to follow his leadership. Also in charge were a few young police officers who had been aloft in the helicopters and survived as the sole remaining law men. One of these men had been promoted quickly to Police Chief, with others becoming Captains and Lieutenants. All were part of the interim city government, where they came to respect their new young mayor who worked so hard and long. In turn, Atkins found these policemen to be calm and efficient and he decided to make some of them a part of the Volunteers for Hope group. The previous resentment between the "long hairs" and the "pigs" disappeared as if it had never existed. The serious job before them made them all respect only one trait in a human--courage--which meant the ability to work until you were tired enough to drop and then keep on working, to take hold in whatever unpleasant situation and do the job without complaint. Respect and mutual admiration grew and blossomed and the policemen swore that the Volunteers for Hope group would be a permanent part of whatever survived or grew new from the disaster.

The interim city government met and drew up plans of action. The Volunteers worked to carry out these plans. The only time there was even mild grumbling and dissention was when they heard a rumor the interim government was considering rebuilding the city in the same location. "Have they flipped completely?"
asked the young people. "Don't they get the message after two earthquakes?" wondered Helda. But the work was for them to do, not the decision making, so they worked on. They knew that Atkins was their man and Atkins was in charge and would let them know when it was time to express their opinions.

On the seal of the city of San Francisco which existed between the years 1860 and 1974, there was pictured the Phoenix, the Egyptian symbol of immortality. The bird rises from ashes on the seal, commemorating the disastrous fires of the early 1850's. No one then foresaw the destruction by earthquake and fire, followed by rebuilding, followed by repeated destruction by earthquake, sinking of land and tidal wave. The Phoenix was eventually made the symbol of the Volunteers for Hope. Out of the ashes of the generation gap had arisen a reborn life: a new respect, understanding, acceptance, and love of old for young and young for old.
troublemaker; but he told Smedley to send Palmer to join them at City Hall. St. John flew back immediately taking with him the senators who would be part of his Action Group.

The hardest-working members of the city council became members of the Action Group with the senators, working under St. John's leadership. They were also the youngest members, St. John noticed. State Director Palmer arrived, but by the time he got there many plans had already been made and operations to carry them out already started. Palmer and his two assistants began quibbling over unnecessary details. Soon little was being accomplished in the Group. The youngest city councilman, Will Atkins, quietly left the room, leaving the mayor a note that said he was about to lose his temper with Palmer and was leaving for two hours to see about some trouble he had heard of at the Children's Mental Hospital in the foothills.

Atkins had been elected by the youth of San Francisco. The charter had been revised the year before to allow citizens thirty years old to serve as city officials. The eighteen-year-olds had finally been able to vote. Atkins had been victorious on his first try. He hadn't let the kids down either. From the first day in office, his door was always open. He was always there to hand out beer and listen to ideas or grievances of groups that came to see him. It worked better than he hoped. There were less riots and vandalism throughout the city. He had their confidence that day in June.

One hour and thirty minutes after Atkins left, with a sickening shudder all twelve floors of City Hall were reduced to a dust-shrouded mound of rubble. The police rooms were on the ground floor.
San Francisco
Medium-Telegraphic Version

The very popular mayor and the city councilmen under his leadership were aware of the two identities of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, con men, and dishonest union leaders. Perhaps there was a third layer, the deep crust of earth beneath the city. Its identity was known only when it groaned or twitched, reminding the leaders of government that it was there and should be considered, too.

In June that year, the first earthquake came. More than halfway up the Richter scale, it caused great loss of life in older buildings dating from the earthquake of 1906. Mayor St. John flew by helicopter to seek state help at Sacramento. The mayor went into conference with the Senate Committee on Urban Problems. He said there was little time for discussion since the next earthquake might be a major one instead of an aftershock. He asked that some of the senate committee members come to his office in City Hall to join with city councilmen in forming an Action Group to make plans to cope with a greater disaster that might occur some time in the future. Senator Salliman volunteered, followed by several others. Governor Smedley returned from inspection of the San Francisco damage and joined the conference. He told St. John that he was calling in State Civil Defense Director Palmer, to act as liaison between them, with the mayor in complete charge of the San Francisco operation. St. John was not pleased, because Palmer was known to be a
and the mayor's suite on the second. All perished. A police helicopter was about to land on the roof when the building collapsed.

The police helicopter found Atkins quickly. It landed and a policeman ran to him, almost hysterical. "You are the Mayor, State Civil Defense Director, and the Police Chief all rolled into one. What do we do first, Mr. Atkins?"

Atkins left on the helicopter, requesting that they fly high to get a total picture. He was surprised there was no smoke. Laws had been rewritten since the first great earthquake and building codes enforced so that shut-off valves were on any equipment that might cause a fire. The whole level of the peninsula seemed to have dropped, with sinking still going on. In the distance Atkins could see a vast lake spreading down the Santa Clara Valley. Both big bridges had dropped into the bay. Tidal waves were rushing into the bay from the Pacific Ocean beyond the Presidio. Atkins could see from above that the parks were the obvious gathering spots for survivors. The helicopter radio reported a university professor had measured the quake at almost nine on the Richter scale.

Helda led the group down from their commune in the mountain valley. Dishes, pans, food were piled into the wagon pulled by hand, since the road was impassible to the commune's van. Helda had learned to boss the kitchen crew, to cook food in quantity for an unpredictable number and to keep expenses at a minimum. Commune men had learned to use tools to build something out of almost nothing. All believed they would be useful at San Francisco. It was now time to drop back into the world they had dropped out of. Drugs left behind, Helda's group and other groups approached the wreckage and
made their way to the city parks.

Atkins established city headquarters in John McLaren Park. Most actual rescue work in the ruins was now being administered by the Armed Forces. Aftershocks continued.

Governor Smedley established a disaster committee of some surviving senators. Atkins knew the committee must be utilized in some way to achieve any progress, whether he liked it or not. He formed an interim city government. Surviving citizens seemed united in following Atkins' leadership. The few living city councilmen, all older men, were content to let Atkins be in charge of coordinating the operations of the groups of volunteers in the parks. These volunteers, including Helda and her friends, fed survivors who were only slightly injured, then passed them back along the peninsula from park to park to evacuate them from the area. Many young people heard by radio they were needed. Walking in from miles away, they brought simple and sensible items and usable skills. Mayor Atkins issued orders to those guarding the area to pass these young volunteers in if they checked out all right.

A group name came from among the ranks, with no one taking individual credit. The young people became "Volunteers for Hope." Arm bands were made and worn with letters "V-HOPE." Those in charge of the volunteers were a few younger senators and some policemen. The senators were men from the governor's disaster committee who were willing to cooperate with Atkins and follow his leadership. The policemen were those who survived by being aloft in helicopters when the earthquake struck. One was promoted to Police Chief and others to Captains and Lieutenants. All respected their new mayor
who worked so tirelessly for the interim city government, of which they formed a part.

The young policemen were calm and efficient so Atkins placed them in charge of the volunteers along with the senators. Old resentments between "long hairs" and "pigs" disappeared. The job before them made everyone value only one human trait--courage. Respect and mutual admiration grew. Policemen swore that the Volunteers for Hope would become permanent in whatever grew new from the disaster.

The interim city government drew up plans of action, with the Volunteers working to carry them out. M'ld dissention arose only over rumors of the possible rebuilding of the city in the same location. Helda wondered how such could be considered after the city had been destroyed twice by earthquakes. But they worked on, leaving the decisions to Atkins with complete faith that he would let them know when it was time to express their opinions.

On the San Francisco city seal there was pictured the Phoenix, the Egyptian symbol of immortality. The bird rises from ashes, commemorating the disastrous fires of the 1850's. The Phoenix eventually became the symbol of the Volunteers for Hope. Out of the ashes of the generation gap had arisen a new respect, understanding, acceptance, and love of old for young and young for old.
San Francisco

Highly-Telegraphic Version

San Francisco experienced strong earthquake in June.

Lives lost in older buildings.

Popular Mayor St. John and city councilmen under his leadership worried about future.

Mayor needed plans to cope with possible stronger earthquake.

St. John sought state help at Sacramento.

Senator Salliman, several other senators from Committee on Urban Problems volunteered to serve with city councilmen on St. John's Action Group.

Governor Smedley gave St. John full authority over San Francisco operation.

State Civil Defense Director Palmer to join group later as Governor Smedley's representative.

Mayor not pleased, knew Palmer to be trouble-maker.

Mayor, senators returned to San Francisco City Hall. Youngest, ha-dest-working city councilmen joined Action Group.

Some plans made, carried out quickly.

Progress slowed when Palmer arrived at City Hall.

Will Atkins, youngest councilman, left to avoid losing temper with Palmer.

Atkins went to inspect hospital in foothills, to return in two hours.

Atkins elected as spokesman for youth of city.
Charter revision allowed thirty-year-old city officials.

Youth vote gave Atkins win on first try.

Atkins conferred with youth groups frequently.

Vandalism, riots lessened in city.

One hour, thirty minutes after Atkins left, great earthquake smashed twelve-story City Hall.

Police officers on first floor, Mayor's suite on second.

All perished.

Police helicopter in air above City Hall during earthquake.

Helicopter pilot found Atkins at hospital, told him of death of St. John, Palmer, Action Group members, all police in building including chief.

Atkins rode helicopter high over city, surveyed damage.

No smoke because building codes had lessened possibility of fire.

Peninsula seemed to be sinking, lake spreading down Santa Clara Valley.

Both big bridges down in bay.

Tidal waves coming in from ocean from beyond Presidio.

Atkins saw parks would be best gathering places for survivors.

Helicopter radio reported quake severe, almost nine on Richter scale.

Helda led group down from mountain valley commune.

Road impassible to commune van.

Dishes, pans, food in handpulled wagon.

Helda could boss kitchen crew cooking large quantities inexpensive food.

Commune men used tools.
Belief in their usefulness now brought them back to world they had dropped out of.

Drugs left behind, Helda's group, other groups like it, went to parks.

Headquarters for interim city government established in John McLaren Park.

Atkins assumed role as mayor.

Surviving citizens and older city council members united in following Atkins' leadership.

Aftershocks continued.

Rescue work in ruins done by Armed Forces.

Governor Smedley established senate disaster committee.

Atkins decided to utilize some senators from committee to coordinate work of volunteers.

Atkins issued orders to area guards to pass young volunteer groups into area to help feed survivors at parks.

Name, "Volunteers for Hope," adopted by youth groups.

Young senators in charge cooperated with Atkins.

Surviving policemen formed new police force for interim city government.

Atkins appointed Chief, Captains, Lieutenants. Atkins impressed with calm efficiency of young policemen, appointed them leaders with the senators of Volunteers for Hope group.

Old resentment between "long hairs," "pigs" disappeared in face of need for courage.

Respect, mutual admiration grew.
Policemen felt Volunteers for Hope should become permanent group.

Interim city government made plans, volunteers working executing them.

Rumors of rebuilding city same location caused mild dissention from youths.

Volunteers had faith in Atkins, left decisions to him.

San Francisco city seal had Phoenix, Egyptian symbol of immortality, pictured.

Volunteers for Hope adopted Phoenix as their symbol.

Out of ashes of generation gap had arisen new respect, understanding, acceptance.
San Francisco

The popular Mayor St. John and his city councilmen were well aware of the two identities of the city of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden that contained hippies, prostitutes, junkies, con men, of small merchants in Chinatown, union leaders of the dock laborers who lived high with their hands deep in the treasury. Perhaps there was a third layer, the level of the deep crust of earth beneath the city. Its identity was known only when it groaned or twitched, occasionally reminding the of government in the city that it was there, and should be considered, too. But the other problems always seemed more pressing.

In June that year, the first earthquake came. More than halfway up the Richter scale, it was strong enough to cause a pretty solid loss of in the old buildings, those relics of rebuilding in 1906 that had somehow weathered urban renewal and freeway right-of-way acquisition. The mayor hopped into his helicopter for the flight to Sacramento to seek state help. The governor passed him in mid-air, a few miles apart, while flying to inspect the damaged city. It was a "disaster area" in the older sections, that was for sure.

On return to the capital, the governor found the mayor already in conference with members of the Senate Committee on Urban Problems. The state government had set up this committee to deal with almost every ailment of modern-day cities in the big state. But not really to "deal" with them, for there were no easy answers or quick solutions to most of the problems. "Be aware" of them would be more of
a correct attitude.

"We need to know of your immediate plans, Mayor," stated a young senator who had been appointed to this committee for his freshman term, since it was the least prestigious of all. The older, wiser Chairman suggested, "Perhaps if we coordinate our efforts from the start will avoid the fiscal waste of overlapping programs." Mayor St. John looked around the group, answering, "I hope we have enough time for plans to be made and carried out. Right now, I am not worried about fiscal overlapping or, Honorable Chairman. Now I worried that the next earthquake may be the big one instead of an aftershock. I am here to ask that you appoint some of your members to a joint committee, let us call it the Action Group, that will also have members from my city council. When this group starts operating, we can have some plans made."

"I will volunteer," said Senator, the young man who asked the first. Names of others of the Senate committee who wanted to help the mayor were being jotted on the list when Governor burst into the room. "Just back from a," he announced. "Glad you are here, St. John. Wanted to tell you I am calling in State Civil Defense Chief Palmer. Mayor, you are to be in complete charge of the whole San Francisco operation, with acting as liaison between you and me. He will be here for a briefing as soon as we get in touch with him down at the tracks in Santa Anita. Know he will want to have a meeting with you boys right away."

Inwardly groaning, the mayor accepted the inevitable. His new Action Group would be "hamstrung" at every by the inept Palmer. But there was not time to grieve. "Tell Palmer to come directly to the
meeting room next to my office in City Hall, Governor. I am taking these senators who have volunteered to go back in the helicopter with me. We will have our Action Group assembled by the time Palmer arrives. But tell him to get the hell up there fast, you hear?"

The Action Group met—all the hardest-working members of the city council jumped at the to work with the state senators. Not surprising, the hardest-working men also turned out to be the youngest ones. The looked around the group and guessed their average age was about thirty-six years at the most. The older councilmen had said, "Call me if I can help," then left quietly to tend to their extensive business interests. But businesses and families, and even eating, were forgotten by this group as they met in session around the clock. State Director Palmer had arrived, but by the time he got there a great many plans had already been made and the machinery was already in operation to carry them out. The important plans were taken care of first, rapidly. For when Palmer and his two assistants arrived on the scene, sure enough, things began to slow down and finally just bogged down completely in quibbling by the three latecomers over petty, unnecessary. The youngest city councilman of the, Will Atkins, coughed nervously, got up as inconspicuously as he could and walked past the mayor as if he were going to the restroom. But he rested his hand on the table by the mayor and a short memo was left behind as he went through the door. "Have heard by grapevine of serious trouble out at State Children's Mental Hospital in foothills. Am going to take a breather before slug this SOB. Will see what is going on out there and be back in two hours."

One hour and thirty minutes later, doomsday arrived. In one
sickening shudder, accompanied by a groan of metal that rose to a shriek, with loud pops of glass shattering, City Hall was reduced to a dust-shrouded mound of rubble, all twelve floors of it. The mayor's suite of rooms was on the second. He had moved down from the top because he would be right above the ground floor police rooms if he were ever needed. A police overhead was about to land on the when the earthquake hit. They told later that the whole surface level of the block on which City Hall was located and other blocks north of it seemed to drop suddenly about twenty feet. It was as if the first three disappeared, then the top nine collapsed all at once.

Had been elected by the youth of San Francisco. The charter had been revised the year before to allow two years younger than the previous limit of thirty-two years to serve on the government. Had pitched his campaign frankly at the. The eighteen-year-olds had been delighted at finally getting to vote. Now they could show an approved legal to make known their disenchantment with the establishment. Using an unorthodox slogan, "You can just barely trust someone just barely over thirty," Atkins had been victorious on his first try. And he had not let the kids down either. From the first day in office, he was spokesman to the city fathers. His office door was always open, and somehow he was always there to hand out the to whatever groups came and listen to their ideas or grievances. He announced, "Get together, decide, appoint a group. Then come to see me. There are not enough minutes in the day for me to see individuals. So have your meetings at the grass roots, thresh out some of the problems and then bring me the rest." And worked. Better than
he had ever hoped. There was a noticeable lessening of riots, senseless vandalism, grudge fights and such throughout the city. He had confidence on that in. He would need it more than he ever dreamed.

One of the police helicopters that was over the city when it happened found Atkins pretty quickly, thanks to citizen band radios that require no central transmitting station, for was left. While one of the policemen when behind the helicopter and vomited quietly because of he had seen from above, the ran to Atkins, ashen-faced, almost in hysterics. "Thank God, you are alive, Councilman. Are the man-on-the-spot now. Are the Mayor, the State Civil Defense Director and the Police Chief all rolled together. What do we do first?"

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San Francisco

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Inwardly groaning, the mayor accepted the inevitable. His new Action Group would be "hamstrung" at every turn by the inept Palmer. But there was not to grieve. "Tell Palmer to come directly to the meeting room next to my office in Hall, Governor. I am taking these senators who have volunteered to go back in the helicopter with me."
We will have our Group assembled by the time Palmer arrives. But tell him to get the hell up there fast, you hear?"

The Action Group met—all the hardest-working of the city council jumped at the chance to work with the state senators. Not surprising, the hardest-working men also turned out to be the youngest ones. The mayor looked around the group and guessed their average age was about thirty-six years at the most. The older councilmen had said, "Call me if can help," then left quietly to tend to their extensive business. But businesses and families, and even eating, were forgotten by this group as they met in around the clock. State Director Palmer had arrived, but by the time he got there a great many plans had already been made and the machinery was already in operation to carry out. The important plans were taken care of first, rapidly. For when Palmer and his two assistants arrived on the scene, sure enough, things began to slow down and finally just bogged down completely in quibbling by the three latecomers over petty, unnecessary details. The youngest city councilman of the group, Will Atkins, coughed nervously, got up as inconspicuously as he could and walked past the mayor as if he were going to the restroom. But he rested his on the table by the mayor and a short was left behind as he went through the door. "Have heard by grapevine of serious out at State Children's Mental Hospital in foothills. Am going to take a before slug this SOB. Will see what is going on out there and be back in two."

One and thirty minutes later, doomsday arrived. In one sickening shudder, accompanied by a groan of metal that rose to a shriek, with loud pops of glass shattering, City was reduced to a dust-shrouded mound of rubble, all twelve of it. The mayor's suite of rooms was
on the second floor. He had moved down there from the top level because he would be right above the ground floor police rooms if he were ever needed. A police helicopter overhead was about to land on the roof when the hit. They told later that the whole surface level of the on which City Hall was located and other blocks north of it seemed to drop suddenly about twenty. It was as if the first three floors disappeared, then the top collapsed all at once.

Atkins had been elected by the youth of. The charter had been revised the year before to allow two years younger than the previous limit of thirty-two years to serve on the city government. He had pitched his campaign frankly at the young. The eighteen-year-olds had been delighted at finally getting to vote. Now they could show an approved legal voice to make known disenchanted with the establishment. Using an unorthodox, "You can just barely trust someone just barely over thirty," Atkins had been victorious on his first. And he had not let the down either. From the first day in office, he was their spokesman to the city fathers. His office door was always open, and somehow was always there to hand out the beer to whatever groups came and listen to ideas or their grievances. He announced, "Get together, decide, appoint a group. Then come to see me. There are not enough in the for to see individuals. So have your meetings at the grass roots, thresh out some of the problems and then bring the rest." And it worked. Better than he had ever hoped. There was a noticeable lessening of riots, senseless vandalism, grudge fights and such throughout the. He had confidence on that day in June. Would need it more than he ever dreamed.

One of the police helicopters that was over the city when it
happened found Atkins pretty quickly, to citizen band radios that require no central transmitting station, for none was left. While of the policemen went behind the helicopter and vomited quietly because of what he had seen from above, the other ran to Atkins, ashen-faced, almost in hysterics. "Thank God, you are alive, Councilman. You are the man-on-the spot now. You are the Mayor, the State Civil Defense and the Chief all rolled together. What do we do first?"

Almost complete destruction--almost total disaster--what does in authority do first? He forgets about his own loved; he does not even think of them one moment lest all disintegrate completely.

Atkins left on the helicopter to see where he could establish some sort of temporary headquarters. They flew high to get a total at; from low altitude the destruction seemed unreal, with unending of rubble where once stood. Atkins was surprised there was no smoke. The 1906 had triggered almost from the start. But the laws had been rewritten since then and building codes enforced so that shut-off valves were standard on any equipment that might cause after an earthquake. He could see more water than he expected. The whole level of the must have dropped, with sinking still going on. After-shocks would probably make it worse, he guessed. The area from where Fisherman's Wharf should have been, down the whole dock of the east side, was only water. In the distance he could see a vast lake spreading down the Clara Valley. The bay bridge had dropped, the middle gone from view. Only a smudge in the showed where the Naval Station Island once was. On around towards the Gate--that bridge was gone, too, with rushing into the bay from beyond the Presidio.
The land seemed a little higher than he remembered on the Pacific side, like the peninsula had been tilted inland toward the bay. They turned down the west coast and wondered what had happened to the animals at the on the west, making another mental note to find out and deal with that problem, too. The parks were the obvious gathering spots for survivors. Destruction seemed complete over the whole as far as he could see back past Daly City and from the Cruz to the. The radio in the helicopter reported some university professor down at USC had measured the quake at almost nine on the scale.

Helda led the group, laden with and, down from the old buildings of the commune in the mountain valley. All the food they had was piled into the old farm wagon they pulled. They might have gone part of the way in the van, but the roadbed would soon have been impassible, so loaded the wagon and pulled it down from the valley. They knew they would be needed. Helda had learned to boss a kitchen crew to turn out quantities of food for an unpredictable number of. She had learned to stretch inexpensive ground beef by adding rice or until it would feed twice the expected number. The men in the had learned to use, to build something out of almost nothing. They all believed they would be useful. Was now to drop back into the they had dropped out of a few years back. The skills they had learned were all they had to offer. Drugs and were left behind. Clear-headed, the group (and dozens, hundreds even, of groups just like them) approached the wreckage of the city and made their way to the parks.

