

THE NEXT SEVENTY THOUSAND YEARS OF SOCIETY

— BASED ON THE PAST SEVERAL HUNDRED YEARS

A Synopsis and Sociological Survey of Dr. Isaac Asimov's Future History Series

written by Adhemar Graehugel (or some such name)

published as U1 #23 from Norm Metcalf, P. O. Box 336, Berkeley, California, 94701, U. S. A. This is postmailed to the Mar 66 ON PA mailing and included in the May 66 FAPA mailing. Activity credit to Norm Metcalf, please.

CONTENTS

INTRODUCTION page 2

I, ROBOT page 3

THE CAVES OF STEEL page 9

THE NAKED SUN page 12

THE STARS LIKE DUST Page 16

THE CURRENTS OF SPACE page 18

I - INTRODUCTION

Science Fiction is not a new form of literature -- it dates from the time of Jules Verne, at the most conservative estimate. But it has been only during the last ten years that Science Fiction has become so popular, that, according to Life magazine, there are more than two million fans in this country. Stories and novels classified as Science Fiction have been written in a multitude of genres, from the melodramatic blood-and-thunder "space opera" of van Vogt's The Mixed Men and Simak's Cosmic Engineers through humor such as Padgett's Robots Have No Tails and Brown's Martians Go Home to detailed pseudo-documentaries like Prelude To Space by Clarke and Satellite E One by Castle. Of all the many genres, however, the one most frequently used by authors in the most popular periodicals and the best-selling books is that of extrapolation of current social trends, conditions, and problems.

In this vein, authors have described utopias gone wrong and alien cultures influencing, for better or for worse, terran culture. A favorite subject has been the salvation of decaying humanity by one of several agencies: alien assistance, alien subjugation which forces mankind to unite, supermen in our own society, or, as a last resort since humanity is a hopeless case, total annihilation. Many authors write again and again in this vein with the selfsame theme; each believes he, and only he, has found THE ANSWER to the troubles of mankind. He has, perhaps, "sold his birthright for a pot of message".¹

Occasionally, however, an author offers his readers an elaborate yet unpretentious work which does not claim to provide a panacea for the world's social ills, but merely presents the author's views of humanity's future under conditions extrapolated from present-day situations, and later, under conditions extrapolated from the first set of extrapolations. Several of these "Future History" series have appeared in the last few years, notable among which have been Robert Heinlein's group of two-dozen short stories and Isaac Asimov's group of nine novels.

The Asimov series, unlike that of Heinlein, is still in the process of being written. The first book was published in 1950, and the most recent one is scheduled for book publication in the latter part of January, 1957. The series traces the history of Earth, then the Solar System, and finally the Galaxy from the establishment of a robot-influenced Earth in 1996 to the development of the second galaxy-wide government in the year 377 of the Foundation Era, 12, 445 of the Galactic Era, and approximately seventy-thousand years into our own future. The beginning and the end of Dr. Asimov's series are both firmly "documented" by several novels, but there yet remains thousands of years in which the history of humanity is untraced -- years yet to be written about.

In his series, Dr. Asimov has carried to logical conclusions many social trends and conditions of the present day -- mechanization, urbanization, rapid increase in population, and magnification of government, to name a few. This paper will attempt to trace the lines of social trends through the entire series, and correlate them with conditions of today and the trends of yesterday. It will also outline the content and continuity of the series to demonstrate that Science Fiction is due recognition in the field of reputable and noteworthy literature.

1. Sturgeon, Theodore, A Way Home, New York, Funk and Wagnalls, 1955 p. 3

II - PLOT SYNOPSES OF THE SERIES

I - I, ROBOT

In the year 1982 the firm of United States Robots and Mechanical Men was founded just outside New York City. This firm was engaged in the manufacture of positronic robots -- mechanical servants using spongy globes of platinum-iridium the size of the human brain as controlling and governing centers. These mechanical brains contained the multitude of mathematically calculated positronic paths which replaced the miles of relays and photo-cells used in the mid-twentieth century to produce a desired response to a specified stimulus. The most important of these positronic brainpaths were those which dealt with the fundamental three laws of robotics, which were stated:

1. A Robot may not injure a human being, or through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the first First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

-- Handbook of Robotics 2
56th Edition, 2058 A.D.