Governor Smedley had set up a disaster from among the remaining
senate members. Why is it always the first of bureaucratic government to establish a committee, that strange entity that talks much but accomplishes little, wondered Atkins. He realized that the new committee must be utilized in a cooperative fashion, lest they become an obstacle to progress. Of the, the actual work in the city ruins, was now being administered by the Armed Forces. Of, Air Force, Marines, Reserves and National Guard were in charge, along with an Admiral of the Navy. Rescue was still the only operation a week after the earthquake. Aftershocks kept any other from occurring. Atkins had formed an interim government of sorts. The surviving citizens of San Francisco seemed united in following Atkins' leadership, according to the few living councilmen, of the older men, who had come to his temporary headquarters in John Park. Here he coordinated the operations of a of volunteers, including the young people like Helda. They fed survivors who were uninjured or slightly so, then passed them back along the peninsula from park to park to evacuate them completely from this area of California. Most of the young people had heard they were needed on transistor radios and had walked in from miles away, bringing simple things, sensible items, and usable skills. Mayor Atkins had issued an order to the guard cordonning off the peninsula to take these young volunteers to an officer for questioning. If they checked out all right and seemed sincere in their wish to help, they were to be passed into the area.

The young people became members of a worked, took, worked some more, followed immediately, then continued to work more, seemingly inexhaustible. The name, "Volunteers for Hope," came from among their ranks. No would take individual credit. Arm bands appeared
one with the letters "V-HOPE" on them. No older person was given except those directly in of the group. Those in charge were a few of the younger senators from the Governor's disaster committee, those especially cooperative with Mayor Atkins and willing to follow his. Also in charge were a few young police officers who had been aloft in the helicopters and survived as the sole remaining law men. Of these men had been promoted quickly to Police Chief, with others becoming Captains and Lieutenants. Were part of the government, where they came to respect their new young who worked so hard and long. In turn, found these policemen to be calm and efficient and he decided to make some of them a part of the Volunteers for Hope.

The previous resentment between the "long-hairs" and the "pigs" disappeared as if it had never existed. The serious before made them all respect only one in a human, courage, which meant the ability to work until you were tired enough to drop and then keep on working, to take hold in whatever unpleasant situation and do the job without complaint. Respect and mutual admiration grew and blossomed and the swore that the Volunteers for Hope group would be a permanent part of whatever survived or grew new from the disaster.

The interim government met and drew up plans of action. The volunteers worked to carry out these plans. The only time there was even mild grumbling and dissention was when they heard a rumor the interim government was considering rebuilding the city in the same location. "Have flipped completely?" asked the young people. "Do not get the message after two?" wondered Helda. But the work was for them to do, not the decision making, so they worked on. They knew that was their man and Atkins was in charge and would let
know when it was time to express.

On the of the city of which existed between the and 1974, there was pictured the, the Egyptian symbol of immortality. The rises from ashes on the, commemorating the disastrous fires of the early 1850's. No then foresaw the by earthquake and fire, followed by rebuilding, followed by repeated destruction by earthquake, sinking of and tidal. The Phoenix was eventually made the symbol of the Volunteers for. Out of the of the generation had arisen a reborn life: a new respect, understanding, acceptance, and love of old for young for old.
San Francisco

40% Noun and Pronoun Deleted Version

The popular Mayor St. John and his city councilmen were well aware of the two identities of the city. The rich, cultured overlaid the deeper, problem-ridden layer contained hippies, junkies, con, terrorizers of small merchants in, union leaders of the dock laborers who lived high with their hands deep in the. Perhaps there was a third layer, the of the deep crust of earth beneath the city. Its identity was known only when groaned or twiched, occasionally reminding the leaders of in the that was there, and should be considered, too. But the other problems always seemed more pressing.

In June that, the first earthquake came. More than halfway up the Richter, it was strong enough to cause a pretty solid of life in the old buildings, those of rebuilding in 1906 had somehow weathered urban renewal and freeway right-of-way acquisition. The mayor hopped into his for the to to seek state help. The governor passed in mid-air, a few miles apart, while flying to inspect the damaged city. Was a "disaster area" in the older, that was for sure. On to the, the governor found the mayor already in with of the Senate on Problems. The state government had set up this to deal with almost every of modern-day in the big. But not really to "deal" with them, for there were no easy or quick solutions to most of the.

"Be aware" of would be more of a correct attitude.

"Need to know of your immediate," stated a young had been appointed to this committee for his freshman, since was the least prestigious of all. The older, wiser Chairman suggested, "Perhaps
if we coordinate our efforts from the will avoid the fiscal waste of overlapping programs." Mayor looked around the, answering, "Hope we have enough for plans to be made and carried out. Right now, am not worried about fiscal or finances, Honorable. Now I am worried that the next may be the big one instead of an. I am here to ask that appoint some of your to a joint committee, let us call it the Action Group, that will also have members from my city. When this group starts operating, can have some plans made."

"I will volunteer," said Senator Salliman, the young asked the first. Of of the senate committee who wanted to help the were being jotted on the list when Governor Smedley burst into the room. "Just back from a," he announced. "Glad are here, St. John. Wanted to tell I am calling in State Civil Defense Chief. You are to be in complete of the whole, with acting as between you and me. He will be here for a briefing as soon as we get in touch with him down at the tracks in Santa Anita. Know he will want to have a with you boys right away."

Inwardly groaning, the mayor accepted the inevitable. His new Group would be "hamstrung" at every by the inept. But there was not time to grieve. "Tell to come directly to the meeting next to my office in City. I am taking these senators who have volunteered to go back in the helicopter with. We will have our Group assembled by the time Palmer arrives. But tell him to get the hell up there fast, you hear?"

The met all the hardest-working of the city council jumped at the chance to work with the state. Not surprising, the hardest-working men also turned out to be the youngest. The looked around
the and guessed their average was about thirty-six years at the most. The older councilmen had said, "Call if I can help," then left quietly to tend to their extensive business. But businesses and, and even eating, were forgotten by this group as met in session around the clock. State Director Palmer had arrived, but by the time got there a great many plans had already been made and the was already in operation to carry out. The important plans were taken care of first, rapidly. For when and his two assistants arrived on the scene, sure enough, things began to slow down and finally just bogged down completely in quibbling by the three latecomers over petty, unnecessary. The youngest city councilman of the group, Will, coughed nervously, got up as inconspicuously as could and walked past the as if he were going to the restroom. But he rested his hand on the by the mayor and a short memo was left behind as went through the door. "Have heard by of serious out at State Children's Mental Hospital in foothills. Am going to take a breather before I slug this SOB. Will see is going on out and be back in two hours."

One hour and thirty minutes later, doomsday arrived. In one sickening shudder, accompanied by a groan of that rose to a shriek, with loud pops of glass shattering, Hall was reduced to a dust-shrouded mound of, all twelve of it. The mayor's of rooms was on the second floor. He had moved down there from the top because would be right above the ground floor police rooms if he were ever needed. A police helicopter overhead was about to land on the roof when the earthquake hit. acid later that the whole surface of the on which City Hall was located and other north of it seemed to drop suddenly about twenty. Was as if the first three floors disappeared, then the
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Had been elected by the youth of San Francisco. The charter had been revised the before to allow citizens two years younger than previous limit of thirty-two years to serve on the city government. Had pitched his campaign frankly at the. The eighteen-year-olds had been delighted at finally getting to vote. Now could show an approved legal voice to make known disenchantment with the. Using an unorthodox slogan, "Can just barely trust just barely over," Atkins had been victorious on his first. And he had not let the kids down either. From the first day in, he was their to the city. His office door was always open, and somehow he was always there to hand out the beer to whatever came, and listen to their ideas or their. He announced, "Get together, decide, appoint a. Then come to see me. There are not enough in the for me to see individuals. So have your meetings at the grass, thresh out some of the problems and then bring the rest." And worked. Better than had ever hoped. There was a noticeable lessening of riots, senseless vandalism, grudge and throughout the. He had their on the day in June. Would need it more than he ever dreamed.

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On the seal of the city of San Francisco existed between the years and 1974, there was pictured the Phoenix, the Egyptian symbol of immortality. The bird rises from ashes on the seal, commemorating the disastrous fires of the early 1850's. No then foresaw the destruction by earthquake and fire, followed by, followed by repeated destruction by, sinking of and. The Phoenix was eventually made the symbol of the for. Out of the ashes of .e generation had arisen a reborn: a new respect, understanding, and love of old for and for old.
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The interim government met and drew up plans of action. The volunteers worked to carry out these. The only there was even mild grumbling and was when they heard a the interim was considering rebuilding the city in the same. "Have they flipped completely?" asked the young. "Do they not get the after two?" wondered. But the was for to do, not the decision, so they worked on. Knew that Atkins was man and was in and would let them know when it was to express their.

On the of the of which existed between the years and, there was pictured the Phoenix, the Egyptian symbol of. The bird rises from
on the, commemorating the disastrous fires of the early 1850's. No then foresaw the by and fire, followed by rebuilding, followed by earthquake, sinking of and wave. The was eventually made the of the Volunteers for. Out of the of the had arisen a reborn life: a new respect and love of for and for.
San Francisco

80% Noun and Pronoun Deleted Version

The popular Mayor and his city were well aware of the two of the of. The rich, cultured overlaid the deeper, problem-ridden that contained junkies, con, of small merchants in, union of the dock laborers who lived high with their hands deep in the. Perhaps there was a third, the of the deep crust of beneath the. Was known only when groaned or twitched, occasionally reminding the of in the that was there, and should be considered, too. But the other always seemed more pressing.

In that, the first came. More than halfway up the Richter, was strong enough to cause a pretty solid of in the old buildings, those of rebuilding in 1906 had somehow weathered urban and freeway right-of-way. The hopped into his for the to to seek state. The passed in mid-air, a few miles apart while flying to inspect the damaged. Was a "disaster area" in the older, that was for sure.

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"Need to know of your immediate," stated a young had been appointed to this for his freshman, since was the least prestigious of. The older, wiser suggested, "Perhaps if coordinate our efforts from the will avoid the fiscal of overlapping programs." Mayor looked
around the, answering, "I hope we have enough for to be made and carried out. Right now, am not worried about fiscal or, Honorable. Now am worried that the next may be the big one instead of an. I am here to ask that you appoint some of your to a joint committee, let us call the, will also have from my city. When this starts operating, we can have some made."

"Will volunteer," said Senator, the young asked the first. Of the senate wanted to help the were being jotted on the when Governor burst into the. "Just back from a," he announced. "Glad are here. Wanted to tell am calling in State Civil Defense Chief. Are to be in complete of the whole, with acting as between you and. Will be here for a as soon as get in with down at the in. Know he will want to have a with you right away."

Inwardly groaning, the accepted the inevitable. His new would be "hamstrung" at every by the inept. But there was not to grieve. "Tell to come directly to the meeting next to my office in. Am taking these senators have volunteered to go back in the helicopter with. Will have our Group assembled by the time Palmer arrives. But tell him to get the up there fast, hear?"

The met—all the hardest-working of the jumped at the to work with the state. Not surprising, the hardest-working men also turned out to be the youngest. The looked around the and guessed their average was about thirty-six years at the most. The older had said, "Call me if can help," then left quietly to tend to extensive business. But and, and even were forgotten by this group as met in around the. State Director Palmer had arrived, but by the time got there a great many plans had already been made and the was already
in operation to carry out. The important were taken care of first, rapidly. For when and his two arrived on the, sure enough, began to slow down and finally just bogged down completely in quibbling by the three over petty, unnecessary. The youngest city councilman of the coughed nervously, got up as inconspicuously as could and walked past the as if were going to the. But got up as if were going to the. But rested his on the by the and a short was left behind as he went through the door. "Have heard by of serious out at State Children's Mental in. Am going to take a before slug this. Will see is going on out and be back in two."

One and thirty later, arrived. In one sickening shudder, accompanied by a groan of rose to a shriek, with loud pops of glass shattering, was reduced to a dust-shrouded mound of, all twelve of it. The mayor's of rooms was on the second. Had moved down from the top because would be right above the ground floor police rooms if were ever needed. A police overhead was about to land on the when the hit. Told later that the whole surface of the on which Hall was located and other north of seemed to drop suddenly about twenty. Was as if the first three disappeared, then the top collapsed all at once.

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of the in the mountain. All the food had was piled into the old
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The popular Mayor St. John and his city councilmen were well aware of the two identities of the city of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock laborers who lived high with their hands deep in the treasury. Perhaps there was a third layer, the level of the deep crust of earth beneath the city. Its identity known only when it groaned or, occasionally reminding the leaders of government in the city that it was there, and should be considered, too. But the other problems always seemed more pressing.

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"I will volunteer," said Senator Salliman, the young man who asked the first question. Names of others of the senate committee who wanted to help the mayor being jotted on the list when Governor Smedley into the room. "Just back from a look-see," he announced. "Glad you here, St. John. Wanted to tell you I calling in State Civil Defense Chief Palmer. Mayor, you are to in complete charge of the whole San Francisco operation, with Palmer acting as liaison between you and me. He will be here for a briefing as soon as we get in touch with him down at the tracks in Santa Anita.

Inwardly groaning, the mayor accepted the inevitable. His new Action Group would be "hamstrung" at every turn by the inept Palmer.
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meeting room next to my office in City Hall, Governor. I am taking
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The Action Group met—all the hardest-working members of the city
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surprising, the hardest-working men also out to be the youngest ones.
The mayor looked around the group and their average age was about
thirty-six years at the most. The older councilmen had said, "Call me
if I can help," then left quietly to tend to their extensive business
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Atkins, coughed nervously, got up as inconspicuously as he could and
walked past the mayor and a short memo was left behind as he went
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Atkins had been elected by the youth of San Francisco. The charter had been revised the year before to allow citizens two years younger than the previous limit of thirty-two years to serve on the city government. He had pitched his campaign frankly at the young. The eighteen-year-olds had been delighted at finally getting to vote. Now they could show an approved legal voice to make known their disenchantment with the establishment. Using an unorthodox slogan, "You can just barely someone just barely over thirty," Atkins been victorious on his first try. And he had not let the kids down either. From the first day in office, he was their spokesman to the city fathers. His office door was always open, and somehow he was always there to hand out the beer to whatever groups came, and listen to their ideas or their grievances. He announced, "Get together, decide, appoint a group. Then come to see me. There are not enough minutes in the day for me to see individuals. So have your meetings at the grass roots, out some of the problems and then bring me the rest." And it worked. Better than he had ever. There was a noticeable lessening of riots, senseless vandalism, grudge fights and such
throughout the city. He had their confidence on that day in June. He would need it more than he ever dreamed.

One of the police helicopters that was over the city when it happened found Atkins pretty quickly, thanks to citizen band radios that require no central transmitting station, for none was left. While one of the policemen behind the helicopter and vomited quietly because of what he had seen from above, the other ran to Atkins, ashen-faced, almost in hysterics. "Thank God, you are alive, Councilman. You are the man-on-the-spot now. You are the Mayor, the State Civil Defense Director and the Police Chief all rolled together. What do we do first?"

Almost complete destruction--almost total disaster--what does anyone in authority do first? He forgets about his own loved ones; he does not even think of them one moment lest all resolve disintegrate completely.

Atkins left on the helicopter to see where he could establish some sort of temporary headquarters. They flew high to get a total picture at first; from low altitude the destruction seemed unreal, with unending blocks of rubble where buildings once stood. Atkins was surprised there was no smoke. The 1906 disaster had triggered fires almost from the start. But the laws had been rewritten since then and building codes enforced so that shut-off valves were standard on any equipment that might fires after an earthquake. He could see more water than he expected. The whole level of the peninsula have dropped, with sinking still going on. Aftershocks would probably make it worse, he guessed. The area from where Fisherman's Wharf should have been, down the whole dock area of the east side, was only
water. In the distance he could see a vast lake down the Santa Clara Valley. The bay bridge had dropped, the middle spans gone from view. Only a smudge in the water showed where the Naval Station Island once was. On around towards the Golden Gate—that bridge was gone, too, with tidal waves rushing into the bay from the Presidio. The land seemed a little higher than he remembered on the Pacific side, like the peninsula had been tilted inland toward the bay. They down the west coast and he wondered what happened to the animals at the zoo on the west side, making another mental note to find out and deal with that problem too. The parks were the obvious gathering spots for survivors. Destruction seemed complete over the whole peninsula as far as he could see back past Daly City and from the Santa Cruz Mountains to the bay. The radio in the helicopter reported some university professor down at USC had measured the quake at almost nine on the scale.

Helda led the group, laden with their dishes and pans, down from the old buildings of the commune in the mountain valley. All the food they had was piled into the old farm wagon they pulled. They might gone part of the way in the van, but the roadbed would soon have been impassible, so they the wagon and pulled it down from the valley. They knew they be needed. Helda had learned to boss a kitchen crew to out quantities of food for an unpredictable number of persons. She had to stretch inexpensive ground beef by adding rice or noodles until it would feed twice the expected number. The men in the commune had learned to tools, to build something of almost nothing. They all they would be useful. It was now time to drop back into the world they had dropped out of a few years
back. The skills they had learned the hard way were all they had
to offer. Drugs and pot were left behind. Clear-headed, the group
(and dozens, hundreds even, of groups just like them) the wreckage
of the city and made their way to the parks.

Governor Smedley had set up a disaster committee from among the
remaining senate members. Why is it always the first step of bureau-
ocratic government to establish a committee, that strange entity that
talks much but accomplishes little, wondered Atkins. He realized
that the new committee must be utilized in a cooperative fashion,
lest they become an obstacle to progress. Most of the operations,
the actual work in the city ruins, was now being administered by
the Armed Forces. Generals of Army, Air Force, Marines, Reserves
and National Guard were in charge, along with an Admiral of the Navy.
Rescue work was still the only operation a week after the earthquake.
Aftershocks kept any other activity from occurring. Atkins had
formed an interim city government of sorts. The surviving citizens
of San Francisco seemed united in following Atkins' leadership,
according to the few living councilmen, most of them the older men,
who had come to his temporary headquarters in John McLaren Park.
Here he coordinated the operations of a mass of volunteers, includ-
ing the young people like Helda. They fed survivors who were un-
injured or slightly so, then passed them back along the peninsula
from park to park to evacuate them completely from this area of
California. Most of the young people had they were needed on their
transistor radios and had walked in from miles away, bringing simple
things, sensible items, and usable skills. Mayor Atkins had issued
an order to the guard off the peninsula to an officer for questioning
If they checked out all right and seemed sincere in their wish to help, they were to passed into the area.

The young people became members of a group that worked, took instructions, worked some more, followed orders immediately, then continued to work more, seemingly inexhaustible. The name, "Volunteers for Hope," came from among their ranks. No one would individual credit. Arm bands appeared one day with the letters "V-HOPE" on them. No older person was given one except those directly in charge of the group. Those in charge were a few of the younger senators from the Governor's disaster committee, those especially cooperative with Mayor Atkins and willing to follow his leadership. Also in charge were a few young police officers who had been aloft in the helicopters and survived as the sole remaining law men. One of these men had been promoted quickly to Police Chief, with others becoming Captains and Lieutenants. All were part of the interim city government, where they came to respect their new young mayor who worked so hard and long. In turn, Atkins found these policemen to be calm and efficient and he decided to make some of them a part of the Volunteers for Hope group. The previous resentment between the "long-hairs" and the "pigs" disappeared as if it had never. The serious job before them made them all respect only one trait in a human, courage, which meant the ability to work until you were tired enough to drop and then keep on working, to hold in whatever unpleasant situation and do the job without complaint. Respect and mutual admiration and blossomed and the policemen that the Volunteers for Hope group would be a permanent part of whatever survived or grew from the
The interim city government met and drew up plans of action. The volunteers worked to carry out these plans. The only time there was even mild grumbling and dissent was when they heard a rumor the interim government was considering rebuilding the city in the same location. "Have they flipped completely?" the young people. "Do they not get the message after two earthquakes?" wondered Helda. But the work was for them to do, not the decision making, so they worked on. They knew that Atkins was their man and Atkins was in charge and let them when it was time to express their opinions.

On the seal of the city of San Francisco which existed between the years 1860 and 1874, there was pictured the Phoenix, the Egyptian symbol of immortality. The bird rises from ashes on the seal, commemorating the disastrous fires of the early 1850's. No one then foresaw the destruction by earthquake and fire, followed by rebuilding, followed by repeated destruction by earthquake, sinking of land and tidal wave. The Phoenix was eventually the symbol of the Volunteers for Hope. Out of the ashes of the generation gap had arisen a reborn life: a new respect, understanding acceptance, and love of old for young and young for old.
San Francisco

20% Verb Deleted Version

The popular Mayor St. John and his city councilmen were well of the two identities of the city of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock laborers who lived high with their hands deep in the treasury. Perhaps there was a third layer, the level of the deep crust of earth beneath the city. It's identity was known only when it groaned or twitched, occasionally reminding the leaders of government in the city that it was there, and should be considered, too. But the other problems always seemed more pressing.

In June that year, the first earthquake came. More than halfway up the Richter scale, it was strong enough to cause a pretty solid loss of life in the old buildings, those relics of rebuilding in 1906 that somehow weathered urban renewal and freeway right-of-way acquisition. The mayor hopped into his helicopter for the flight to Sacramento to seek state help. The governor passed him in mid-air, a few miles apart, while flying to inspect the damaged city. It was a "disaster area" in the older sections, that was for sure. On return to the capital, the governor found the mayor already in conference with members of the Senate Committee on Urban Problems. The state government had set up this committee to deal with almost every ailment of modern-day cities in the big state.
But not really to "deal" with them, for there were no easy answers or quick solutions to most of the problems. "Aware" of them would be more of a correct attitude.

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Inwardly groaning, the mayor accepted the inevitable. His
Action Group would be "hamstrung" at every turn by the inept Palmer. But there was not time to grieve. "Palmer to come directly to the meeting room next to my office in City Hall, Governor. I taking these senators who have to go back in the helicopter with me. We will have our Action Group assembled by the time Palmer arrives. But tell him to get the hell up there fast, you hear?"

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On the seal of the city of San Francisco which between the years 1860 and 1974, there was the Phoenix, the Egyptian symbol of immortality. The bird rises from ashes on the seal, commemorating the disastrous fires of the early 1850's. No one then foresaw the destruction by earthquake and fire, followed by rebuilding, followed by repeated destruction by earthquake, sinking of land and tidal wave. The Phoenix was eventually made the symbol of the Volunteers for Hope. Out of the ashes of the generation gap had arisen a reborn life: a new respect, understanding, acceptance, and love of old for young and young for old.
The popular Mayor St. John and his city councilmen were well aware of the two identities of the city of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock laborers who high with their hands deep in the treasury. Perhaps there a third layer, the level of the deep crust of earth beneath the city. Its identity was only when it or, occasionally reminding the leaders of government in the city that it was there, and be considered, too. But the other problems always more pressing.

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"We need to know of your immediate plans, Mayor," stated a young senator who to this committee for his freshman term, since it was the least prestigious of all. The older, wiser suggested, "perhaps if we coordinate our efforts from the start we will the fiscal waste of overlapping programs." Mayor St. John looked around the group, "I hope we enough time for plans to be and out. Right now, I am not worried about fiscal overlapping or finances, Honorable Chairman. Now I that the next earthquake the big one instead of an aftershock. I am here to ask that you some of your members to a joint committee, let us it the Action Group, that will also have members from my city council. When this group starts, we have some plans."

"I will," Senator Salliman, the young man who asked the first question. Names of others of the senate committee who to the mayor jotted on the list when Governor Smedley into the room. "Just back from a look-see," he. "Glad you are here, St. John. To tell you I am calling in State Civil Defense Chief Palmer. Mayor, you are to be in complete charge of the whole San Francisco operation, with Palmer as liaison between you and me. He be here for a briefing as soon as we get in touch with him down at the tracks in Santa Anita. He will to have a meeting with you boys right away."

Inwardly, the mayor accepted the inevitable. His new Action Group would be at every turn by the inept Palmer. But there was not time to grieve. "Tell Palmer to come directly to the meeting room next to my office in City Hall, Governor. I these senators who volunteered to back in the helicopter with me. We have our Action group by the time Palmer arrives. But tell him to get the
hell up there fast, you hear?"

The Action Group—all the hardest-working members of the city council at the chance to with the state senators. Not surprising, the hardest-working men also out to be the youngest ones. The mayor looked around the group and their average age was about thirty-six years at the most. The older councilmen said, "Call me if I help," then quietly to tend to their extensive business interests. But businesses and families, and even eating, forgotten by this group as they met in session around the clock. State Director Palmer had arrived, but by the time he got there a great many plans already been made and the machinery was already in to carry them out. The important plans were taken care of first, rapidly. For when Palmer and his two assistants on the scene, sure enough, things to slow down and finally just bogged down completely in by the three late-comers over petty, unnecessary details. The youngest city councilman of the group, Will Atkins, nervously, up as inconspicuously as he could and walked past the mayor as if he going to the restroom. But he his hand on the table by the mayor and a short memo was left behind as he went through the door. "Have heard by grapevine of serious trouble out at State Children's Mental Hospital in foothills. Am going to a breather before I this SOB. See what is going on out there and be back in two hours."

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would be right above the ground floor police rooms if he ever needed. A police helicopter overhead about to land on the roof when the earthquake. They told later that the whole surface level of the block on which City Hall was and other blocks north of it seemed to drop suddenly about twenty feet. It was as if the first three floors disappeared, then the top nine collapsed all at once.

Atkins elected by the youth of San Francisco. The charter revised the year before to allow citizens two years younger than the previous limit of thirty-two years to serve on the city government. He had his campaign frankly at the young. The eighteen-year-olds at finally getting to. Now they could show an approved legal voice to make known their disenchantment with the establishment. An unorthodox slogan, "You just barely trust someone just barely over thirty," Atkins had been victorious on his first try. And he not the kids down either. From the first day in office, he was their spokesman to the city fathers. His office door was always open, and somehow he always there to hand out the beer to whatever groups, and listen to their ideas or their grievances. He announced, "Get together a group. Then to me. There not enough minutes in the day for me to see individuals. So your meetings at the grass roots, out some of the problems and then bring the rest." And it worked. Better than he had ever. There was a noticeable lessening of riots, senseless vandalism, grudge fights and such throughout the city. He their confidence on that day in June. He would it more than he ever.

One of the police helicopters that over the city when it
happened found Atkins pretty quickly, thanks to citizen band radios that no central transmitting station, for none. While one of the policemen behind the helicopter and quietly because of what he from above, the other ran to Atkins, ashen-faced, almost in hysterics. "God, you are alive, Councilman. You are the man-on-the-spot now. You are Mayor, the State Civil Defense Director and the Police Chief all rolled together. What we do first?"

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San Francisco

10% Adjective and Adverb Deleted Version

The popular Mayor St. John and his councilmen were well aware of the two identities of the city of San Francisco. The rich layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock laborers who lived high with their hands deep in the treasury. Perhaps there was a third layer, the level of the deep crust of earth beneath the city. Its identity was known only when it groaned or twitched, occasionally reminding the leaders of government in the city that it was there, and should be considered, too. But the other problems always seemed more pressing.

In June year, the first earthquake came. More than halfway up the Richter scale, it was strong enough to cause a pretty solid loss of life in the old buildings, those relics of rebuilding in 1906 that had somehow weathered urban renewal and freeway right-of-way acquisition. The mayor hopped into his helicopter for the flight to Sacramento to seek state help. The governor passed him in mid-air, a miles apart, while flying to inspect the city. It was a "disaster area" in the older sections, that was for sure. On return to the capital, the governor found the mayor already in conference with members of the Senate Committee on Urban Problems. The
state government had set up this committee to deal with almost every ailment of modern-day cities in the big state. But not really to "deal" with them, for there were no easy answers or quick solutions to most of the problems. "Be aware" of them would be more of a correct attitude.

"We need to know of your immediate plans, Mayor," stated a young senator who had been appointed to this committee for his term, since it was the least prestigious of all. The older chairman suggested, "Perhaps if we coordinate efforts from the start we will avoid the fiscal waste of overlapping programs." Mayor St. John looked around the group, answering, "I hope we have time for plans to be made and carried out. Right now, I am not worried about fiscal overlapping or finances, Honorable Chairman. Now I am worried that the next earthquake may be the big one of an aftershock. I am here to ask that you appoint some of members to a joint committee, let us call it the Action Group, that will also have members from my city council. When this group starts operating, we can have some plans made."

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Inwardly groaning, the mayor accepted the inevitable. His new Action Group would be "hamstrung" at every turn by the inept Palmer. But there was not time to grieve. "Tell Palmer to come directly to the meeting room next to my office in City Hall, Governor. I am taking these senators who have volunteered to go back in the helicopter with me. We will have our Action Group assembled by the time Palmer arrives. But tell him to get the hell up there fast, you hear?"

The Action Group met—all the hardest-working members of the city council jumped at the chance to work with the state senators. Not surprising, the hardest-working men also turned to be the youngest ones. The mayor looked around the group and guessed their average age was about thirty-six years at the most. The older councilmen had said, "Call me if I can help," then left quietly to tend to their extensive business interests. But businesses and families, and even eating, were forgotten by this group as they met in session around the clock. State Palmer had arrived, but by the time he got there a great many plans had already been made and the machinery was already in operation to carry them out. The plans were taken care of first. For when Palmer and his two assistants arrived on the scene, sure enough, things began to slow down and finally just bogged down completely in quibbling by the three latecomers over petty, unnecessary details. The city councilman of the
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Using an unorthodox slogan, "You can just barely trust someone just barely over thirty," Atkins had been victorious on his first try. And he had not let the kids down either. From the first day in office, he was their spokesman to the city fathers. His office door was open, and somehow he was always there to hand out the beer to whatever groups came, and listen to their ideas or their grievances. He announced, "Get together, decide, appoint a group. Then come to see me. Are not enough minutes in the day for me to see individuals. So have your meetings at the grass roots, thresh out some of the problems and then bring me the rest." And it worked. Better than he had ever hoped.

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wondered Atkins. He realized that the new committee must be utilized in a cooperative fashion, lest they become an obstacle to progress. Most of the operations, the actual work in the city ruins, was being administered by the Armed Forces. Generals of Army, Air Force, Marines, Reserves and National Guard were in charge, along with an Admiral of the Navy. Rescue work was still the only operation a week after the earthquake. Aftershocks kept any other activity from occurring. Atkins had formed an interim city government of sorts. The surviving citizens of San Francisco seemed united in following Atkins' leadership, according to the few living councilmen, most of them the older men, who had come to his temporary headquarters in John McLaren Park. Here he coordinated the operations of a mass of volunteers, including the young people Helda. They fed survivors who were uninjured or slightly so, passed them back along the peninsula from park to park to evacuate them completely from this area of California. Most of the young people had heard they were needed on their transistor radios and had walked in from miles away, bringing simple things, sensible items, and usable skills. Mayor Atkins had issued an order to the guard cordon off the peninsula to take these young volunteers to an officer for questioning. If they checked out all right and seemed in their wish to help, they were to be passed into the area.

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The interim city government met and drew up plans of action. The volunteers worked to carry out these plans. The only time there was even grumbling and dissention was when they
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Smedley had set up a disaster committee from among the remaining senate members. Why is it the first step of bureaucratic government to establish a committee, that strange entity that talks much but accomplishes little, wondered Atkins. He realized that the new committee must be utilized in a cooperative fashion, lest they become an obstacle to progress. Most of the operations, the actual work in the city ruins, was now being administered by the Armed Forces. Generals of Army, Air Force, Marines, Reserves, and National Guard were in charge, along with an Admiral of the Navy. Rescue work was still the only operation a week after the earthquake. After-shocks kept any other activity from occurring. Atkins had formed an interim city government of sorts. The surviving citizens of San Francisco seemed in following leadership, according to the few living councilmen, most of them the older men, who had come to temporary headquarters in John McLaren Park. Here he coordinated the operations of a mass of volunteers, including the young people like Helda. They fed survivors who were uninjured or slightly so, then passed them back along the peninsula from park to park to evacuate them completely from this area of California. Most of the young people had heard they were needed on their transistor radios and had walked from miles, bringing simple things, sensible items, and usable skills. Mayor Atkins had issued an order to the guard cordoning the peninsula to take these young volunteers to an officer for questioning. If they checked out right and seemed sincere in
their wish to help, they were to be passed into the area.

The young people became members of a group that worked, took instructions, worked more, followed orders immediately, continued to work more, seemingly inexhaustible. The name, "Volunteers for Hope," came from among their ranks. No one would take individual credit. Arm bands appeared day with the letters "V-HOPE" on them. No older person was given one except those directly in charge of the group. Those in charge were a few of the younger senators from the disaster committee, those especially cooperative with Atkins and willing to follow his leadership. Also in charge were a few young police officers who had been aloft in the helicopters and survived as the sole remaining law men. One of these men had been promoted quickly to Chief, with others becoming Captains and Lieutenants. All were part of the interim city government, where they came to respect their young mayor who worked so hard and long. In turn, Atkins found policemen to be calm and efficient and he decided to make some of them a part of the Volunteers for Hope group. The previous resentment between the "long-hairs" and the "pigs" disappeared as if it had never existed. The serious job before them made them all respect only trait in a human, courage, which meant the ability to work until you were tired to drop and then keep on working, to take hold in whatever unpleasant situation and do the job without complaint. Respect and mutual admiration grew and blossomed and the policemen swore that the Volunteers for Hope group would be a permanent part of whatever survived or grew new from the disaster.

The interim city government met and drew up plans of action.
The volunteers worked to carry out these plans. The only time there was mild grumbling and dissention was when they heard a rumor the interim government was considering rebuilding the city in the same location. "Have they flipped completely?" asked the young people. "Do they not get the message earthquakes?" wondered Helda. But the work was for them to do, not the decision making, so they worked. They knew that Atkins was their man and Atkins was in charge and would let them know it was time to express their opinions.

On the seal of the city of San Francisco which existed between the years 1860 and 1974, there was pictured the Phoenix, the Egyptian symbol of immortality. The bird rises from ashes on the seal, commemorating the disastrous fires, followed by rebuilding, followed by repeated destruction by earthquake, sinking of land and tidal wave. The Phoenix was eventually made the symbol of the Volunteers for Hope. Out of the ashes of the generation gap had arisen a reborn life: a new respect, understanding, acceptance, and love of old for young and young for old.
The popular Mayor St. John and his councilmen were well aware of the identities of the city of San Francisco. The rich layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, men, terrorizers of small merchants in Chinatown, leaders of the dock laborers who lived high with their hands in the treasury. There was a third layer, the level of the deep crust of earth beneath the city. Its identity was known when it groaned or twitched, occasionally reminding the leaders of government in the city that it was, and should be considered, too. But the other problems always seemed pressing.

In June that year, the first earthquake came. More than halfway the Richter scale, it was enough to cause a solid loss of life in the buildings, those relics of rebuilding in 1906 that had somehow weathered urban renewal and acquisition. The mayor hopped into his helicopter for the flight to Sacramento to seek state help. The governor passed him in mid-air, a miles apart, while flying to inspect the city. It was a "disaster area" in the sections, that was for sure. On return to the capital, the governor found the mayor already in conference with members of the Senate Committee on Urban Problems. The state government had set committee to deal with ailment of modern-day cities in the state. But not to "deal" with them, for were no answers or quick solutions to most of the problems. "Be aware" of them would be of a correct attitude.
"We need to know of your immediate plans, Mayor," stated a senator who had been appointed to committee for term, since it was the of all. The older, wiser Chairman suggested, "If we coordinate our efforts from the start we will avoid the waste of overlapping programs." St. John looked around the group, answering, "I hope we have enough time for plans to be made and carried. Right, I am not worried about fiscal overlapping or finances, Honorable Chairman. I am worried that the next earthquake may be the one of an aftershock. I am to ask that you appoint some of your members to a committee, let us call it the Action Group, that will have members from city council. When group starts operating, we can have plans made."

"I will volunteer," said Senator Salliman, the young man who asked the question. Names of others of the committee who wanted to help the mayor were being jotted on the list when Governor Smedley burst into the room. "Just from a look-see," he announced. "You are here, St. John. Wanted to tell you I am calling in State Civil Defense Chief Palmer. Mayor, you are to be in charge of the whole San Francisco operation, with Palmer acting as liaison between you and me. He will be here for a briefing as we get in touch with him down at the tracks in Santa Anita. Know he will want to have a meeting with boys away."

Inwardly groaning, the mayor accepted the inevitable. His new Action Group would be "hamstrung" at every turn by the inept Palmer. But there was not time to grieve. "Tell Palmer to come directly to the meeting room to my office in City Hall, Governor. I am taking these senators who have volunteered to go in the helicopter with me."
We will have Action Group assembled by the time Palmer arrives. But tell him to get the hell fast, you hear?"

The Action Group met—all the members of the city council jumped at the chance to work with the senators. Not surprising, the men turned out to be the ones. The mayor looked the group and guessed their average age was thirty-six years at the most. The older councilmen had said, "Call me if I can help," left to tend to their extensive business interests. But businesses and families, and eating, were forgotten by group as they met in session around the clock. State Director Palmer had arrived, but by the time he got a great many plans had already been made and the machinery was already in operation to carry them. The important plans were taken care of first, rapidly. For when Palmer and two assistants arrived on the scene, sure enough, things began to slow down and just bogged down completely in quibbling by the latecomers over, unnecessary details. The city councilman of the group, Will Atkins, coughed nervously, got up as he could and walked past the mayor as if he were going to the restroom. But he rested hand on the table by the mayor and a short memo was left behind as he went through the door. "Have heard by grapevine of trouble out at State Children's Mental Hospital in foothills. Am going to take a breather before I slug SOB. Will see what is going out there and be back in hours."

One hour and minutes later, doomsday arrived. In one sickening shudder, accompanied by a groan of metal that rose to a shriek, with pops of shattering, City Hall was reduced to a mound of rubble, all twelve floors of it. The mayor's suite of rooms was on the
floor. He had moved down there from the level because he would be above the ground floor rooms if he were ever needed. A police helicopter overhead was to land on the roof when the earthquake hit. They told later that the whole surface level of the block on which City Hall was located and other blocks of it seemed to drop suddenly about twenty feet. It was if the first floors disappeared, the nine collapsed all at once.

Atkins had been elected by the youth of San Francisco. The charter had been revised the year before to allow citizens years than the previous limit of thirty-two years to serve on the city government. He had pitched campaign at the young. The eighteen-year-olds had been delighted at getting to vote. They could show an approved voice to make known their disenchantment with the establishment. Using an unorthodox slogan, "You can just trust someone barely over thirty," Atkins had been victorious on his try. And he had let the kids down either. From the first day in office, he was their spokesman to the fathers. Door was open and he was to hand out the beer to whatever groups came, and listen to their ideas or their grievances. He announced, "Get together, decide, appoint a group. Then come to see me. Are enough minutes in the day for me to see individuals. So have meetings at the roots, thresh out some of the problems and then bring me the rest." And it worked. Better than he had ever hoped. There was a lessening of riots, senseless vandalism, fights and such throughout the city. He had their confidence on that day in June. He would need it than ever dreamed.

One of the police helicopters that was over the city when it
happened found Atkins pretty quickly, thanks to citizen radios that require transmitting station, for none was left. While one of the policemen went behind the helicopter and vomited quietly of what he had seen from above, the other ran to Atkins, ashen-faced, in hysterics.

"Thank God, you are, Councilman. You are the man-on-the-spot now. You are the Mayor, the Civil Defense Director and the Police Chief all rolled together. What do we do?"

Destruction--almost total disaster--what does anyone in authority do first? He forgets about his own ones; he does think of them on moment lest resolve disintegrate completely.

Atkins left on the helicopter to see where he could establish some sort of temporary headquarters. They flew high to get a total picture at first; from low altitude the destruction seemed unreal, with unending blocks of rubble where buildings once stood. Atkins was surprised there was no smoke. The 1906 disaster had triggered fires almost from the start. But the laws had been rewritten since and codes enforced so that shut-off valves were standard on any equipment that might cause fires after an earthquake. He could see more water than he expected. The whole level of the peninsula must have dropped, with sinking going on. Aftershocks would probably make it worse, he guessed. The area from where Fisherman's Wharf should have been, the area of the east side, was water. In the distance he could see a vast lake spreading down the Santa Clara Valley. The bay bridge had dropped, the spans gone from view. Only a smudge in the water showed where the Naval Station Island was. On around towards the Golden Gate--that bridge was, with tidal waves rushing into the bay from the Presidio. The land seemed a higher
than he remembered on the Pacific side, like the peninsula had been tilted inland the bay. They turned down the west coast and he wondered what had happened to the animals at the zoo on the west side, making another note to find out and deal with that problem, too. The parks were the obvious spots for survivors. Destruction seemed complete over the whole peninsula far as he could see back past Daly City and from the Santa Cruz Mountains to the bay. The radio in the helicopter reported professor down at USC had measured the quake at almost nine on the scale.

Helda led the group, laden with their dishes and pans, down from the buildings of the commune in the mountain valley. All the food they had was piled into the old farm wagon they pulled. They might have gone part of the way in the van, but the roadbed would have been impassible, so they loaded the wagon and pulled it down from the valley. They knew they would be needed. Helda had learned to boss a kitchen crew to turn out quantities of food for an number of persons. She had learned to stretch beef by adding rice or noodles it would feed twice the expected number. The men in the commune had learned to use tools, to build something of almost nothing. They all believed they would be useful. It was now time to drop into the world they had dropped out of a years. The skills they had learned the hard way were all they had to offer. Drugs and pot were left behind. Clear-headed, the group (and dozens, hundreds even, of groups just like them) approached the wreckage of the city and made their way to the parks.

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to establish a committee, that strange entity that talks much but accomplishes little, wondered Atkins. He realized that the new committee must be utilized in a cooperative fashion, lest they become an obstacle to progress. Most of the operations, the work in the city ruins, was now being administered by the Armed Forces. Generals of Army, Air Force, Marines, Reserves, and National Guard were in charge, along with an Admiral of the Navy. Rescue work was the only operation a week after the earthquake. Aftershocks kept any other activity from occurring. Atkins had formed an interim city government of sorts. The surviving citizens of San Francisco seemed united in following Atkins' leadership, according to the few living councilmen, most of them the men, who had come to his temporary headquarters in John McLaren Park. He coordinated the operations of a mass of volunteers, including the people like Helda. They fed survivors who were uninjured or slightly so, then passed them along the peninsula from park to park to evacuate them completely from area of California. Most of the people had heard they were needed on their radios and had walked in from miles away, bringing simple things, items, and skills. Mayor Atkins had issued an order to the guard cordonning off the peninsula to take these volunteers to an officer for questioning. If they checked out all right and seemed sincere in their wish to help, they were to be passed into the area.

The young people became members of a group that worked, took instructions, worked some more, followed orders immediately, continued to work more. The name, "Volunteers for Hope," came from among ranks. No one would take individual credit. Arm bands appeared day with the letters "V-HOPE" on them. No person was given one except
those directly in charge of the group. Those in charge were a few of the younger senators from the governor's disaster committee, those especially with Atkins and to follow his leadership. Also in charge were a few young police officers who had been in the helicopters and survived as the sole law men. One of these men had been promoted to Police Chief, with others becoming Captains and Lieutenants. All were part of the interim city government, where they came to respect their new young mayor who worked and. In turn, Atkins found these policemen to be calm and and he decided to make some of them a part of the Volunteers for Hope group. The resentment between the "long-hairs" and the "pigs" disappeared as if it had existed. The job before them made them respect only one trait in a human, courage, which meant the ability to work until you were tired to drop and keep on working, to take hold in whatever situation and do the job without complaint. Respect and admiration grew and blossomed and the policemen swore that the Volunteers for Hope group would be a part of whatever survived or grew new from the disaster.