With such a background previously established, I, Robot, the first book in Dr. Asimov's Future History series, tells of the first seventy-five years of robotics through the eyes of Susan Calvin, the world's greatest "robopsychologist". The book consists of nine separate stories, which were each published individually, the first in Super Science Stories in 1940 and the others in Astounding Science Fiction between 1941 and 1950.

"Robbie", the first story, is primarily human interest. It concerns Robbie, a non-vocal robot sold as nursemaid for eight-year-old Gloria Weston in 1996. After the Westons had had him for two years, Gloria had become very attached to him, but Mrs. Weston suffered from vague fears that something might go wrong with him, First Law or no, and, in addition, stirrings of anti-robot feeling were making her suffer social privations. She finally persuaded Mr. Weston to sell Robbie, and they tried to make up for his loss to Gloria by giving her a pet collie. Months later Gloria still moped for Robbie, so they moved to New York City, hoping that she would forget him in a new environment. But after seeing all the points of interest, Gloria still wanted Robbie, even to asking the first vocal robot, on display in the museum, whether he had seen Robbie. As a last resort, Mr. Weston took her to the plant of U. S. Robots to show her that Robbie was only machinery. They went on a tour of the plant, including a section where only robot labor was used. At this point Gloria suddenly ran across the floor, oblivious to a huge tractor bearing down on her. It took seconds for the other humans to react, but in that time Gloria had been snatched out of the way by one of the robot workers -- Robbie. Mr. Weston had no idea that the reunion he had engineered would be so dramatic. Mrs. Weston was forced to give in -- Robbie could stay.

"Runaround" takes place in 2015 and concerns the two-man Second Mercury Expedition sent out by U. S. Robots and Solar Minerals to test a new mining robot -- SPD 13, "Speedy" to Powell and Donovan, the two members of the expedition.

2. Asimov, Isaac, I, Robot, New York, Grosset & Dunlap, 1952, page 7.

When they checked the buildings left by the First Expedition, they found that the cooling system had to be repaired, and for that they needed some selenium metal, which was available from pools on Mercury's surface. Since their insulated suits would not protect them from direct sunlight for more than a few minutes on Mercury's sunside, Speedy was sent for the selenium. He had not returned in five hours, and tracking him by short wave revealed that he was circling the pool of metal. The men donned their inso-suits and went through a tunnel under a mountain to within sight of the pool. Speedy was still circling the pool, reciting Gilbert and Sullivan to no one in particular. Gas could be seen seeping up through the surface of the planet all around the pool. This gas, carbon monoxide, and the Laws of Robotics accounted for Speedy's erratic behavior. Because of Speedy's great value, his Third Law had been strengthened, and the order to get the selenium had been given no stress, so that the Second Law potential was weak. At a certain distance from the carbon monoxide, which caused him a danger of rust, the two Laws were equal in potential, so Speedy ran in circles, with half of his positronic brainpaths out of order. Powell, rushed for time since rust could ruin the robot and Speedy could get the selenium, rushed into the direct sunlight, shouting to Speedy for help. The First Law potential came into play, breaking the deadlock between the other two Laws, and Speedy regained his senses and rushed Powell back to safety. A heavily emphasized order was given, and Speedy quickly brought the selenium back. Repairs were made and the expedition was established.

The third story, "Reason", takes place six months after "Runaround" and tells of the testing of Robot QT-1 on an asteroidal space station built to gather solar energy and beam it to Earth. Cutie was designed to take over control of the station, and no knowledge of anything outside the station was built into him. He refused to believe that humans, of obviously inferior construction, created him, and he fixed on the station's energy converter as his maker, relegating the humans to the position of lowly servants of "The Master". He barred the two men on the station from the control room, although an electron storm was approaching which would disrupt the energy beam. The beam, if not focussed on the Earth receiving station within a ten-thousandth of a millisecond of arc, would send a blast of heat over hundreds of square miles on Earth. And a robot with no knowledge of Earth, and therefore no compunction to keep the beam steady, was at the controls. The electron storm passed with the men still unable to gain the controls, but the record showed that Cutie had kept the beam steady through the whole storm. Knowingly or not, Cutie obeyed the First Law by keeping the beam steady, which job he could do better than humans. Obedience to humans was only the Second Law, so the men had to be kept away from the controls. No matter what weird beliefs he had, QT-1 could handle the station.