The interim city government met and drew plans of action. The volunteers worked to carry out these plans. The time there was even mild grumbling and dissention was when they heard a rumor the interim government was considering rebuilding the city in the location. "Have they flipped completely?" asked the young people. "Do they get the message earthquakes?" wondered Held. But the work was for them to do, the decision making, so they worked. They knew that Atkins was their man and would let them know when it was time to express their opinions.

On the seal of the city of San Francisco which existed between
the years 1860 and 1974, there was pictured the Phoenix, the symbol of immortality. The bird rises from ashes on the seal, commemorating the fires of the early 1850's. No one foresaw the destruction by earthquake and fire, followed by rebuilding, followed by repeated destruction by sinking of land and tidal wave. The Phoenix eventually made the symbol of the Volunteers for Hope. Out of the ashes of the generation gap had arisen a life: a new respect, understanding, acceptance, and love of old for young and young for old.
The St. John and his councilmen were well aware of the two identities of the city of San Francisco. The cultured layer overlaid the problem-ridden layer that contained hippies, prostitutes, junkies, men, terrorizers of merchants in Chinatown, union leaders of the laborers who lived with their hands in the treasury. There was a layer, the level of the deep crust of earth beneath the city. Its identity was known only when it groaned or twitched, occasionally reminding the leaders of government in the city that it was, and should be considered. But the problems seemed.

In June that year, the earthquake came. Than the scale, it was enough to cause a pretty loss of life in the buildings, those relics of rebuilding in 1906 that had somehow weathered renewal and right-of-way acquisition. The mayor hopped into helicopter for the flight to Sacramento to seek help. The governor passed him in mid-air, a few miles apart, while flying to inspect the city. It was a "area" in the older sections, that was for. On return to the capital, the governor found the mayor in conference with members of the Senate Committee on Urban Problems. The state government had set up committee to deal with ailment of cities in the state. But not to "deal" with them, for there were easy answers or solutions to most of the problems. "Be" of them would be of a attitude.

"We need to know of plans, Mayor," stated a young senator who had been appointed to committee for freshman term, since it was the
prestigious of all. The, wiser Chairman suggested, "Perhaps if we coordinate efforts from the start we will avoid the waste of programs."

St. John looked around the group, answering, "I hope we have time for plans to be made and carried out. Right now, I am not worried about overlapping or finances, Honorable Chairman. I am worried that the earthquake may be the big one of an aftershock. I am here to ask that you appoint members to a joint committee, let us call it the Action Group, that will have members from city council. When this group starts operating, we can have some plans made."

"I will volunteer," said Salliman, the young man who asked the question. Names of others of the committee who wanted to help the mayor were being jotted on the list when Governor Smedley burst into the room. "From a look-see," he announced. "Glad you are here, St. John. Wanted to tell you I am calling Chief Palmer. Mayor, you are to be in charge of the San Francisco operation, with Palmer acting as liaison between you and me. He will be for a briefing soon as we get in touch with him at the tracks in Santa Anita. Know he will want to have a meeting with boys right."

Groaning, the mayor accepted the inevitable. His new Action Group would be "hamstrung" at turn by the Palmer. But was time to grieve. "Tell Palmer to come directly to the room to office in City Hall, Governor. I am taking Senators who have volunteered to go in the helicopter with me. We will have our Action Group assembled by the time Palmer arrives. But tell him to get the hell up fast, you hear?"

The Action Group met--the hardest-working members of the city council jumped at the chance to work with the senators. Surprising,
the men also turned to be the youngest ones. The mayor looked around the group and guessed their age was thirty-six years at the most. The older councilmen had said, "Call me if I can help," then left to tend to their business interests. But businesses and families, and even eating, were forgotten by group as they met in session around the clock. Palmer had arrived, but by the time he got a plans had already been made and the machinery was in operation to carry them. The important plans were taken care of first. For when Palmer and two assistants arrived on the scene, sure things began to slow and bogged in quibbling by the three latecomers over unnecessary details. The city councilman of the group, Will Atkins, coughed nervously, got up as inconspicuously as he could and walked past the mayor if he were going to the restroom. But he rested hand on the table by the mayor and a short memo was left behind as he went through the door. "Have heard by grapevine of trouble at State Hospital in foothills. Am going to take a breather before I slug SOB. Will see what is going on out there and be back in two hours."

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Complete destruction--almost total disaster--what does anyone in authority do? He forgets about his own loved ones; he does think
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San Francisco

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The Action Group met—all the hardest-working members the city council jumped at the chance to work with the state senators. Not surprising, the hardest-working men also turned out to be the youngest ones. The mayor looked around the group and guessed their average age was about thirty-six years at the most. The older councilmen had said, "Call me if I can help," then left quietly to tend their extensive business interests. But businesses and families, and even eating, were forgotten by this group as they met in session around the clock. State Director Palmer had arrived, but the time he got there a great many plans had already been made and the machinery was already in operation carry them out. The important plans were taken care first, rapidly. For when Palmer and his two assistants arrived on the scene, sure enough, things began slow down and finally just bogged down completely quibbling the three latecomers over petty, unnecessary details. The youngest city councilman of the group, Will Atkins, coughed nervously, got up as inconspicuously as he could and walked past the mayor as if he were going to the restroom. But he rested his hand on the table the mayor and a short memo was left behind as he went the door. "Have heard by grapevine of serious trouble out at Stat Children's Mental Hospital in foothills. Am going take a breather I slug this SOB. Will see what is going on out there and be back two hours."

One hour and thirty minutes later, doomsday arrived. One sickening shudder, accompanied by a groan of metal that rose a shriek, with
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Helda led the group, laden their dishes and pans, down from the old building the commune the mountain valley. All the food they had was piled into the old farm wagon they pulled. They might have gone part of the way in the van, but the roadbed would soon have been impassible, so they loaded the wagon and pulled it down from the valley. They knew they would be needed. Helda had learned boss a kitchen crew turn out quantities food for an unpredictable number of persons. She had learned to stretch inexpensive ground beef adding rice or noodles until it would feed twice the expected number. The men the commune had learned use tools, build something out almost nothing. They all believed they would be useful. It was now time to drop back into the world they had dropped out of a few years back. The skills they had learned the hard way were all they had to offer. Drugs and pot were left behind. Clear-headed, the group (and dozens, hundreds even, of groups just like them) approached the wreckage of the city and made their way the parks.
Governor Smedley had set up a disaster committee among the remaining senate members. Why is it always the first step bureaucratic government to establish a committee, that strange entity that talks much but accomplishes little, wondered Atkins. He realized that the new committee must be utilized in a cooperative fashion, lest they become an obstacle to progress. Most the operations, the actual work in the city ruins, was now being administered by the armed forces. Generals Army, Air Force, Marines, Reserves and National Guard were charge, along with an Admiral of the Navy. Rescue work was still the only operation a week after the earthquake. Aftershocks kept any other activity from occurring. Atkins had formed an interim city government of sorts. The surviving citizens of San Francisco seemed united in following Atkins' leadership, according the few living councilmen, most of them the older men, who had come to his temporary headquarters in John McLaren Park. Here he coordinated the operations of a mass of volunteers, including the young people like Heide. They fed survivors who were uninjured or slightly so, then passed them back along the peninsula park to park to evacuate them completely from this area of California. Most of the young people had heard they were needed on their transistor radios and had walked in from miles away, bringing simple things, sensible items, and usable skills. Mayor Atkins had issued an order the guard cordoning off the peninsula take these young volunteers to an officer for questioning. If they checked out all right and seemed sincere in their with to help, they were to be passed into the area.

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The popular Mayor St. John and his city councilmen were well aware of the two identities of the city of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock laborers who lived high with their hands deep in treasury. Perhaps there was a third layer, the level of the deep crust of earth beneath the city. Its identity was known only it groaned or twitched, occasionally reminding the leaders of government in the city that it was there, and should be considered, too. But the other problems always seemed more pressing.

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"Thank God, you are alive, Councilman. You are man-on-spot now. You are Mayor, the State Civil Defense Director, Police Chief all rolled together. What do we do first?"

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Helda led group, laden with their dishes pans, down from old buildings of the commune in mountain valley. All food they had was piled into old farm wagon they pulled. They might have gone part of the way in van, but roadbed would soon have been impassible, so they loaded wagon pulled it down from valley. They knew they would be needed. Helda had learned to boss kitchen crew to turn out quantities of food for unpredictable number of persons. She had learned to stretch inexpensive ground beef by adding rice noodles until it would feed twice expected number. Men in commune had learned to use tools, to build something out of almost nothing. They all believed they would be useful. It was now time to drop back into world they had dropped out of few years back. Skills they had learned hard way were all they had to offer. Drugs pot were left behind. Clear-headed, group (and dozens, hundreds even, of groups just like them) approached the wreckage of the city made their way to parks.

Governor Smedley had set up disaster committee from among remaining senate members. Why is it always first step of bureaucratic government to establish committee, that strange entity that talks much accomplishes little, wondered Atkins. He realized new committee must be utilized in cooperative fashion, they become obstacle to progress. Most of operations, actual work in city ruins, was now being administered by Armed Forces. Generals of Army, Air Force,
Marines, Reserves, National Guard were in charge, along with Admiral of Navy. Rescue work was still only operation week after earthquake. Aftershocks kept any other activity from occurring. Atkins had formed interim city government of sorts. Surviving citizens of San Francisco seemed united in following Atkins' leadership, according to few living councilmen, most of them older men, who had come to his temporary headquarters in John McLaren Park. Here he coordinated the operations of mass of volunteers, including young people like Helda. They fed survivors who were uninjured slightly so, then passed them back along the peninsula from park to park to evacuate them completely from this area of California. Most of young people had heard they were needed on their transistor radios and had walked in from miles away, bringing simple things, sensible items, usable skills. Mayor Atkins had issued order to the guard cordonning off peninsula to take these young volunteers to an officer for questioning. They checked out all right seemed sincere in their wish to help, they were to be passed into area.

Young people became members of group that worked, took instructions, worked some more, followed orders immediately, then continued to work more, seemingly inexhaustible. Name, "Volunteers for Hope," came from among their ranks. No one would take individual credit. Arm bands appeared one day with letters "V-Hope" on them. No older person was given one those directly in charge of group. Those in charge were few of younger senators from the governor's disaster committee, those especially cooperative with Mayor Atkins willing to follow his leadership. Also in charge were few young police officers who had been aloft in helicopters survived as sole remaining lawmen. One of these men had been promoted quickly to Police Chief, with others
becoming Captains, Lieutenants. All were part of interim city government, where they came to respect their new young mayor who worked so hard and long. In turn, Atkins found these policemen to be calm efficient he decided to make some of them part of Volunteers for Hope group. Previous resentment between "long-hairs" "pigs" disappeared as it had never existed. Serious job before them made them all respect only one trait in human, courage, which meant ability to work until you were tired enough to drop then keep on working, to take hold in whatever unpleasant situation do job without complaint. Respect mutual admiration grew blossomed the policemen swore the Volunteers for Hope group would be a permanent part of whatever survived grew new from disaster.

Interim city government met drew up plans of action. Volunteers worked to carry out these plans. The only time there was even mild grumbling dissention was when they heard rumor interim government was considering rebuilding city in same location. "Have they flipped completely?" asked young people. "Do they not get message after two earthquakes?" wondered Helda. Work was for them to do, not decision making, they worked on. They knew Atkins was their man Atkins was in charge would let them know when it was time to express their opinions.

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San Francisco

10% Grammatical Deleted Version (Experiment V)

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In June that year, the first earthquake came. More than halfway up the Richter scale, it was strong enough to cause a pretty solid loss of life the old buildings, those relics rebuilding in 1906 that had somehow weathered urban renewal and freeway right-of-way acquisition. The mayor hopped into his helicopter the flight Sacramento seek state help. The governor passed him mid-air, a few miles apart, while flying to inspect the damaged city. It was a "disaster area" in the older section, that was sure. Return the capital, the governor found the mayor already conference with members the Senate Committee on Urban Problems. The state government had set up this committee deal almost every ailment modern-day cities the big state. But not really "deal"
them, for there were no easy answers or quick solutions most the problems. "Be aware" them would be more of a correct attitude.

"We need to know of your immediate plans, Mayor," stated a young senator who had been appointed this committee his freshman term, since it was the least prestigious of all. The older, wiser Chairman suggested, "Perhaps if we coordinate our efforts the start we will avoid the fiscal waste overlapping programs." Mayor St. John looked around the group, answering, "I hope we have enough time plans be made and carried out. Right now, I'm not worried fiscal overlapping or finance, Honorable Chairman. Now I'm worried that the next earthquake may be the big one instead of an aftershock. I am here ask that you appoint some your members to a joint committee, let's call it the Action Group, that will also have members my city council. When this group starts operating, we can have some plans made."

"I'll volunteer," said Senator Salliman, the young man who asked the first question. Names others the senate committee who wanted to help the mayor were being jotted the list when Governor Smedley burst the room. "Just back from look-see," he announced. "Glad you're here, St. John. Wanted tell you I'm calling in State Civil Defense Chief Palmer. Mayor, you're be complete charge of the whole San Francisco operation, with Palmer acting liaison you and me. He'll be here for a briefing as soon as we get touch him down the tracks Santa Anita. Know he'll want have a meeting you boys right away."

Inwardly groaning, the mayor accepted the inevitable. His new Action Group would be "hamstrung" every turn the inept Palmer.
But there wasn't time to grieve. "Tell Palmer to come directly to the meeting room next to my office City Hall, Governor. I'm taking these senators who have volunteered to go back the helicopter me. We'll have our Action Group assembled the time Palmer arrives. But tell him get the hell up there fast, you hear?"

The Action Group met—all the hardest-working members the city council jumped the chance work the state senators. Not surprising, the hardest-working men also turned out to be the youngest ones. The mayor looked around the group and guessed their average age was about thirty-six years the most. The older councilmen had said, "Call me if I can help," then left quietly tend their extensive business interests. But businesses and families, and even eating, were forgotten this group as they met session around the clock. State Director Palmer had arrived, but the time he got there a great many plans had already been made and machinery already operation to carry them out. The important plans were taken care first, rapidly. For when Palmer and his two assistants arrived the scene, sure enough, things began slow down and finally just bogged down completely quibbling the three latecomers over petty, unnecessary details. The youngest city councilman the group, Will Atkins, coughed nervously, got up as inconspicuously as he could and walked past the mayor as if he were going restroom. But he rested his hand on the table the mayor and a short memo was left behind as he went through the door. "Have heard grapevine serious trouble out State Children's Mental Hospital foothills. Am going take a breather before I slug this SOB. Will see what's going on there.
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Helda led the group, laden with their dishes and pans, down the old buildings the commune the mountain valley. All the food they had was piled the old farm wagon they pulled. They might have gone part the way in the van, but the roadbed would soon have been impassible, so they loaded the wagon and pulled it down from the valley. They knew they would be needed. Helda had learned boss a kitchen crew turn out quantities food for an
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"Volunteer," said Salliman, man asked first question. Names senate committee wanted help mayor were being jotted !st Governor Smedley burst room. "Look-see," announced. "St. John. Wanted tell calling Civil Palmer. Mayor, be charge whole San Francisco operation, Palmer acting liaison. Be briefing get touch tracks Santa Anita. Know want have meetings boys."

Groaning, mayor accepted inevitable. New Action Group would be "hamstrung" turn inept Palmer. Time grieve. "Tell Palmer come meeting room next office City Hall, Governor. Taking senators have volunteered go helicopter. Have Action Group assembled time Palmer arrives. Tell get hell, hear?"

Action Group met--working members city council jumped chance work state senators. Surprising, hardest-working men turned be youngest ones. Mayor looked group guessed average age was thirty-six years most. Councilmen had said, "Call can help," left tend extensive business interests. Businesses, families, even eating, were forgotten this group met session clock. Director Palmer had arrived, time got many plans had been made machinery operation carry. Important plans were taken care. Palmer his assistants arrived scene, things began slow bogged quibbling three late-comers unnecessary details. City councilman group, Will Atkins, coughed, got could walked mayor were going restroom. Rested hand table mayor short memo was left went door. "Have heard grapevine serious trouble State Children's Hospital foothills.
Am going take breather slug this SOB. Will see going there
be two hours."

One hour minutes, doomsday arrived. Sickening shudder,
accompanied groan metal rose shriek, loud pops shattering, City
Hall was reduced dust mound rubble, all twelve floors. Suite
rooms was second floor. Had moved there top level would be ground
floor police rooms were needed. Helicopter was land roof earth-
quake hit. Told level block City Hall was located, other blocks
seemed drop twenty feet. Was first three floors disappeared,
top nine collapsed once.

Atkins had been elected youth San Francisco. Charter had
been revi... year allow citizens two years previous limit thirty-
two years serve city government. Had pitched campaign young.
Eighteen-year-olds had been delighted getting vote. Could show
an voice make known disenchantment establishment. Using unorth-
odox slogan, "Can trust thirty," Atkins had been victorious his
try. Let kids. First day office, was spokesman fathers. Door
was open, was hand beer groups came, listen ideas grievances.
Announced, "Get, decide, appoint group. Come see. Minutes day
see individuals. Have your meetings roots, thresh problem bring
rest." Worked. Had hoped. Was lessening riots, vandalism,
grudge fights, such city. Had confidence day June. Would need
dreamed.

Police helicopters was city happened found Atkins, thanks
citizen band radios require transmitting station, was left.
Policemen went helicopter vomited had seen, ran Atkins, ashen,
hysterics. "Thank God, are, Councilman. Are man spot.
Are Mayor, State Civil Defense Director, Police Chief rolled.
Do do?"

Complete destruction—total disaster—does authority do?
Forgets; does think moment resolve disintegrate.

Atkins left helicopter see could establish sort headquarters.
Flew get total picture first; low altitude destruction seemed
unreal, blocks rubble buildings stood. Atkins was surprised was
smoke. 1906 disaster had triggered first start. Laws had been
rewritten building codes enforced shut valves were standard
equipment might cause fires earthquake. Could see more water
expected. Level peninsula must have dropped, sinking going.
Aftershocks would make guessed. Area Fisherman's Wharf should
have been, area east side, was only water. Distance could see
vast lake spreading Santa Clara Valley. Bay bridge had dropped,
middle spans gone view. Smudge water showed Naval Station Island
was. Golden Gate—that bridge was gone, tidal waves rushing bay
Presidio. Land seemed little remembered Pacific side, peninsula
had been tilted bay. Turned coast wondered happened animals zoo
side, making another note find deal that problem. Parks were
obvious gathering spots survivors. Destruction seemed complete
whole peninsula could see Daly City, Santa Cruz Mountains bay.
Radio helicopter reported some university professor USC had
measured quake nine scale.

Helda led group, laden dishes pans, buildings commune
valley. Food had was piled wagon pulled. Might have gone part
way van, roadbed would have been impassible, loaded wagon pulled
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quantities food unpredictable number persons. Had learned stretch inexpensive ground beef adding rice noodies would feed expected number. Men commune had learned use tools. Build nothing. Believed would be useful. Was time drop world had dropped few years. Skills had learned hard way were had offer. Drugs, pot were left. Group (dozens, hundreds, groups like) approached wreckage city made way parks.

Smedley had set disaster committee remaining senate members. Is first step government establish committee, that strange entity talks accomplishes, wondered Atkins. Realized new committee must be utilized cooperative fashion, become obstacle progress. Most operations, work city ruins, was being administered armed forces. Generals Army, Air Force, Marines, Reserves, National Guard were charge, Admiral Navy. Work was operation week earthquake. Aftershocks kept any activity occurring. Atkins had formed interim city government sorts. Surviving citizens San Francisco seemed united following Atkins' leadership, according living councilmen, most older men, had come temporary headquarters John McLaren Park. Coordinated operations mass volunteers, including people Helda. Fed survivors were uninjured, passed peninsula park park evacuate this area California. Most young people had heard were needed radios had walked miles, bringing things, sensible items, usable skills. Mayor Atkins had issued order guard cordonning peninsula take these volunteers officer questioning. Checked seemed their wish help, were to be passed area.

Young people became members group worked, took instruction,
worked some, followed orders, continued work, inexhaustible. Name, "Volunteers for Hope," came ranks. No would take individual credit. Arm bands appeared day letters "V-HOPE." No older person was given charge group. Charge were few minded senators, disaster committee, cooperative mayor follow leadership. Charge were young police officers had been helicopters survived sole law men. Then men had been promoted Police Chief, becoming Captains, Lieutenants. Were part interim city government, came respect new young mayor worked. Turn, Atkins found policemen be calm decided make part Volunteers for Hope group. Resentment "hairs" "pigs" disappeared had existed. Serious job made all respect one trait human, courage, meant ability work were tired drop keep working, take hold situation do job complaint. Respect admiration grew blossomed, policemen swore Volunteers for Hope group would be part survived grew disaster.

Interim city government met drew plans action. Volunteers worked carry these plans. Only time was mild grumbling dissension was heard rumor interim government was considering rebuilding city same location. "Have flipped?" asked people. "Get message two earthquakes?" wondered Helda. Work was do, decision making, worked. Knew Atkins was man, Atkins was charge would let know was time express opinions.

Seal city San Francisco existed years 1860-1974, was pictured Phoenix, Egyptian symbol immortality. Bird rises ashes seal, commemorating disastrous fires 1850's. Foresaw destruction earthquake fire, followed rebuilding, followed repeated destruction earthquake, sinking land tidal wave. Phoenix was made symbol
Volunteers for Hope. Ashes generation gap had arisen life:
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The popular Mayor St. John and his city councilmen were well aware of the two identities of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of dock laborers who lived high with hands deep in the treasury. Perhaps there was a third layer, the level the deep crust of earth beneath the city. Its identity was known only when groaned or twitched, occasionally reminding the leaders of government in the city that it was there, and should be considered, too. But the other problems always seemed more pressing.

June that year, the first earthquake came. More than halfway up the Richter scale, it was strong enough to cause a pretty solid loss of life in the old buildings, those relics of rebuilding 1906 had somehow weathered urban renewal and freeway right-of-way acquisition. The Mayor hopped into his helicopter for the flight to Sacramento to seek state help. The Governor passed him mid-air, a few miles apart, while flying to inspect the damaged city. It was a "disaster area" in older sections, that was sure. On return to the capital, the Governor found Mayor already conference with members of the Senate Committee on Urban Problems. The state government had set up this committee to deal with almost every ailment of modern-day cities in the big state. But not really to "deal" with them, there were no easy answers or quick solutions most of the problems.
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"I will volunteer," said Senator Salliman, the young man who asked the first question. Names of others of the Senate committee who wanted to help the Mayor were being jotted the list when Governor Smedley burst into the room. "Just back from a look-see," he announced. "Glad you are here, St. John. Wanted to tell you am calling in State Civil Defense Chief Palmer. Mayor, you are to be in complete charge of the whole San Francisco operation, with Palmer acting as liaison between you and me. He will be here for a briefing as soon as we get in touch with him down at the tracks in Santa Anita. Know he will want to have a meeting with you boys right away."

Inwardly groaning, the Mayor accepted the inevitable. His new Action Group would "hamstrung" at every turn by the inept Palmer. But there was not time to grieve. "Tell Palmer to come directly to
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It was now time to drop back into the world they had dropped out of a few years back. The skills they had learned the hard way were all had to offer. Drugs and pot were left behind. Clear-headed, the group (and dozens, hundreds even, groups just like them) approached the wreckage of the city and made their way to the parks.

Governor Smedley had set up a Disaster Committee from among the remaining Senate members. Why is it always the first step of bureaucratic government to establish a committee, that strange entity that talks much but accomplishes little, wondered Atkins. He realized that the new committee must be utilized in a cooperative fashion, lest they become an obstacle to progress. Most the operations, the actual work in the city ruins, was now being administered by the Armed Forces. Generals of Army, Air Force, Marines, Reserves and National Guard were in charge, along with an Admiral of the Navy. Rescue work was still the only operation a week after the earthquake. Aftershocks kept any other activity from occurring. Atkins had formed an interim city government of sorts. The surviving citizens of San Francisco seemed united in following Atkins' leadership, according to the few living councilmen, most of them older men, who had come to his temporary headquarters John McLaren Park. Here he coordinated the operations of a mass of volunteers, including young people like Helda. They fed survivors who were not injured or slightly so, then passed them back along the peninsula from park to park to evacuate them completely from this area of California. Most of the young people had heard they were needed on their transistor radios and had walked from miles away, bringing simple things, sensible items, usable skills. Mayor Atkins had issued an order to the guard cordon- ing off the peninsula to take these young volunteers to an officer
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On the seal of the city of San Francisco which existed between the years 1860 and 1974, there pictured the Phoenix, the Egyptian symbol of immortality. The bird rises from ashes on seal, commemorating disastrous fires of the early 1850's. No one then foresaw the destruction by earthquake and fire, followed by repeated destruction by earthquake, sinking of land tidal wave. Phoenix was eventually made the symbol of the Volunteers Hope. Out of the ashes of the generation gap had arisen a reborn life a new respect, understanding, acceptance, and love of old for young and young old.
The popular St. John and his city councilmen were well aware of the identities of the city of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock laborers who lived high with their hands deep in the treasury. Perhaps there was third layer, the level of the deep crust of earth beneath the city. Its identity was known only when it groaned or twitched, occasionally reminding the leaders of government in the city that it was there, and should be considered, too. But the other problems always seemed pressing.

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Helda led the group, laden with their dishes and pans, down from the old buildings of the commune in the mountain valley. All the food they had was into the old farm wagon they pulled. They might have gone part of the way in the van, but the roadbed would soon have been impassible, so they loaded the wagon and pulled it down from the valley. They they would be needed. Helda had learned to boss a kitchen crew to turn out quantities of food for an unpredictable number of persons. Had learned to stretch inexpensive ground beef by adding rice or noodles until it would feed twice the expected number. The men in the commune had learned to use, to build something out of almost nothing. They all believed they would be useful. It was now time to drop back into the they had dropped
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Led the, laden with their dishes and pans, down from the old of the commune in the mountain valley. The food they had was piled into the old farm wagon they pulled. They might have of the way in the van, but the roadbed would soon been impassible, so they loaded the wagon and pulled it down from the. They knew they would be needed. Had learned to boss a kitchen crew to quantities of food for unpredictable number of persons. She had learned to stretch inexpensive ground beef by adding rice noodles until it would feed twice the expected number. The men in the commune had to use tools, to build something out of almost nothing. They all believed they would be useful. It was now to drop back into the world they had out of a years back. The skills they had learned the hard were they had to offer. Drugs and pot were. Clear-headed, the group (and dozens, hundreds, of groups just like them) approached the wreckage of the city and made their to the parks.

Smedley had set up a Disaster from among the remaining. Why is it the first step of bureaucratic government to establish a, that strange entity that talks much but accomplishes little, wondered Atkins. He realized that the must be utilized in a cooperative fashion, lest they become an obstacle to progress. Most of the operations, the actual work in the city ruins, was now being administered the Armed Forces. Generals of Army, Air Force, Marines,
Reserves and National Guard were in charge, along with an Admiral of the Navy. Rescue work was still the operation a week after the earthquake. Aftershocks kept any other activity from occurring. Had formed an interim city government of sorts. The surviving citizens of San Francisco seemed united in following Atkins' leadership, according to the few living councilmen, most of them the older men, who had to his temporary headquarters in John McLaren. Here he coordinated the operations of a mass of volunteers, including the young people. They fed survivors were not injured or slightly. Then passed them along the peninsula from park to park to evacuate them from this of California. Most of the young people had heard they were needed on their transistor radios and had walked in from miles away, bringing simple things, sensible items, and usable skills. Had issued order to the guard cordoning off the to take these volunteers to an officer for questioning. If they checked out all and sincere in their wish to help, they were to be the area.

The young became members of a group that worked, took instructions, worked some more, followed orders immediately, then continued to work, seemingly inexhaustible. The name, "Volunteers for Hope," came from among their ranks. One take individual credit. Arm bands appeared day with the letters "V-Hope" on them. No older person was given one except directly in charge of the group. In charge were a few of the younger senators from the Governor's Disaster Committee. Those especially cooperative with Mayor Atkins and willing to follow his leadership. Also in charge were a few young police officers who had been aloft in the helicopters and survived as the sole remaining law men, of these had been promoted quickly to chief, with
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The interim city government and drew plans of action. The to carry out plans. The only time was even mild grumbling and dissension was when they a rumor the was considering rebuilding the city in the same location. "Have they flipped completely?" asked the young. "They not get the message after earthquakes?" wondered Held. The work was for them to do, the decision making, they on. They knew that Atkins was their man and Atkins was in and would let them it was time to express their opinions.

On the seal of the city of San Francisco which existed between the years 1860 and 1974, was pictured the Phoenix, the Egyptian symbol of immortality. The bird rises from ashes on the seal, commemorating the disastrous of the early 1850's. No one foresaw the destruction and fire, by, followed repeated destruction by earthquake, sinking of land and tidal wave. The Phoenix was eventually made the symbol of the Volunteers for. Out of the ashes of the generation gap had arisen a reborn life: a new respect, understanding, acceptance, and love of old for and young for.
The popular Mayor St. John and his city councilmen were aware of the two identities of the city of San Francisco. The rich, layer the, layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union of the dock who lived high with their hands deep in the treasury. Perhaps there was a layer, the level of the crust of earth beneath the city. Its was known only when it groaned or, occasionally reminding the of government in the city that it was there, and be considered, too. But the other problems always seemed more pressing.

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who had been to this committee for his freshman, it was the prestigious of all. The older, Chairman suggested, "Perhaps if we our efforts from the start we will avoid the of programs." Mayor St. John looked around the group, answering, "I hope we have enough time for plans to be made and out. Right now, I am not worried about fiscal overlapping or finances, Chairman. Now I am worried that the earthquake may be the big one of an. I am here to that you appoint some of your members to a committee--let it the Action Group--that will also have members from city council. When this group starts operating, we can have some plans made."

"I will volunteer," said Salliman, the young man who asked the first question. Names of others of the Senate committee who wanted to help the Mayor were being jotted on the when Governor Smedley burst into the room. "Just back from a look-see," he announced. "Glad you are here, St. John. Wanted to tell you am calling in State Civil Chief Palmer. Mayor, you are to be in complete charge of the whole San Francisco operation, with Palmer acting as between you and me. He will be here for a briefing as soon as we get in touch with him down at the in Santa Anita. Know he will to have a meeting with you boys right away."

Groaning, the Mayor accepted the inevitable. His new Action Group would be "hamstrung" at turn by the Palmer. But there was not time to. "Tell Palmer to come directly to the meeting next to my office in City Hall, Governor. I am these senators who have volunteered to go back in the helicopter with me. We will have Action Group assembled by the time Palmer arrives. But tell him to get the up there fast, you?"
The Action Group met—all the members of the city council jumped at the to work with the state senators. Not surprising, the men also turned out to be the youngest. The Mayor around the group and guessed their age was about thirty-six years at the most. The older council-men had, "Me if I can help," then left quietly to tend to their. But businesses and, and even eating, were by this group as they met in session around the clock. State Director Palmer had arrived, but by the time he there a many plans had already been made and the machinery was already in operation to them out. The important plans were taken of first, rapidly. For when Palmer and his two assistants arrived on the scene, sure enough, things began to slow down and finally just bogged down completely in quibbling by the three over, unnecessary details. The youngest city of the group, Will Atkins, coughed nervously, got up as inconspicuously as he could and the Mayor as if he were going to the restroom. But he rested his on the table by the Mayor and a was left behind as he through the door. "Have heard by grapevine of serious trouble out at State Children's Mental Hospital in foothills. Am going to take a breather before I this SOB. Will see what is going on out there and be back in two hours.

Hour and minutes later, doomsday arrived. In one sickening shudder, accompanied by a of metal that rose to a shriek, with loud pops of glass, City Hall was reduced to a dust-shrouded mound of rubble, all twelve floors of it. The suite of rooms was on the second floor. He had moved down there from the top level because he would be right above the police if he were ever needed. A police helicopter overhead was about to land on the roof when the earthquake hit. They later that the whole level of the block on which
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One of the police helicopters that was over the city when it happened found Atkins pretty quickly, thanks to citizen radios that require no transmitting station, for none was left. One of the policemen went behind the helicopter and vomited because of what he had seen from above, the other ran to Atkins, ashen-faced, almost in hysterics. "Thank God, you are, Councilman. You are the man-on-the-
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San Francisco

50% High Frequency Deleted Version

The popular Mayor St. John and his councilmen were well aware of two identities of San Francisco. The rich, cultured layer overlaid the deeper, problem-ridden layer containing hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders, the dock laborers who lived high with hands deep in the treasury. Perhaps there was a third layer, the level deep crust of earth beneath. Its identity known only when it groaned or twitched, occasionally reminding leaders government the city it there, and should considered, too. But other problems always seemed more pressing.

June that year, the first earthquake came. More than halfway up the Richter scale, it was strong enough to cause a pretty solid loss life in old buildings, those relics of rebuilding 1906 that somehow weathered urban renewal and freeway right-of-way acquisition. Mayor hopped into his helicopter for flight Sacramento seek state help. The Governor passed him in mid-air, few miles apart, while flying inspect the damaged. A "disaster area" older sections, was for sure. On return capital, Governor found the Mayor already in conference with members of Senate Committee on Urban Problems. The state government set up this committee deal almost every ailment modern-day cities in the big state. But not really "deal" them, there were no easy answers or quick solutions most of the problems. "Aware" them would be more a correct attitude.
"We need know of your immediate plans, Mayor," stated young senator who been appointed to this committee for his freshman term, since the least prestigious all. Older, wiser Chairman suggested, "Perhaps if we coordinate our efforts the start we will avoid the fiscal waste of overlapping programs." Mayor St. John looked around the group, answering, "I hope we have enough time for plans be made carried out. Right now, I am not worried about fiscal overlapping or finances, Honorable Chairman. Now I am worried that the next earthquake may the big one instead of an aftershock. I am here to ask that you appoint some your members to a joint committee--let us call Action Group--will also have members from my council. When this group starts operating, we can have some plans made."

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Inwardly groaning, the Mayor accepted inevitable. His new Action Group would "hamstrung" at every turn by the inept Palmer. But there not time grieve. "Tell Palmer to come directly to the meeting room next to my office Hall, Governor. I am taking these senators who have volunteered go back helicopter me. We will have our Action Group assembled by the time Palmer arrives. But tell him to get hell up
there fast, you hear?"

Action Group met—all the hardest working members council jumped at the chance work the state senators. Not surprising, hardest-working men also turned out be the youngest ones. Mayor looked around group and guessed average age was about thirty-six years at the most. Older councilmen said, "Call me if I can help," then left quietly tend extensive business interests. But businesses families, and even eating, were forgotten by this group as met in session around the clock. State Director Palmer had arrived, but by the time got there great many plans had already been made the machinery was already operation carry them out. The important plans taken care first, rapidly. When Palmer and his two assistants arrived on the scene, sure enough, things began slow down and finally just bogged down completely in quibbling by the three latecomers over petty, unnecessary details. The youngest councilman the group, Will Atkins, coughed nervously, got up as inconspicuously as could and walked past the mayor as if he were going to the restroom. But he rested his hand on table by Mayor and a short memo was left behind as he went through door. "Have heard by grapevine of serious trouble out at State Children's Mental Hospital foothills. Am going take a breather before I slug this SOB. Will see what is going on out there and back two hours.

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said, "Call me help," left quietly to tend to their extensive business interests. Businesses and families, and eating, were forgotten by this they in session the clock. State Director Palmer had, the he got there a great many had already made and the machinery was in to carry out. The important were taken care of first, rapidly. For when and his assistants arrived on the scene, sure, things began to slow and finally bogged completely in quibbling the three latecomers over petty, unnecessary details. The youngest city councilman of the, Will, coughed nervously, got inconspicuously he and and walked past the he were going to the restroom. He rested his hand on the table by the Mayor and a short memo was left behind he went through the door. "Heard by grapevine of serious trouble out State Children's Mental Hospital in foothills. To take a breather before I slug this SOB. What is on out there and be back in hours."

Hour and thirty minutes later, doomsday arrived. In one sickening shudder, accompanied by a groan of metal that rose to a shriek, with loud pops of glass shattering, City was reduced to a dust-shrouded mound of rubble, twelve floors of it. The Mayor's suite of rooms was on the second floor. He had moved there from the top because he be above the ground floor police rooms if he were ever. A police helicopter overhead was about to land on the roof when the hit. They told later that the whole surface of the block on City was located and blocks north of it seemed to suddenly about twenty feet. It was as if the first three floors disappeared, then the top nine collapsed all.

Atkins had been elected by the youth of Francisco. The charter had been revised the year to allow citizens two younger the previous
limit of thirty-two years to serve on the city government. He had pitched campaign frankly the young. The eighteen-year-olds had been delighted finally getting to vote. Now they show an approved legal voice to make known their disenchantment with the establishment. Using unorthodox slogan, "You can barely trust someone barely thirty," had victorious on his first try. And he had the kids down either. From the day in, he was their spokesman to the city fathers. Office door was open, and somehow he was always to hand out the beer to whatever groups came, and listen to their ideas or their grievances. He announced, "Get together, decide, appoint a. Then to me. There are not enough minutes in the day for me to individuals. So meetings the grass roots, thresh out some of the problems and bring the rest." And it. Better than he had ever hoped. There was a noticeable lessening of riots, senseless vandalism, grudge fights and such throughout the city. He had their confidence on that day in June. He need it he ever dreamed.

One of the helicopters that was the City it happened sound pretty quickly, thanks to citizen band radios that require central transmitting station, for none was. While of the policemen went the and vomited quietly because of he had seen from above, the ran to Atkins, ashen-faced, in hysterics. "Thank God, alive, Councilman. You the on-the-spot now. You the Mayor, the Civil Defense Director and the all rolled together. What do do first?"

Complete--total disaster--does anyone in authority do? He forgets his own loved ones; he does think of moment lest all resolve disintegrate.

On the helicopter to he could establish sort of temporary
headquarters. They flew high to a total picture at first; from low altitude the unreal, with unending blocks of rubble buildings stood. Atkins was surprised there was smoke. The 1906 had triggered almost from the start. The laws had rewritten since and building codes enforced so that shut-off valves were standard on any equipment that might cause fires an earthquake. He more he expected. The whole of the peninsula must have, with sinking still going on. After-shocks probably it worse, he guessed. The area from where Fisherman's Wharf should, down the dock area of the east, was only. In the distance he could see a vast lake spreading down the Santa Clara. The bay bridge had, the middle spans from view. Only a smudge in the showed where the Naval Station once was. On towards the Golden Gate--that bridge was--with tidal waves rushing the bay from beyond the Presidio. The seemed a little higher than he remembered on the Pacific side, the peninsula had been tilted inland toward the bay. They the west coast and he wondered what had happened to the animals the zoo on the west, making another mental note to find and deal with that problem. The parks were the obvious gathering spots for survivors. Seemed complete over the far as he could see back past Daly City and from the Santa Cruz Mountains to the bay. The radio in the helicopter reported university professor down at USC had measured the quake at nine on the scale.

Helda led the, laden with their dishes and pans, from the old of the commune in the mountain valley. All the food they had was piled into the old farm wagon they pulled. They might have gone of the way in the van, the roadbed soon been impassible, they loaded the wagon and pulled it from the valley. They knew they would be needed. Helda
had learned to boss a kitchen crew to quantities of food for unpredictable number of persons. She had to stretch inexpensive ground beef adding rice or noodles until it feed twice the expected number.

The men in the commune had learned to use tools, to build something of almost nothing. They believed they would be useful. It was time to back the world they had dropped of few years. The skills they had learned the hard were they had to offer. Drugs and pot were left.

Clear-headed, the 'ird dozens, hundreds even, of groups just like) approached the wreckage of the city and made their way to the parks.

Governor Smedley had set from among the remaining. Why is it always the step of bureaucratic to establish a, that strange entity that talks much accomplishes little, wondered. He realized that the new must be utilized in a cooperative fashion, lest they become an obstacle to progress. Most of the operations, the actual in the city ruins, was being administered by the Armed Forces. Generals of Army, Air Force, Marines, Reserves and National Guard were in, along with Admiral of the Navy. Rescue work was still the only a week after the earthquake. Aftershocks kept any other activity from occurring. Had formed an interim city of sorts. The surviving citizens of San Francisco seemed united in following Atkins' leadership, according to the living councilmen, of them the men, who had come to his temporary headquarters in John McLaren. Here he coordinated the operations of a mass of, including the young like. They fed survivors were injured slightly, them along the peninsula from to to evacuate them from area of California. Most of the yung people had heard they were needed on their transistor radios and had walked in from miles away, bringing simple things, sensible items, and usable skills. Mayor
had issued an order to the guard cordon off the peninsula to take young to an officer for questioning. If they checked out right and sincere in their wish to, they were to be into the.

The became members of a that worked, took instructions, some, followed orders immediately, then continued to more, seemingly in-exhaustible. The name, "Volunteers for Hope", came from among their ranks. Would individual credit. Arm bands appeared one day with the letters "V-Hope" on. Person was given one except those directly in of the group. Those in charge were a few of the younger senators from the Governor's Committee, those especially cooperative with mayor and willing to follow leadership. Also in charge were a police officers had been aloft in the helicopters and survived the sole remaining law. Of these had promoted quickly to police chief, with others becoming captains and lieutenants. All were part of the city, where they came to their new young worked hard and long. In turn, policemen to be calm and efficient and he decided to make some of a of the Volunteers for group. The previous resentment the "long-hairs" and the "pigs" disappeared as it had never existed. The serious job them respect trait in a human, courage, meant the ability to work until were tired to and keep on working, to take hold in unpleasant situation and do the job without complaint. Respect and mutual admiration grew and blossomed and the policemen swore that the for Hope group would be a permanent of survived grew from the disaster.

The interim city and drew plans of. The to carry these plans. The only time there was mild grumbling and dissention was when they heard a rumor the interim government was considering rebuilding the city in the same location. "They flipped completely?" asked the young.
"Do they get the message earthquakes?" Helda. But the work was for
to do, not the decision making, they worked on. They knew that
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opinions.

On the seal of the city of existed between the 1860 and 1974,
was pictured the Phoenix. The Egyptian symbol of immortality. The
bird rises from ashes on the seal, commemorating the disastrous of
the early 1850's. One then foresaw the destruction by earthquake
and fire, rebuilding, followed by repeated by, sinking of and tidal
wave. The Phoenix was eventually made the symbol of the Volunteers
for Hope. Of the ashes of the generation gap had arisen a reborn
life: a new respect, understanding, acceptance, and love of for and
young for old.
The Mayor St. John and his city councilmen were well of the two identities of the city of San Francisco. The layer the, problem-ridden layer that, prostitutes, con men, of small merchants in, union of the dock who lived with their in the. There was a third layer, the level of the deep of beneath the city. Its was only when it or twitched, occasionally the leaders of government in the city that it was there, and be, too. But the other problems always seemed more.