An old recipe for rabbit stew reads "First catch your rabbit". "Catch That Rabbit" found Powell and Donovan trying to fix DV-5, a multiple robot with six subsidiaries, integral parts of himself which he supervised in asteroidal mining operations. But first they had to find out what was wrong. DV-5 or "Dave" had lapses in which he ordered his six "fingers" to stop work and march or move in peculiar patterns. Only the arrival of one of the men would snap Dave out of such a lapse and he would remember nothing about it afterwards. Questioning one of the fingers revealed that the lapses always came when all six fingers had to be closely supervised -- when there was an emergency. The men created an emergency in the form of a minor cave-in where Dave was working, to watch the results without Dave knowing they were there, but it backfired, trapping them. The plan worked; Dave and his six fingers formed a chorus line, weaving towards the trapped men. But the radio circuits were out, about fifty feet from the men the robots turned to

go the other way. Powell could see them through a small hole in the entrapping wall, and he applied a last-minute idea: he shot down one of the fingers, then tried calling Dave on the radio again. It worked, and the robots dug them out. The solution turned out to be simple. Under normal conditions, with one or more fingers doing purely routine work, Dave could handle all six, but when it became necessary to keep all six under strict supervision, his initiative circuits became strained and he became moronic because of interference in his brainpaths. Until the initiative required was decreased, either by the presence of a human or by the destruction of one of the fingers, Dave went around "twiddling his fingers".

"Liar!" dealt with Herbie, robot RB-34, who was able to read minds through a freak occurrence in assembly. The entire process was rechecked, and Lanning and Bogert, Director and Mathematical Director of U. S. Robots respectively, worked the mathematics, trying to discover the variable which introduced the new ability. Susan Calvin, Chief Robopsychologist, studied Herbie himself, during which study Herbie perceived her deeply hidden love for Milton Ashe, Assembly Director. He told her that Ashe loved her too, and in the days that followed she began to act strangely colorful and gay. Bogert, told that Herbie is a mathematical wizard, took the problem of the variable to him, although he was sure that Herbie could not solve it. Herbie told him that he could see no mistakes in his work, but that Bogert was a better mathematician than he, anyway. Then, half ashamedly, Bogert asked whether Lanning was thinking of resigning and, if so, who would be his successor. Herbie replied that Lanning had already resigned, effective upon solving the problem of the variable and that Bogert would be his successor. Later, Lanning, who had asked Herbie math questions with no preconceived notion that he could not do them, became involved in an argument with Bogert over the solution to the variable problem. In the course of the argument, Bogert blurted out that he knew Lanning had resigned and that he was the new Director. Lanning denied resigning, and hearing that Bogert got the information from Herbie, they both went to examine the robot. In the meantime, Milton Ashe revealed his forthcoming marriage to a fiancée that Herbie had assured Susan was only a cousin. Susan, turning white, raced to confront Herbie, who tried to convince her that Ashe still loved her, that his marriage was only a dream. As a psychologist, she quickly regained her senses and suddenly realized the reason behind the lying robot. Then Bogert and Lanning dashed in and began to question Herbie about Lanning's resignation. It was silent. Still emotionally disturbed, Susan Calvin explained that the First Law was causing the robot to lie. A robot may not allow any human to come to harm, and to Herbie, who could read minds, "harm" included mental distress, deflation of the ego, and the like, so that he gave each questioner the answer that the questioner wanted to hear. Since Lanning and Bogert each wanted different answers to the question of the former's resignation, the robot could not answer. On being questioned by Calvin, Herbie said that he did know where the variation in assembly came, but no further questioning would bring him to reveal the answer, since both Lanning and Bogert wanted to find it themselves. Calvin insisted that the men wanted the solution, and that they would be hurt if Herbie did not give it to them. She presented the robot with an insoluble dilemma: he would hurt Lanning and Bogert if he gave the solution, because they could not bear being outdone by a machine of their own making, but if he did not give them the solution, he would hurt them because the solution was available and they could not get it. She repeated this insistently until the robot collapsed, his positronic brain hopelessly scrambled -- insane. He could not be repaired, and no one was ever able to isolate the variable or duplicate Herbie's mind-reading ability.