In that year, the first earthquake came. More than up the scale, it was enough to cause a pretty loss of in the old buildings, those relics of rebuilding in 1906 that had somehow and freeway acquisition. The Mayor hopped into his helicopter for the flight to Sacramento to seek state help. The Governor passed him in, a few miles apart, while flying to inspect the city. It was a "disaster area" in the older, that was for sure. On to the capital, the Governor found the Mayor already in with members of the Senate Committee on Urban Problems. The state government had set up this committee to deal with almost ailment of in the big state. But not to "deal" with them, for there were no or to most of the problems. "Be aware" of them would be more of a correct attitude.

"We to know of your immediated plans, Mayor," stated a young senator who had been appointed to this committee for his term, it was the of all. The older, wiser, "If we coordinate from the start we will the fiscal waste of." Mayor St. John looked around the group, "I hope we have enough time for plans to be made and carried out.
Right now, I am not worried about overlapping or finances. Now I am that the next earthquake may be the one of an. I am here to that you appoint some of your members to a joint committee--let us it the Action Group--that will also have members from my city council. When this group starts operating, we can have some plans made."

"I will volunteer," Senator, the young man who asked the first. Of others of the Senate committee who to help the Mayor were on the list when Governor burst into the room. "Just back from a look-see," he announced. "Glad you are here, St. John. Wanted to tell you am in State Civil Chief Palmer. Mayor, you are to be in complete charge of the whole San Francisco operation, with Palmer acting as liaison between you and me. He will be here for as as we get in touch with him down at the tracks in Santa. Know he will want to have a meeting with you boys right away."

Groaning, the Mayor the. His new Action Group would be "hamstrung" at turn by the inept Palmer. But there was not time to grieve. "Tell Palmer to come to the room to office in City Hall, Governor. I am taking these senators who have to back in the helicopter with me. We will have our Action Group by the time Palmer arrives. But tell him to get the up there fast, you?"

The Action Group met--all the members of the city council at the to work with the state senators. Not, the hardest-working men also turned out to be the youngest. The Mayor looked around the group and guessed their age was about years at the most. The older council-men had, "Call me if I can help," then left to to their extensive interests. But businesses and families, and even, were by this group as they met in session around the clock. State Palmer had arrived, but by the time he there a great plans had already been made and
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first try. And he had not let the kids down either. From the first
day in office, he was there to the city. His office was always open, and somehow he was always there to out the to whatever came, and listen to their or their. He, "Get together, decide, a group. Then come to see me. There are not enough in the day for me to see. So have your meetings at the, out some of the problems and then bring me the." And it worked. Better than he had ever hoped. There was a noticeable of, senseless, grudge fights and such throughout the city. He had their on that day in June. He would it more than he ever dreamed.

One of the police that was over the city when it found Atkins, to citizen band that no, for none was left. While one of the policemen behind the helicopter and vomited of what he had seen from above, the other ran to Atkins, ashen-faced, almost in hysterics. "God, you are. You are the man-on-the now. You are the Mayor, the State Director and the Police Chief all rolled together. What do we do first?"

Almost complete destruction--almost total disaster--what does anyone in authority do first? He about his own loved ones; he does not even think of them one moment all completely.

Atkins left on the helicopter to see where he could some of temporary. They high to get a picture at first; from low the destruction seemed unreal, with blocks of where buildings once. Atkins was surprised there was no. The 1906 disaster had fires almost from the. But the laws had been rewritten then and so that were on any that fires after an earthquake. He could see more water than he. The whole level of the peninsula have dropped,
with going on. Aftershocks would probably make it worse, he guessed. The area from where Fisherman's Wharf should have been, down the whole area of the side, was only water. In the he could see a lake spreading down the Santa Clara Valley. The bay bridge had dropped, the spans gone from view. Only a in the water showed where the Naval Island once was. On around the--that bridge was gone, too--with tidal waves rushing into the bay from the. The land seemed a little than he on the Pacific side, like the peninsula had been tilted inland toward the bay. They turned down the west and he wondered what had to the at the on the side, making another note to out and deal with that, too. The parks were the for. Destruction seemed complete over the whole peninsula as far as he could see back past Daly City and from the Santa Cruz to the bay. The in the helicopter reported some down at had the quake at almost on the.

Helda led the group, laden with their and pans, down from the old buildings of the in the mountain valley. All the food they had was into the old farm they. They might have gone part of the way in the, but the would soon have been. they the and pulled it down from the valley. They they would be needed. Helda had learned to a kitchen crew to turn out of for an unpredictable of persons. Had learned to stretch inexpensive by adding or it would the expected number. The men in the had learned to use tools, to build something out of almost nothing. They all they would be useful. It was now time to drop back into the world they had dropped out of a few years back. The skills they had learned the hard way were all they had to offer. Drugs and were left behind. Clear-headed, the group (and, even, of groups just like them) the wreckage of the city and made their way to the.
Governor had set up a Disaster Committee from the remaining senators. Is it always the first step of government to establish a committee, that strange entity that much but little, wondered Atkins. He realized that the new committee be in a cooperative, they an to. Most of the, the work in the city ruins, was now being by the. Of Army, Air, Reserves and National were in charge, along with an Admiral of the Navy. Work was the only operation a week after the earthquake. Kept any other activity from. Atkins had formed an interim city government of. The citizens of San Francisco seemed in, according to the few living councilmen, most of them the older men, who had come to his temporary in John McLaren Park. Here he coordinated the operations of a mass of volunteers, the young people like Helda. They fed survivors who were not injured or so, then passed them back the peninsula from park to park to evacuate them completely from this area of California. Most of the young people had heard they were needed on their transistor radios and had walked in from miles, things, sensible, and usable. Mayor Atkins had issued an order to the guard off the peninsula to take these young volunteers to an officer for questioning. If they out all right and seemed sincere in their to help, they were to be passed into the area.

The young people became members of a group that worked, took instructions, worked some more, followed immediately, then to work more. The, "Volunteers for Hope", came from their ranks. No one would take credit. Arm appeared one day with the letters "V-Hope" on them. No older was one except those in charge of the group. Those in charge were a few of the senators from the Governor's
Disaster Committee, those with Mayor Atkins and to his leadership. Also in charge were a few young police who had been aloft in the and survived as the sole remaining law men. One of these men had been promoted to police chief, with others captains and lieutenants. All were part of the interim city government, where they came to respect their new young mayor who worked so and. In turn, Atkins found these policemen to be and and he decided to make some of them a part of the Volunteers for Hope group. The resentment between the and the "pigs" as if it had never existed. The serious job before them made them all respect only one trait in a human, courage, which the to work you were enough to drop and then on working, to take hold in whatever unpleasant situation and do the job without complaint. Respect and mutual and and the policemen swore that the Volunteers for Hope group would be a part of whatever survived or grew new from the disaster.

The interim city government met and drew up plans of action. The volunteers worked to out these plans. The only time there was even grumbling and dissention was when they heard a the interim government was rebuilding the city in the location. "Have they flipped completely?" asked the young people. "Do they not get the after two?" wondered Hedda. But the work was for them to do, not the, so they worked on. They knew that Atkins was their man and Atkins was in charge and would let them know when it was time to their.

On the of the city of San Francisco which existed between the years and, there was the Phoenix, the of immortality. The rises from ashes on the, the disastrous fires of the. No one then foresaw the destruction by earthquake and fire, followed by rebuilding, followed by destruction by earthquake, sinking of land and tidal wave.
The was made the of the Volunteers for Hope. Out of the ashes of the generation gap had arisen a: a new respect, understanding, and of old for young and young for old.
San Francisco

10% Frequency Deleted Version (Experiment V)

Popular Mayor St. John and his city councilmen were well aware two identities city of San Francisco. Rich, cultured layer overlaid deeper problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of dock laborers who lived high with their hands deep in treasury. Perhaps there was a third layer, level deep crust earth beneath city. Its identity was known only when it groaned or twitched, occasionally reminding leaders government in city that it was there, and should be considered, too. But other problems always seemed more pressing.

In June that year, first earthquake came. More than halfway up Richter scale, it was strong enough to cause a pretty solid loss of life in old buildings, those relics of rebuilding in 1906 that had somehow weathered urban renewal and freeway right-of-way acquisition. Mayor hopped into his helicopter for flight to Sacramento to seek state help. Governor passed him in mid-air, a few miles apart, while flying to inspect damaged city. It was a "disaster area" in older sections, that was for sure. On return to capital, governor found mayor already in conference with members of Senate Committee on Urban Problems. State government had set up this committee to deal with almost every ailment of modern-day cities in big state. But not really to "deal" with them, for there were no easy answers or quick solutions to most problems. "Be aware" them would be more of a correct attitude.
"We need to know of your immediate plans, Mayor," stated a young senator who had been appointed to this committee for his freshman term, since it was least prestigious of all. Older, wiser Chairman suggested, "Perhaps if we coordinate our efforts from start we will avoid fiscal waste overlapping programs."

Mayor St. John looked around group, answering, "I hope we have enough time for plans to be made and carried out. Right now, I'm not worried about fiscal overlapping or finances, Honorable Chairman. Now I'm worried that next earthquake may be big one instead of an aftershock. I am here to ask that you appoint some your members to a joint committee, let's call it Action Group, that will also have members from my city council. When this group starts operating, we can have some plans made."

"I'll volunteer," said Senator Sallman, young man who asked first question. Names of others senate committee who wanted to help mayor were being jotted on list when Governor Smedley burst into room. "Just back from a look-see," he announced. "Glad you're here, St. John. Wanted to tell you I'm calling in State Civil Defense Chief Palmer. Mayor, you're to be in complete charge of whole San Francisco operation, with Palmer acting as liaison between you and me. He'll be here for a briefing as soon as we get in touch with him down at Tracks in Santa Anita. Know he'll want to have a meeting with you boys right away."

Inwardly groaning, mayor accepted inevitable. His new Action Group would be "hamstrung" at every turn by inept Palmer. But there wasn't time to grieve. "Tell Palmer to come directly to meeting room next to my office in City Hall, Governor. I'
taking these senators who have volunteered to go back in helicopter with me. We'll have our Action Group assembled by time Palmer arrives. But tell him to get hell up there fast, you hear?"

Action Group met—all hardest-working members city council jumped at chance to work with state senators. Not surprising, hardest-working men also turned out to be youngest ones. Mayor looked around group and guessed their average age was about thirty-six years at most. Older councilmen had said, "Call me if I can help," then left quietly to tend to their extensive business interests. But businesses and families, and even eating, were forgotten by this group as they met in session around clock.

State Director Palmer had arrived, but by time he got there a great many plans had already been made and machinery already in operation to carry them out. Important plans were taken care of first, rapidly. For when Palmer and his two assistants arrived on scene, sure enough, things began to slow down and finally just bogged down completely in quibbling by three latecomers over petty, unnecessary details. Youngest city councilman group, Will Atkins, coughed nervously, got up as inconspicuously as he could and walked past mayor as if he were going to restroom. But he rested his hand on table by mayor and a short memo was left behind as he went through door. "I have heard by grapevine serious trouble out at State Children's Mental Hospital in foothills. Am going to take a breather before I slug this SOB. Will see what's going on out there and be back in two hours."

One hour and thirty minutes later, doomsday arrived. In one sickening shudder, accompanied by a groan metal that rose to a
shriek, with loud pops glass shattering, City Hall was reduced to a dust-shrouded mound of rubble, all twelve floors of it. Mayor’s suite of rooms was on second floor. He had moved down there from top level because he would be right above ground floor police rooms if he were ever needed. A police helicopter overhead was about to land on roof when earthquake hit. They told later that whole surface level of block on which City Hall was located and other blocks north of it seemed to drop suddenly about twenty feet. It was like first three floors disappeared, then top nine collapsed all at once.

Atkins had been elected by youth San Francisco. Charter had been revised year before to allow citizens two years younger than previous limit of thirty-two years to serve on city government. He had pitched his campaign frankly at young. Eighteen-year-olds had been delighted at finally getting to vote. Now they could show an approved legal voice to make known their disenchantment with establishment. Using an unorthodox slogan, "You can just barely trust someone just barely over thirty," Atkins had been victorious on his first try. And he hadn't let kids down either.

From first day in office, he was their spokesman to city fathers. His office door was always open, and somehow he was always there to hand out beer to whatever groups came, and listen to their ideas or their grievances. He announced, "Get together, decide, appoint a group. Then come to see me. There aren't enough minutes in day for me to see individuals. So have your meetings at grass roots, thresh out some problems and then bring me rest.” And it worked. Better than he had ever hoped for. There was a
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Almost complete destruction--almost total disaster--what does anyone in authority do first? He forgets about his own loved ones; he does not even think them one moment lest all resolve disintegrate completely.

Atkins left on helicopter to see where he could establish some sort of temporary headquarters. They flew high to get a total picture at first; from low altitude destruction seemed unreal, with unending blocks rubble where buildings once stood. Atkins was surprised there was no smoke. 1906 disaster had triggered fires almost from start. But laws had been rewritten since then and building codes enforced so that shut-off valves were standard on any equipment that might cause fires after an earthquake. He could see more water than he expected. Whole level peninsula must have dropped, with sinking still going on. After-shocks would probably make it worse, he guessed. Area from where Fisherman's Wharf should have been, down whole dock area of east
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Helda led group, laden with their dishes and pans, down from old buildings commune in mountain valley. All food they had was piled into old farm wagon they pulled. They might have gone part way in van, but roadbed would soon have been impassible, so they loaded wagon and pulled it down from valley. They knew they would be needed. Helda had learned to boss a kitchen crew to turn out quantities of food for an unpredictable number of persons. She had learned to stretch inexpensive ground beef by adding rice or noodles until it would feed twice expected number. Men in commune had learned to use tools, to build something out almost nothing. They all believed they would be useful. It was now time to drop back into world they had dropped out of a few years back. Skills they had learned hard way were all they had to
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Interim city government met and drew up plans of action.
Volunteers worked to carry out these plans. Only time there was even mild grumbling and dissention was when they heard a rumor interim government was considering rebuilding city in same location. "Have they flipped completely?" asked young people. "Don't they get message after two earthquakes?" wondered Helda. But work was for them to do, not decision making, so they worked on. They knew that Atkins was their man and Atkins was in charge and would let them know when it was time to express their opinions.

On seal city San Francisco which existed between years 1860 and 1974, there was pictured Phoenix, Egyptian symbol immortality. Bird rises from ashes on seal, commemorating disastrous fires of early 1850's. No one then foresaw destruction by earthquake and fire, followed by rebuilding, followed by repeated destruction by earthquake, sinking of land and tidal wave. Phoenix was eventually made symbol Volunteers for Hope. Out of ashes of generation gap had arisen a reborn life: a new respect, understanding, acceptance, and love of old for young and young for old.
San Francisco

30% Frequency Deleted Version (Experiment V)

Popular Mayor St. John his councilmen were well aware two identities San Francisco. Rich, cultured layer overlaid deeper, problem-ridden layer contained hippies, prostitutes, junkies, con men, terrorizers small merchants Chinatown, union leaders dock laborers who lived high their hands deep treasury. Perhaps there third layer, level deep crust earth beneath. Its identity known only when groaned or twitched, occasionally reminding leaders government there, should be considered, too. But other problems always seemed more pressing.

June year, first earthquake came. More than halfway up Richter scale, strong enough cause pretty solid loss life old buildings, those relics rebuilding 1906 somehow weathered urban renewal freeway right-of-way acquisition. Mayor hopped into his helicopter for flight Sacramento seek state help. Governor passed him mid-air, few miles apart, while flying inspect damaged. It "disaster area" older sections, for sure. Return capital, governor found mayor already conference members Senate Committee Urban Problems. State government set up this committee deal almost every ailment modern-day cities big state. But not really "deal" them, for there were no easy answers or quick solutions most problems. "Be aware" them would be more correct attitude.

"We need know your immediate plans, Mayor," stated young senator who been appointed this committee for his freshman term, since least prestigious all. Older, wiser Chairman suggested,
"Perhaps if we coordinate our efforts start we will avoid fiscal waste overlapping programs." Mayor St. John looked around group, answering, "I hope we have enough time for plans be made carried out. Right now, I'm not worried about fiscal overlapping or finances, Honorable Chairman. Now I'm worried next earthquake may be big one instead an aftershock. I am here ask you appoint some your members join committee, let's call Action Group, will also have members my council. 'Then this group starts operating, we can have some plans made."

"I'll volunteer," said Senator Salliman, young man who asked first question. Names other senate committee who wanted help mayor were being jotted list when Governor Smedley burst into room. "Just back look-see," announced. "Glad you're here, St. John. Wanted tell you I'm calling State Civil Defense Chief Palmer. Mayor, you're be complete charge whole San Francisco operation, Palmer acting as liaison between you me. He'll be here for briefing as soon as we get touch him down at tracks Santa Anita. Know he'll want have meeting you boys right away."

Inwardly groaning, mayor accepted inevitable. His new Action Group would be "hamstrung" at every turn by inept Palmer. But there wasn't time grieve. "Tell Palmer come directly meeting room next my office Hall, Governor. I'm taking these senators who have volunteered go back helicopter me. We'll have our Action Group assembled by time Palmer arrives. But tell him get hell up there fast, you hear?"

Action Group met--all hardest-working members council jumped at chance work state senators. Not surprising, hardest-working
men also turned out be youngest ones. Mayor looked around group guessed their average age about thirty-six years at most. Older councilmen said, "Call me if I can help," then left quietly tend their extensive business interests. But businesses, families, even eating, were forgotten by this group as met session around clock. State Director Palmer arrived, but by time got there great many plans already been made machinery already operation carry them out. Important plans were taken care first, rapidly. For when Palmer his two assistants arrived scene, sure enough, things began slow down finally just bogged down completely quibbling by three latecomers over petty, unnecessary details. Youngest councilman group, Will Atkins, coughed nervously, got up as inconspicuously as could walked past mayor as if were going restroom. But rested his hand table by mayor short memo left behind as went through door. "Have heard by grapevine serious trouble out at State Children's Mental Hospital foothills. Am going take breather before I slug this SOB. Will see what's going out there by back two hours."

One hour thirty minutes later, doomsday arrived. One sickening shudder, accompanied by groan metal rose shriek, loud pops glass shattering, Hall reduced dust-shrouded mound rubble, all twelve floors it. Mayor's suite rooms second floor. Moved down there top level because would be right above ground floor police rooms if were ever needed. Police helicopter overhead about land roof when earthquake hit. Told later whole surface level block which Hall located other blocks north seemed drop suddenly about twenty feet. Like first three floors disappeared,
then top nine collapsed all at once.

Atkins been elected by youth San Francisco. Charter been revised year before allow citizens two years younger than previous limit thirty-two years serve government. Pitched his campaign frankly at young. Eighteen-year-olds been delighted at finally getting vote. Now could show an approved legal voice make known their disenchantment establishment. Using an unorthodox slogan, "You can just barely trust someone just barely over thirty," Atkins been victorious his first try. Hadn't let kids down either. First day office, their spokesman fathers. His office door always open, somehow always there hand out beer whatever groups came, listen their ideas or their grievances. Announced, "Get together, decide, appoint group. Then come see me. There aren't enough minutes day for me see individuals. So have your meetings at grass roots, thresh out some problems then bring me rest." It worked. Better than ever hoped for. There noticeable lessening riots, senseless vandalism, grudge fights such throughout. Their confidence day June. Would need more than ever dreamed.

One police helicopters over when happened found Atkins pretty quickly, thanks citizen band radios require no central transmitting station, for none left. While one policemen went behind helicopter vomited quietly because what seen above, other ran Atkins, ashen-faced, almost hysterics. "Thank God, you are alive, Councilman. You are man spot now. You are Mayor, State Civil Defense Director, Police Chief all rolled together. What do we do first?"

Almost complete destruction--almost total disaster--what
does anyone authority do first? Forgets about his own loved ones; does not even think them one moment lest all resolve dis-integrate completely.

Atkins left helicopter see where could establish some sort temporary headquarters. Flew high get total picture at first; low altitude destruction seemed unreal, unending blocks rubble where buildings once stood. Atkins surprised there no smoke.

1906 disaster triggered fires almost start. But laws been rewritten since then building codes enforced so shut-off valves were standard any equipment might cause fires after an earthquake. Could see more water than expected. Whole level peninsula must have dropped, sinking still going. Aftershocks would probably make worse, guessed. Area where Fisherman's Wharf should have been, down whole dock area east side, only water. Distance could see vast lake spreading down Santa Clara Valley. Bay bridge dropped, middle spans gone view. Only smudge water showed where Naval Station Island once. Around towards Golden Gate; bridge gone, too, tidal waves rushing into bay beyond Presidio. Land seemed little higher than remembered Pacific side, like peninsula been tilted inland toward bay. Turned down west coast wondered what happened animals at zoo west side, making another mental note find out deal problem, too.

Parks were obvious gathering spots for survivors. Destruction seemed complete over whole peninsula as far as could see back past Daly Santa Cruz Mountains bay. Radio helicopter reported some university professor down at USC measured quake at almost nine scale.

Helda led group, laden their dishes pans, down old buildings
commune mountain valley. All food piled into old farm wagon pulled. Might have gone part way van, but roadbed would soon have been impassible, so loaded wagon pulled down valley. Knew would be needed. Helda learned boss kitchen crew turn out quantities food for an unpredictable number persons. She learned stretch inexpensive ground beef by adding rice or noodles until would feed twice expected number. Men commune learned use tools, build something out almost nothing. All believed would be useful. Now time drop back into world dropped out few years back. Skills learned hard way were all offer. Drugs pot were left behind. Clear-headed, group (dozens, hundreds even, groups just like them) approached wreckage made their way parks.

Governor Smedley set up disaster committee among remaining senate members. Why is always first step bureaucratic government establish committee, strange entity talks much but accomplishes little, wondered Atkins. Realized new committee must be utilized cooperative fashion, lest become an obstacle progress. Most operations, actual work ruins, now being administered by armed forces. Generals Army, Air Force, Marines, Reserves, National Guard were charge, along an Admiral Navy. Rescue work still only operation week after earthquake. Aftershocks kept any other activity occurring. Atkins formed an interim government sorts. Surviving citizens San Francisco seemed united following Atkins' leadership. According few living councilmen, most them older men, who came his temporary headquarters John McLaren Park. Here coordinated operations mass volunteers, including young people like Helda. Fed survivors who were uninjured or slightly so,
then passed them back along peninsula park; park evacuate them completely this area California. Most young people heard were needed their transistor radios walked miles away, bringing simple things, sensible items, usable skills. Mayor Atkins issued an order guard cordoning off peninsula take these young volunteers an officer for questioning. If checked out all right seemed sincere their wish help, were be passed into area.

Young people became members group worked, took instructions, worked some more, followed orders immediately, then continued work more, seemingly inexhaustible. Name, "Volunteers for Hope," came among their ranks. No one would take individual credit. Arm bands appeared one day letters "V-HOPE" them. No older person given one except those directly charge group. Those charge were few younger-minded senators governor's disaster committee, those especially cooperative young mayor willing follow his leadership. Also charge were few young police officers who been aloft helicopters survived as sole remaining law men. One these men been promoted quickly Police Chief, others becoming Captains, Lieutenants. All were part interim government, where came respect their new young mayor who worked so hard long. Turn, Atkins found these policemen be calm efficient decided make some them part Volunteers for Hope group. Previous resentment between "long hairs" "pigs" disappeared as if never existed. Serious job before them made them all respect only one trait human, courage, which meant ability work until you were tired enough drop then keep working, take hold whatever unpleasant situation do job without complaint. Respect mutual admiration grew blossomed policemen
swore Volunteers for Hope group would be permanent part whatever survived or grew new disaster.

Interim government met drew up plans action. Volunteers worked carry out these plans. Only time there even mild grumbling dissention when heard rumor interim government considering rebuilding some location. "Have flipped completely?" asked young people. "Don't get message after two earthquakes?" wondered Helda. But work for them do, not decision making, so work'. Knew Atkins their man Atkins charge would let them know when time express their opinions.

Seal San Francisco which existed between years 1860 and 1974, there pictured Phoenix, Egyptian symbol immortality. Bird rises ashes seal, commemorating disastrous fires early 1850's. No one then foresaw destruction by earthquake fire, followed by rebuilding, followed by repeated destruction by earthquake, sinking land tidal wave. Phoenix eventually made symbol Volunteers for Hope. Out ashes generation gap arisen reborn life: new respect, understanding, acceptance, love old for young young for old.
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Popular Mayor St. John councilmen well aware identities San Francisco. Rich, cultured layer overlaid deeper, problem-ridden layer contained hippies, prostitutes, junkies, con men, terrorizers small merchants Chinatown, union leaders dock laborers lived high hands deep treasury. Perhaps third layer, level deep crust earth beneath. Its identity known groaned twitched, occasionally reminding leaders, should considered, too. Other problems always pressing.


"Need know your immediate," stated senator appointed freshman term, since least prestigious. Older, wiser Chairman suggested, "Perhaps coordinate our efforts start will avoid fiscal waste overlapping programs." St. John looked around, answering, "I hope enough made carried. Right now, I'm not worried about fiscal overlapping finances, Honorable Chairman. Now I'm worried next may
big instead aftershock. I am here ask appoint your joint committee, let's call Action Group, will also my council. Starts operating, can made."

"I'll volunteer," said Senator Salliman, man asked question. Names others senate wanted help being jotted list Governor Smedley burst into room. "Just look-see," announced. "Glad you're here, St. John. Wanted tell I'm calling Civil Defense Chief Palmer. You're complete whole San Francisco operation, acting liaison between. He'll here briefing soon get touch him tracks Santa Anita. Know he'll want meeting boys right away."

Inwardly groaning, accepted inevitable. New Action would "hamstrung" every turn inept. Wasn't grieve. "Tell come directly meeting room next my office Hall, Governor. I'm taking these senators volunteered to helicopter. We'll our Action assembled arrives. Tell him get hell fast, hear?"

Action met--hardest-working council jumped chance work senators. Not surprising, hardest-working men also turned youngest ones. Looked around guessed average age about thirty-six years most. Older councilmen said, "Call I can help," left quietly tend extensive business interests. Businesses, families, even eating, forgotten met session around clock. Director arrived, got great many already made machinery already operation carry. Important taken care, rapidly. Assistants arrived scene, sure enough, things began slow finally just bogged completely quibbling three late-comers over petty, unnecessary details. Youngest councilman, Will Atkins, coughed nervously, got inconspicuously could walked past going restroom. Rested hand table short memo left behind went
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One hour thirty minutes later, doomsday arrived. Sicken-ing shudder, accompanied groan metal rose shriek, loud pops glass shattering, Hall reduced dust-shrouded mound rubble, twelve floors. Mayor's suite rooms second floor. Moved top level because would right above ground floor police rooms ever needed. Police heli-copter overhead about land roof hit. Told later whole surface level block which Hall located other blocks north drop suddenly about twenty feet. Like three floors disappeared, top nine collapsed once.


Police helicopters over happened found pretty quickly, thanks
citizen band radios require no central transmitting station, none left. While policemen went behind helicopter vomited quietly because what seen above, other ran, ashen-faced, hysterics. "Thank God, are alive, Councilman. Are man spot now. Are, Civil Defense Director, Police Chief rolled together. What do do?"

Complete destruction--total--what does anyone authority do? Forgets about own loved ones; does not even think moment lest resolve disintegrate completely.

Left helicopter where could establish sort temporary headquarters. Flew high get total picture; low altitude destruction unreal, unending blocks rubble where buildings once stood. Surprised no smoke. 1906 triggered fires start. Laws rewritten since building codes enforced so shut-off valves standard any equipment might cause fires after. Could water expected. Whole level peninsula must dropped, sinking still going. Aftershocks would probably make worse, guessed. Area where Fisherman's Wharf should, whole dock area east side, water. Distance could vast lake spreading Santa Clara Valley. Bay bridge dropped, middle spans gone view. Smudge water showed where Naval Station Island once. Around towards Golden Gate; bridge gone, too, tidal waves rushing into bay beyond Presidio. Land little higher remembered Pacific side, like peninsula tilted inland toward bay. Turned west coast wondered what happened animals zoo west side, making another mental note find deal problem, too. Parks obvious gathering spots survivors. Destruction complete over whole peninsula far could past Daly Santa Cruz Mountains bay. Radio helicopter reported university professor USC measured quake nine scale.
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The popular Mayor St. John and his city councilmen were well aware of the two identities of the city of San Francisco. The rich cultured layer overlaid the deeper problem-ridden layer that contained hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock laborers who lived high with their hands deep in the treasury. Perhaps there was a third layer, the level of the deep crust of earth beneath the city. Its identity was known only when it groaned or twitched occasionally reminding the leaders of government in the city that it was there and should be considered, too. But the other problems always seemed more pressing.

June that year, the first earthquake came. More than halfway up Richter scale, it was strong enough to cause solid loss of life in old buildings, those relics of rebuilding in 1906 that had somehow weathered urban renewal and freeway right-of-way acquisition. The mayor hopped into his helicopter flight to Sacramento to seek state help. Governor passed him in mid-air few miles apart while flying to inspect the damage. It was a "disaster area" in the older sections was for sure. Return to capital the governor found the mayor already in conference with members of the Senate Committee on Urban Problems. State government set up this committee to deal with
almost every ailment of modern cities in the big state. Not really to "deal" with them, there were no easy answers or quick solutions to most of the problems. "Be aware" of them would be more a correct attitude.

"We need to know of your immediate plans, Mayor," stated a young senator who had been appointed to this committee for his freshman term, it was least prestigious of all. The older, wiser Chairman suggested, "Perhaps if we coordinate our efforts from start, we will avoid fiscal waste of overlapping programs." Mayor St. John looked around answering, "I hope we have enough time for plans to be made and carried out. Now, I'm not worried about fiscal overlapping or finances, Honorable Chairman. Now, I'm worried that next earthquake may be the big one instead of aftershock. I am here to ask that you appoint some of your members to joint committee--call it the Action Group--will also have members from my city council. When group starts operating, we can have some plans made."

"I'll volunteer," said Senator Salliman, young man who asked the first question. Names others of senate committee who wanted to help mayor were being jotted on the list when Governor Smedley burst into the room. "Back from a look-see," he announced. "Glad you're here, St. John. Wanted to tell you I'm calling State Civil Defense Chief Palmer. Mayor, you're be in complete charge of whole San Francisco operation, with Palmer acting as liaison between you and me. He'll be here for briefing as soon as we get in touch with him down
at tracks in Santa Anita. He'll want to have a meeting with you boys right away."

Inwardly groaning, mayor accepted the inevitable. His new Action Group would be "hamstrung" at every turn by inept Palmer. There wasn't time to grieve. "Tell Palmer to come to meeting room next to my office in City Hall, Governor. I'm taking these senators who have volunteered go back in helicopter with me. We'll have Action Group assembled by the time Palmer arrives. Tell him to get the hell up there fast, you hear?"

The Action Group met—all the hardest-working members of the city council jumped at the chance to work with the state senators. Not surprising hardest-working men also turned out to be the youngest ones. Mayor looked around group and guessed their average age was about thirty-six years at the most. Older councilmen had said, "Call me if I can help," then left quietly to tend their extensive business interests. Businesses, families, and even eating, were forgotten by this group as they met in session around the clock. State Director Palmer arrived, but by the time he got there many things had already been made and machinery already in operation to try them out. Important plans were taken care of first rapidly. Palmer and his two assistants arrived on scene, things began low down and finally just bogged down completely in quibbling by the three latecomers over petty, unnecessary details. Youngest city councilman of group, Will Atkins, coughed nervously, got up inconspicuously as he could, and walked past the mayor as if he were going to the restroom. He rested his hand on the
table by mayor and a short memo was left behind as he went through the door. "Have heard grapevine of serious trouble at State Children's Mental Hospital in foothills. Am going to take breather before I slug this SOB. Will see what's going on out there, be back in two hours."

One hour thirty minutes later doomsday arrived. One sickening shudder accompanied by groan of metal that rose to shriek with loud pops of glass shattering, City Hall was reduced to dust-shrouded mound of rubble, all twelve floors of it. Mayor's suite of rooms was on the second floor. He had moved there from top level because he would be right above the ground floor police rooms if he were needed. Police helicopter overhead was about to land on roof when the earthquake hit. They told whole surface level of the block on which City Hall was located and other blocks north of it seemed to drop suddenly about twenty feet. Was like first three floors disappeared then the top nine collapsed all at once.

Atkins had been elected by youth of San Francisco. Charter had been revised year before to allow citizens two years younger than previous limit of thirty-two years to serve on the city government. He pitched his campaign frankly at the young. Eighteen-year-olds had been delighted at finally getting to vote. They could show approved legal voice to make known their disenchantment with the establishment. Using unorthodox slogan, "You can barely trust someone just barely over thirty," Atkins had been victorious on his first try. He hadn't let the
kids down either. From first day in office, he was their spokesman to the city fathers. His office door was always open, he was always there to hand out beer to whatever groups came, and listen to their ideas or their grievances. Announced, "Get together, decide, appoint a group. Then come see me. There aren't enough minutes in day for me to see individuals. Have your meetings at grass roots, thresh out some of the problems, and then bring me the rest." And it worked. Better than he had ever hoped. There was a noticeable lessening of riots, senseless vandalism, grudge fights such throughout city. He had their confidence that day in June. He would need it more than he dreamed.

One police helicopters was over the city when it happened, found Atkins pretty quickly thanks to citizen band radios that require no central transmitting stations, for none was left. One policemen went behind the helicopter and vomited quietly because of what he had seen from above, the other ran to Atkins, ashen-faced, almost in hysterics. "God, you are alive, Councilman. You are man-on-the-spot now. You are Mayor, State Civil Defense Director, and the Police Chief all rolled together. What we do first?"

Complete destruction--almost total disaster--what does anyone in authority do first? He forgets about his loved ones; he does not think of them one moment lest all resolve disintegrate.

Atkins left on helicopter to see where he could establish some of temporary headquarters. They flew high to get total picture first; from low altitude, destruction seemed unreal with
unending blocks of rubble where buildings once stood. Atkins surprised there was no smoke. The 1906 disaster triggered fires almost from the start. Laws had been rewritten since then and building codes enforced so that shut-off valves were standard on any equipment that might cause fires after earthquake. He could see more water than expected. Whole level of the peninsula must have dropped, with sinking still going on. Aftershocks would probably make it worse, guessed. Area from where Fisherman's Wharf should have been, down whole dock area of the east side was only water. Distance he could see a vast lake spreading down the Santa Clara Valley. The bay bridge had dropped, middle spans gone from view. Only a smudge in water showed where the Naval Station Island once was. Towards the Golden Gate—that bridge was gone, too—with tidal waves rushing into the bay from beyond the Presidio. The land seemed little higher than he remembered on Pacific side, like the peninsula had been tilted inland toward the bay. They turned down west coast and he wondered what happened to the animals at the zoo on west side, making another mental note to find out and deal with that problem. Parks were the obvious gathering spots for survivors. Destruction seemed complete over whole peninsula, far as he could see back past Daly City and from Santa Cruz Mountains to the bay. Radio in helicopter reported some university professor down at USC had measured the quake at almost nine on the scale.

Hilda led the group, laden with dishes and pans, down from the buildings of the commune in the mountain valley. All food
they had was piled into the old wagon they pulled. They might have gone part of way in the van, but roadbed would soon have been impassible, so they loaded the wagon and pulled it down from valley. Knew they would be needed. Heida had learned to boss kitchen crew to turn out quantities food for an unpredictable number of persons. She learned to stretch ground beef by adding rice or noodles until it would feed twice the expected number. Men in commune had learned to use tools to build something out of almost nothing. They believed they would be useful. It was time to drop back into world they had dropped out of a few years back. Skills they had learned the hard way were all they had to offer. Drugs, pot were left behind. Clear-headed group (dozens, hundreds of groups just like them) approached the wreckage of the city and made their way to the parks.

Governor Smedley had set up a disaster committee from among the remaining senate members. Why is it the first step of bureaucratic government to establish a committee, entity that talks much but accomplishes little, wondered Atkins. He realized new committee must be utilized in a cooperative fashion lest they become an obstacle to progress. Most the operations, actual work in the city ruins, was now being administered by the Armed Forces. Generals of Army, Air Force, Marines, Reserves, and National Guard were in charge along with an Admiral Navy. Rescue work was still the only operation week after the earthquake. Aftershocks kept other activity from occurring. Atkins had formed interim city government of sorts.
Surviving citizens of San Francisco seemed united in following Atkins' leadership according to living councilmen, most of the older men, who had come to his temporary headquarters in John McLaren Park. Here he coordinated operations of a mass of volunteers including young people like Held. They fed survivors uninjured or slightly so then passed them back along peninsula from park to park to evacuate them completely from this area of California. Most young people had heard they were needed their transistor radios and had walked in from miles away bringing simple things, sensible items, and usable skills. Mayor Atkins had issued order to guard cordonning off the peninsula to take these young volunteers to an officer for questioning. They checked out all right, seemed sincere in their wish to help, they were to be passed into the area. Young people became members of group that worked, took instructions, worked more, followed orders immediately, then continued to work more, seemingly inexhaustible. Name "Volunteers for Hope" came from among their ranks. No one would take credit. Arm bands appeared day with the letters "V-HOPE" on them. No older person was given one except those directly in charge of group. Those in charge were few the younger-minded senators from governor's disaster committee, those especially cooperative with the young mayor and willing to follow his leadership. In charge were few young police officers who had been aloft in the helicopters and survived as the sole remaining law men. One of these men had been promoted to Police Chief, others becoming Captains and
Lieutenants. All were part of interim city government where they came to respect their new young mayor who worked hard and long. Atkins found these policemen to be calm and efficient and he decided to make some of them part of the Volunteers for Hope group. Previous resentment between "long hairs" and the "pigs" disappeared as if it had never existed. Serious job before them made them all respect only one trait in a human, courage, which meant ability to work until you were tired enough to drop, then keep on working, take hold in whatever unpleasant situation, and do job without complaint. Respect and mutual admiration grew, blossomed and policemen swore that Volunteers for Hope group would be a permanent part of whatever survived or grew new from the disaster.

Interim city government met and drew up plans of action. Volunteers worked to carry out these plans. Time there was mild grumbling and dissention was when they heard a rumor the interim government was considering rebuilding the city in the same location. "Have they flipped completely?" asked young people. "Don't they get message after two earthquakes?" wondered Helda. Work was for them to do, not the decision making so they worked on. Knew that Atkins, their man Atkins, was in charge and would let them know when it was time to express their opinions.

On seal of the city of San Francisco existed between years 1860 and 1974 there was pictured the Phoenix, the Egyptian symbol of immortality. Bird rises from ashes on seal commemorating the disastrous fires of the early 1850's. No one foresaw
destruction by earthquake and fire, followed rebuilding, followed by repeated destruction by earthquake, sinking of land, and tidal wave. Phoenix was eventually made the symbol of the Volunteers for Hope. Out of ashes of the generation gap had arisen a reborn life: respect, understanding, acceptance, and love of old for young and young for old.
San Francisco

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Complete destruction--total disaster--what does anyone authority do first? He forgets his loved ones; he does not think of them one
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Governor Smedley set up Disaster Committee from the remaining Senate members. Why is the first step of bureaucratic government to establish a committee entity that talks much, accomplishes little wondered Atkins. He realized new committee must be utilized in cooperative fashion lest they become an obstacle progress. Most operations, actual work in city ruins was now being administered by Armed Forces. Generals of Army, Air Force, Marines, Reserves, National Guard Were in charge along with Admiral Navy. Rescue work was still only operation week after the earthquake. Aftershocks kept other activity from occurring. Atkins had formed interim city government sorts. Surviving citizens of San Francisco united in following Atkins' leadership, according to living councilmen, most the older men, who had come to his temporary headquarters John McLaren Park. He coordinated operations of a mass of volunteers
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things, items and usable skills. Atkins issued order guard to take volunteers to officer for questioning. They checked, seemed sincere help, they were be passed the area. People became group worked, took instructions, worked, followed orders, continued work, inexhaustible. Volunteers for Hope came. No one credit. Arm bands appeared with V-Hope. No person given one those in charge. In charge were senators especially cooperative with the young mayor and follow his leadership. In charge were police officers who been helicopters and survived law men. One had been promoted to police chief, lieutenants. All were part city government, they came respect Mayor worked hard. Atkins found policemen calm, efficient, decided to make some part Volunteers for Hope. Resentment between "long hairs" "pigs" disappeared, never existed. Serious job made them respect trait human--courage--ability work tired drop, keep working, take hold whatever unpleasant situation, do job without complaint. Respect, admiration grew--policemen swore Volunteers Hope would be part whatever survived grew from disaster.

Government met, drew plans action. Volunteers worked carry plans. Grumbling, dissention rumor the interim government was considering rebuilding city in the same location. "They flipped?" asked people. "Get message earthquakes?" wondered Helda. Work was for them, not decision, they worked. Atkins man charge would them know when was time to express opinions.

San Francisco
60% Subjective Deleted Version

Mayor St. John councilmen were aware identities San Francisco. Cultured layer overlaid problem layer men terrorizers, union leaders laborers lived high with hands in treasury. Third layer level crust earth beneath city. Identity known groaned, twitched, reminding it was there should be considered. Problems more pressing.

First earthquake came. Halfway up Richter scale was string enough cause loss of life in buildings, relics weathered renewal. Mayor hopped helicopter Sacramento seek help. Governor passed him flying to inspect city. Disaster area in older sections. Governor found Mayor conference Senate Committee on Urban Problems. Government set up committee deal with ailment cities state. "Deal" no answers or quick solutions to problems. "Be aware" correct attitude.

"We need to know your immediate plans, Mayor," stated senator appointed committee term. Chairman suggested, "Coordinate efforts will avoid waste overlapping programs." Mayor, "Hope have time plans made carried out. Not worried fiscal overlapping finances. Worried next earthquake big instead aftershock. Here ask appoint members to committee--call Action Group--members city council. Group operating have plans." "I'll volunteer," Salliman, man question. Names committee wanted help Mayor jotted list Smedley burst room. "Back from look. Here, St. John. Tell calling Defense Chief Palmer. Mayor, you're in charge San Francisco operation, Palmer liaison. He'll be here briefing soon we get touch him. He'll want have meeting with."
Mayor accepted inevitable. Action Group be "hamstrung" by Palmer. Wasn't time. "Tell Palmer to come meeting room Hall. I'm taking senators volunteered in helicopter. Group assembled, Palmer arrives. Tell him get there fast."

Group met, working members council jumped chance work senators. Hardest working men turned be youngest. Mayor looked group, guessed age thirty-six year. Said, "Call if I can help," left business. Businesses, families, eating forgotten group they met clock. Palmer arrived, by time got there plans made, machinery in operation carry. Plans taken care of. Palmer assistants arrived; things began slow down, finally bogged down completely comers over details. Will Atkins got up and walked past the Mayor going to restroom. He rested hand table and memo was left behind door. "Heard of trouble Children's Mental Hospital. Breather before slug SOB. See what's going, back hours."

Hour doomsday arrived. Shudder, groan metal, pops glass, shattering, City Hall was reduced to dust mound rubble floors. Suite rooms second floor. He moved because he would be above police if needed. Helicopter was land roof, earthquake hit. Level block City Hall, blocks north seemed to drop suddenly twenty feet. three floors disappeared, top nine collapsed.

Atkins elected youth Francisco. Allow citizens two years younger two to serve on city government. Pitched campaign at young. Eighteen year olds delighted vote. They show legal voice, disenchantment establishment. "Trust someone over thirty," Atkins had victorious first try. Let kids down. He was their spokesman city fathers. Door open, he there, hand out beer groups, listen to ideas, grievances. "Decide,
Held a group. See me. Aren't minutes day see individuals. Have meetings, roots, thresh problems, bring me rest." It. Better he hoped. Lessening riots, vandalism, fights throughout city. Had confidence day June. Need more than dreamed.

Helicopters city found Atkins, thanks band radios require no transmitting stations, none left. Policemen vomited what he had seen, other ran to Atkins in hysterics. "Are alive. Man on spot. You Mayor, Defense Director, Police Chief. Do first?"

Destruction—disaster—anyone authority do? Forgets loved ones; not think them, resolve disintegrate.

Atkins left, see where establish headquarters. Get picture; low altitude destruction unreal, blocks rubble buildings stood. Surprised no smoke. Disaster triggered fires start. Laws rewritten; codes enforced of valves standard equipment cause fires after earthquake. See water expected. Level peninsula dropped, sinking still going. Aftershocks make worse. Area Fisherman's Wharf, dock area east was water. He see lake spreading Clara Valley. Bridge dropped, spans gone. Smudge water showed Naval Island was. Golden Gate Bridge gone, waves rushing bay from Presidio. Land seemed higher remembered Pacific, peninsula tilted toward bay. Turned down coast, wondered what happened to animals zoo, making mental note deal problem. Parks gathering spots survivors. Destruction complete over peninsula Daly City, Santa Cruz Mountains, bay. Radio reported professor USC measured quake nine on scale.

Helda led group, pans from buildings of commune valley. Food was piled into wagon pulled. Gone in van, but roadbed been impassible, they loaded wagon pulled valley. Be needed. Helda learned boss,
turn out food number persons. She learned stretch beef, rice, noodles feed twice. Men commune learned use tools, build nothing. Believed be useful. Time drop into world they dropped out years. Skills learned were they had offer. Drugs left. Group, groups approached wreckage city made their way to parks.

Smedley set up committee Senate members. Why first step government establish committee, accomplishes little wondered Atkins. Realized committee utilized in cooperative fashion become obstacle. Operations work ruins was administered by Armed Forces. Generals--Marines, Reserves, Guard--were in charge; Admiral. Rescue work operation after earthquake. Aftershocks activity occurring. Atkins formed city government. Surviving citizens Francisco united following Atkins' leadership according councilmen, older, had come temporary park. He coordinated operations volunteers including people. They fed survivors, passed along peninsula park to evacuate from area California. Young people heard were needed walked bringing things, items and usable skills. Atkins issued order guard to take volunteers officer questioning. They seemed sincere, they were be passed the area. People group worked, took instructions, worked, followed orders, work inexhaustible. "Volunteers for Hope" ranks. No credit. Bands appeared with "V-Hope." Person given one those in charge. In charge were senators cooperative with the young mayor follow his leadership. In charge were police officers who helicopters and survived men. One had been promoted to Chief, Lieutenants. All were part government, came respect Mayor worked hard. Atkins found policemen calm, efficient decided make part Volunteers for Hope. Resentment "long hair?" "pigs" disappeared, never existed. Job made respect trait human--courage--ability work,
tired, drop, keep working, hold whatever unpleasant situation, do job complaint. Respect, admiration grew; policemen swore Volunteers be part whatever survived grew disaster.

Government met, drew plans. Volunteers worked plans. Grumbling dissention interim government was considering rebuilding city in same location. "Flipped?" asked people. "Get message earthquake?" Helda. Work for them, decision, they worked. Charge would them know when was time to express opinions.

San Francisco

Multiple Choice Test

1. In early June, San Francisco first experienced:
   1) a mud slide in the suburban hills because of excessive rain
   2) a tidal wave from the Pacific Ocean
   3) a moderately severe earthquake
   4) an extensive forest fire in the Santa Cruz Mountain area

2. As a result of this disaster:
   1) most homes built on the beaches were swept away
   2) a main north-south coastal freeway was swept away
   3) lives were lost in homes and camping areas in the fire's path
   4) lives were lost in older buildings that collapsed

3. The popular Mayor of San Francisco in early June was:
   1) Smedley
   2) St. John
   3) Palmer
   4) Salliman

4. The city had a form of government that was:
   1) a city manager with an elected city council and mayor
   2) an elected city council, with a mayor
   3) a city manager with an appointed city council and mayor
   4) an appointed city council, with a mayor

5. The mayor and the city council were worried about:
   1) possibility of stronger future earthquake
2) the need for U.S. Forest Service help in combating forest fires
3) the need for State Highway Department funds to rebuild the coastal freeway
4) possible erosion of coastal areas due to lack of a sea wall

6. The mayor went to seek help at:
   1) Washington
   2) Sacramento
   3) Los Angeles
   4) Santa Cruz

7. There was in existence a:
   1) Committee on Urban Growth and Development
   2) Committee on Urban Problems
   3) Committee on Urban and Rural Problems
   4) Committee on City Development

8. The mayor asked for volunteers among the:
   1) senators
   2) representatives
   3) Congressmen
   4) state officials

9. The volunteers were to serve on the mayor's:
   1) Rehabilitation Group
   2) Restoration Group
   3) Activity Group
   4) Action Group

10. The governor was:
    1) St. John
2) Salliman  
3) Palmer  
4) Smedley  

11. The governor gave full authority over the San Francisco operation to the:
   1) mayor  
   2) senate committee  
   3) State Highway Department  
   4) State Forestry Service  

12. The State Civil Defense Director would:
   1) have complete charge of planning activities  
   2) direct the builders of the protective sea wall  
   3) have authority over the forest fire fighters  
   4) act as liaison between the governor and the mayor  

13. The Civil Defense Director was:
   1) Salliman  
   2) Palmer  
   3) Smedley  
   4) St. John  

14. The Civil Defense Director was known by the mayor to be:
   1) a problem solver  
   2) a publicity seeker  
   3) a trouble maker  
   4) a tireless worker  

15. The city councilmen who volunteered to serve as members of the mayor's group were:
   1) young and hard working
2) older and experienced
3) politically ambitious
4) evading more demanding assignments

16. At first the mayor's group:
   1) elected a chairman and a recorder
   2) called for a complete copy of existing disaster plans
   3) made some plans that were quickly carried out
   4) passed a resolution commending the mayor for his action

17. The meetings of the mayor's group were held:
   1) at the civic building located in John McLaren Park
   2) in a conference room at a state building in the foothills
   3) at City Hall in the mayor's suite
   4) in the Senate Chambers at Sacramento

18. When Palmer finally joined the group:
   1) progress slowed
   2) new ideas were formulated
   3) the mayor left the meeting
   4) he had a direct line telephone to the governor

19. Will Atkins was the:
   1) youngest police chief in the city's history
   2) most honest reporter from the largest newspaper
   3) youngest city councilman ever elected
   4) efficient public relations expert on the mayor's staff

20. Atkins was about to:
   1) telephone the governor's office with a press release
2) walk out of the meeting because of the way the mayor was conducting it
3) ask for martial law to be set over the ruined city areas
4) lose his temper with Palmer

21. Atkins left the group's meeting to go to:
1) the men's restroom
2) the bar across the street because he was a secret alcoholic
3) a hospital in the foothills away from the city
4) meet the mayor's wife, with whom he was having an affair

22. Atkins planned to:
1) return after Palmer had flown back to Sacramento
2) take time out for lunch with the mayor's wife
3) make a report to the hospital board later in the day
4) return to the meeting in two hours

23. The position Atkins held:
1) appointed to his office by his friend, the mayor
2) elected to his office by the youth of the city
3) promoted after a long rise through the ranks
4) elected to his office by the radical groups backing him

24. The position Atkins held:
1) called for administering a force of over one thousand
2) had been won on his very first try
3) was bought with a large campaign contribution
4) represented a victory after first suffering a defeat

25. City charter revisions allowed:
1) city officials to be elected at age thirty
2) the mayor to have as many councilmen as he wanted
3) the police to all wear plain clothes
4) citizens age twenty-one or older to hold city offices

26. Unexpected changes in the city were:
   1) the dope traffic lessened because of the numerous
      plainclothes policemen
   2) the riots and vandalism lessened because of conferences
      with youth groups
   3) graft and corruption grew in the mayor's offices
   4) total honesty in city administration

27. One and one-half hours after Atkins left the meeting:
   1) Palmer shot the mayor after an angry argument
   2) a great earthquake smashed City Hall
   3) an explosion from a bomb wrecked and burned police
      headquarters and the mayor's suite on the floor above it
   4) a nuclear bomb from an unknown source had blasted the city

28. City Hall was:
   1) twelve floors, with the mayor's suite on the second
   2) built with police headquarters underground
   3) two stories high but a city block large
   4) built in a hexagon, with mayor's offices on sixth floor

29. All members of the Mayor's group:
   1) were killed in the explosion and resulting fire
   2) would be called as witnesses to testify against Palmer
   3) adjourned permanently out of respect for the mayor
   4) were killed when the building collapsed
30. Some policemen survived who were:
   1) directing traffic at major league baseball games
   2) riding in patrol cars in residential areas
   3) working in after-hour jobs in suburban bank vaults
   4) flying in helicopters at the time of the disaster

31. Atkins received word of the disaster from:
   1) the policemen from the helicopter
   2) the mayor's wife who received the news in a phone call
   3) a teletype release of a flash from the Civil Defense Headquarters
   4) the special police radio in the helicopter

32. The first action Atkins took was to:
   1) call on the radio to assemble all city councilmen
   2) go directly to the funeral home where the mayor's body had been taken
   3) call Washington to give full information about the first nuclear blast
   4) fly by helicopter over the city to survey the damage

33. Building codes had been changed over the years with the result that:
   1) no buildings could be built higher than twelve floors
   2) fire would be less of a possibility in case of earthquake
   3) no major structure could be built near forested areas
   4) fireproof structures only could be built in the downtown areas
34. From his vantage point, Atkins noticed:
   1) that the damage seemed to be worst towards the Chinatown area
   2) traffic was piling up all along the damaged coastal highway
   3) the whole peninsula seemed to be sinking
   4) the fires were spreading outward more rapidly now that they had reached the city's edge

35. To further complicate the situation, Atkins saw:
   1) both bridges had fallen into the bay
   2) the blast had destroyed all water supplies
   3) the firemen trying to control the fires were now cut off and surrounded
   4) ambulances were not able to get through the piled-up traffic on the coast

36. Greater danger existed because:
   1) no police were on hand to stop bay bridge traffic
   2) the flimsy, flamable buildings in Chinatown lay in the path of the fire
   3) tidal waves could be seen rolling in from the Pacific
   4) animals from the zoos were loose in all the parks

37. From above, Atkins could see that:
   1) every single person would have to be evacuated from the area
   2) there was no possibility that anyone in the city could have survived
   3) parks would be the best gathering place for survivors
4) the people could be evacuated to the mountain valleys and foothills.

38. The radio reported the true severity of the disaster, saying:
1) the earthquake measured almost nine on the Richter scale
2) the nuclear blast must have been from a 100 megaton bomb
3) the fires from the earthquake had destroyed 90 percent of the city
4) tidal wave had swept clear down the Santa Clara Valley

39. The commune that Helda was a part of was located in:
1) Haight-Asbury section of the city
2) a low field on old farm property in the Santa Clara Valley
3) a rather remote mountain valley
4) an abandoned rambling beachfront house

40. Members of the commune joined Helda in:
1) walking into the city, carrying blanket and cots
2) riding into the damaged area in the commune's van
3) stealing pack horses to carry food, pans and tools for them
4) pulling an old wagon by hand to bring supplies

41. Helda had acquired the ability to:
1) sew simple garments for people who needed clothes
2) keep homeless children in a small nursery
3) boss a kitchen crew cooking large quantities of food
4) organize a group to stage protests when needed

42. Men of the commune had learned to:
1) plant and harvest crops of health foods
2) make primitive and simple furniture
3) tear down and rebuild the motor of their commune's van
4) use tools with good ability

43. The commune Helda belonged to decided to go to the San Francisco area because they:
   1) were curious about the disaster
   2) believed they would be useful there
   3) would have an opportunity to gain converts to their religion
   4) needed to recruit new members for the commune

44. Helda's group and other groups like it:
   1) fled away from the area because they couldn't stand the sight of injured and suffering people
   2) left their drugs behind and went to the parks to go to work
   3) went into the worst part of the disaster area in spite of danger to themselves
   4) decided the time was right for taking over the city government

45. In John McLaren Park:
   1) headquarters for the interim city government were set up
   2) a major emergency hospital center was established
   3) a large amateur radio station was in operation to send messages in and out of the area
   4) the Salvation Army started a clearing house to locate missing people

46. Because of what had happened at City Hall, Will Atkins:
   1) asked for federal troops to be sent in and martial law established
2) assumed the role of mayor of the city
3) asked the governor to come to the city for an extended stay
4) called for an immediate election to fill city vacancies

47. The older city council members and other citizens in the area:
   1) demanded immediate elections be scheduled
   2) united in following Atkins' leadership
   3) were divided in their loyalty to Atkins
   4) supported the governor in his disagreement with Atkins

48. After the disaster, most of the rescue work was done by members of:
   1) the Armed Forces
   2) the young people from the communes
   3) the city police force
   4) the National Guard called out by the governor

49. The governor established:
   1) a joint Senate-House Investigation Committee
   2) an interim city government
   3) a new city police force
   4) a senate disaster committee

50. To coordinate work on the volunteers, Atkins requested help from:
   1) the Red Cross of the United States
   2) the Western Division of the Salvation Army
   3) the youth directors of the city's churches
   4) some senators from the committee
51. Atkins issued an order to those guarding the area of the disaster that:
   1) all young volunteer groups were to be allowed to come in
   2) under no circumstances were the governor or any senators to be admitted
   3) only nurses and doctors should be given passes and allowed to enter
   4) unauthorized persons should be shot on sight

52. The main job the volunteer groups did was to:
   1) issue Army blankets and cots to survivors and erect tents
   2) serve as deputized peace officers to help patrol the area
   3) drive ambulances in the disaster area
   4) help feed the survivors at the parks

53. The name, "Volunteers for Hope" was:
   1) first thought of by an NBC commentator who was in the area
   2) adopted by the young people themselves
   3) originated by Will Atkins
   4) an old World War II group name that was revived

54. The police force had a problem in:
   1) the lack of a working radio transmitter
   2) that there was little gasoline for the helicopters and patrol cars
   3) the situation that their police chief, captains, and lieutenants were killed
   4) the continuing confusion over whether they or the Armed Forces were in charge
55. Regarding the available policemen, Atkins was:
   1) impressed with their calm efficiency
   2) continually harassed by their officers
   3) sure they lacked the experience to be of much help
   4) determined to keep them from taking away any of his power.

56. As a result of his opinion about the policemen, Atkins:
   1) asked most of them to resign from the force
   2) put some of them in charge of the young volunteers
   3) appointed them leaders, with the senators, of the Volunteers for Hope group
   4) removed the new police chief and demoted the captains

57. The resentment between the young "long hairs" and the policemen they called "pigs":
   1) grew stronger each day in the disaster area
   2) erupted into open battles between them in the parks
   3) disappeared in the face of a need for courage in the job facing them all
   4) disappeared when all the young people were banned from the area

58. Policemen felt that the "Volunteers for Hope" were:
   1) to be respected and admired and should be made permanent
   2) members of a cover organization for the Young Nazi Party
   3) a useless bunch of religious fanatics
   4) a group of "draft-dodgers" worthy of no respect

59. Rumors that made the youth groups unhappy were about:
   1) rebuilding City Hall first of all
   2) moving the city to another location
3) rebuilding the city in the same location
4) moving all the minority groups to other locations in the
city to break up the pattern of "de facto" segregation

60. Eventually, the Volunteers:
1) stopped supporting Atkins in his decisions
2) quit doing the hard work and left the area
3) made Atkins a honorary member of this group
4) adopted the Phoenix as their symbol
San Francisco
Set Relations Test

The following sentences describe relations of San Francisco city government and the state government before Mayor St. John was killed.

61. A) All of the Urban Problems Committee members belonged to the Action Group.
B) Only some of the Urban Problems Committee members belonged to the Action Group.

62. A) All of the city councilmen were under the leadership of St. John.
B) Only some of the city councilmen were under the leadership of St. John.

63. A) Only some of the Urban Problems Committee members were senators.
B) All of the Urban Problems Committee members were senators.

64. A) Only some of those under the leadership of St. John were senators.
B) All of those under the leadership of St. John were senators.

65. A) No Urban Problems Committee members were city councilmen.
B) Only some of the Urban Problems Committee members were city councilmen.

66. A) All of the senators were in the Action Group.
B) Only some of the senators were in the Action Group.

67. A) Only some of those under the leadership of St. John were Urban Problems Committee members.
B) All of those under the leadership of St. John were Urban Problems Committee members.

68. A) Only some of the senators were city councilmen.
    B) No senators were city councilmen.

69. A) Only some of the Action Group were under the leadership of St. John.
    B) All of the Action Group were under the leadership of St. John.

70. A) All of the city councilmen were in the Action Group.
    B) Only some of the city councilmen were in the Action Group.

The following sentences describe relations of San Francisco city government and state government following the earthquake.

71. A) Only some of the senators were in charge of the Volunteers for Hope.
    B) All of the senators were in charge of the Volunteers for Hope.

72. A) All of the officials of the interim city government were followers of Atkins.
    B) Only some of the officials of the interim city government were followers of Atkins.

73. A) Only some of the disaster committee members were officials of the interim city government.
    B) No disaster committee members were officials of the interim city government.

74. A) Only some of the Volunteers for Hope were followers of Atkins.
    B) All of the Volunteers for Hope were followers of Atkins.
75. A) All of the officials of the interim city government were in charge of the Volunteers for Hope.
   B) Only some of the officials of the interim city government were in charge of the Volunteers for Hope.

76. A) All of the disaster committee members were senators.
    B) Only some of the disaster committee members were senators.

77. A) Only some of the followers of Atkins were disaster committee members.
    B) All of the followers of Atkins were disaster committee members.

78. A) All of the disaster committee members were in charge of the Volunteers for Hope.
    B) Only some of the disaster committee members were in charge of the Volunteers for Hope.

79. A) Only some of the senators were officials of the interim city government.
    B) No senators were officials of the interim city government.

80. A) Only some of the followers of Atkins were senators.
    B) All of the followers of Atkins were senators.
San Francisco
Cloze Test

DIRECTIONS: The paragraphs below highlight the passage you have read. In the blank spaces provided fill in the missing words. Be sure to fill in every blank, even though you may have to guess. Do not refer back to your reading passage or to any previous test question.

The popular Mayor _____ and his city councilmen were well _____ of the two _____ of the city of San Francisco. The rich cultured layer overlaid the deeper problem-ridden layer that _____ hippies, prostitutes, junkies, con men, terrorizers of small merchants in Chinatown, union leaders of the dock _____ who lived high with their hands deep in the treasury. Perhaps there was a third layer, the level of the deep crust of earth beneath the city. Its identity was known only when it _____ or twitched, occasionally reminding the leaders of government in the city that it was there, and should be _____, too. But the other _____ always seemed more pressing.

One hour and thirty minutes later _____ arrived. In one sickening _____, accompanied by a groan of metal that _____ to a shriek, with loud pops of glass shattering, City Hall was reduced to a dust-shrouded mound of _____, all twelve floors of it. The mayor’s suite of rooms was on the second floor. He had _____ down there from the top level because he would be right above the ground floor police _____ if he were ever needed. A police helicopter overhead was about to land on the roof when the earthquake hit.
They later that the whole surface level of the on which City Hall was located and other blocks north of it to drop suddenly about twenty feet. It was like the first three floors disappeared, then the top collapsed all at once.

Governor had set up a disaster committee from among the remaining senate members. Why is it always the first step of bureaucratic government to a committee, that strange entity that talks much but accomplishes little, wondered Atkins. He realized that the new committee must be in a cooperative lest they become an obstacle to. Most of the, the actual work in the city ruins, was now being administered by the armed forces. Generals of the Army, Air Force, Marines, and National Guard were in charge along with an Admiral of the Navy. Rescue work was still the only operation after the earthquake. Aftershocks kept any other activity from occurring. Atkins had formed an interim city government of. The surviving citizens of San Francisco seemed united in following Atkins' leadership, according to the few living councilmen, most of them the older men, who had come to his temporary headquarters in John McLaren. Here he coordinated the operations of a mass of volunteers, including the young people like Helda. They fed survivors who were or slightly so, then passed them back along the peninsula from park to park to them completely from this area of California. Most of the young people had heard they were needed on their transistor radios and had in from miles away, bringing simple things, sensible items, and usable. Mayor Atkins had issued an order to the guard cordonning off the
to take these young volunteers to an officer for _____. If they checked out all right and seemed sincere in their ____ to help, they were to be passed into the area.

The young people became members of a group that worked, took _____. worked some more, followed orders immediately, then continued to work more, seemingly inexhaustible. The name, "Volunteers for Hope," came from among their _____. No one would take individual credit. Arm bands appeared one day with the letters "V-HOPE" on them. No older person was given one except those directly in charge of the group. Those in charge were a ____ of the younger-minded senators from the governor's disaster committee, those especially cooperative with the young mayor and willing to follow his leadership. Also in charge were a few young police officers who had been aloft in the helicopter and ____ as the sole remaining law men. One of these men had been ____ quickly to police _____, with others becoming captains and lieutenants. All were part of the interim city government, where they came to _____. their new young mayor who worked so hard and long. In turn, Atkins found these policemen to be calm and efficient and he decided to ____ some of them a part of the Volunteers for Hope group. The previous ____ between the "long hairs" and the "pigs" disappeared as if it had never existed. The serious job before them made them all respect only one trait in a human, ____ , which meant the ability to work until you were tired enough to drop and then keep on working, to take hold in whatever unpleasant ____ and do the job without complaint. Respect and mutual admiration grew and blossomed and the ____ swore that the Volunteers for Hope group would be a permanent part of whatever ____ or grew new from the _____.