Hyper-base, where men were working on a hyper-atomic interstellar motor, needed special robots. Since dangerous gamma radiation was involved in the work,

ordinary robots were useless -- they would not let a man near gamma rays, under the First Law, although men could take a half-hour of gamma radiation in safety. To get around the difficulty, U. S. Robots developed a small number of NS-2 robots, or Nestors, with First Laws modified to state only that a robot may not harm a human being. The existence of the modified Nestors was a high-class secret since public knowledge of First Law modification would have started a panic. The modified Nestors were made with the same knowledge as the others until they reached Hyper-base, where they were electronically taught to distinguish between types of radiation -- gamma, which would ruin a robot's brain instantly; infra-red, which was harmless, and others. But in 2029 trouble arose. The young physicist working with modified Nestor 10 became so irritated that he told the robot to "Go lose yourself, you blankety-blank-blank!!!" Under a Second Law so heavily emphasized, Nestor 10 promptly became a "Little Lost Robot". He could not be found at all until it was discovered that sixty-two normal robots in a cargo ship waiting trans-shipment numbered sixty-three. But even then it was impossible to tell, by questioning and inspection, which was the missing modified Nestor. Calvin and Bogert were sent for and Hyper-base was put under the strictest security measures. The only means of attack was through obedience of the normal robots to the First Law. A man was seated directly under a heavy weight, in full view of the sixty-three robots, each in his own stall with instruments to measure his reactions. The weight dropped and roared down until it was pushed aside at the last moment by a force beam. Between its drop and its veer all sixty-three robots leaped forward, apparently under the First Law. Ten trials were made, each with the same results, and the graphs showed that the reaction times for all the robots were the same. Progress: zero. In a second test, high voltage wires were strung in front of the stalls. The robots were told that the wires could electrocute them on contact, then a relay was connected to break the current at the moment of contact, of which the robots did not know. Again the same test was conducted. In theory, all but Nestor 10 should leap forward again, under the First Law, but with his First Law modified and inoperable in this case, the Third Law would stop Nestor 10 from destroying himself. But all sixty-three robots sat unmoving in their stalls. Under questioning, each said they had realized in a discussion among themselves the previous day that if they were destroyed trying to save the man, he would die anyway, and later another man might die who could have been saved by one of them; it was a question of the man dying, or both the man and the robots dying. There was only one logical choice, even under the Laws. And none could remember which had originated the idea. A third test was set up. The robots were warned that a man would again be in danger from a falling weight, and that the area in front of the stalls would be bathed in gamma rays which would ruin their brains. Since only robots used on Hyper-base knew etheric physics, the others could only detect radiation, not differentiate between one kind and another. The test was again set up, but infra-red rays were used instead of gamma rays. Sixty-two robots sat still, using the same logic as with the electric cable, but thinking the others as learned as he, Nestor 10 started forward, expecting them to do the same under the First Law. Trapped by his own superiority, he and the other modified Nestors were destroyed. Hyper-base made do with either normal robots, or none.

"Escape!" chronicles the development of the interstellar motor necessary to free humanity from the bounds of the solar system. U. S. Robots' competitor, Consolidated Robots, had tried to develop the motor using their giant brain, but the data were presented with extremely urgent demands for a solution, and the solution involved the death of humans, so the brain broke down. Consolidated then gave the problem to U. S. Robots to feed to their Brain, under a contract to pay so much for a NO SOLUTION answer and identification of the interfering factors, and twice as much for a solution. They would also pay ship construction costs if there was a

solution. Unlike Consolidated's brain, which was only a grand-scale calculator, that used by U. S. Robots had a personality, although the personality was that of a child. So they divided the data into small units and cautioned the Brain that if it came to any data involving harm to humans, it had only to give the data sheet back; even death did not matter in this case. The voluminous material was fed sheet by sheet into the Brain, and it accepted the entire mass of data, then calmly said it could build the ship in two months. When Powell and Donovan arrived to test the ship, they found it had already been built, and they went inside to examine it. They could find no controls, and on trying to leave they discovered they were locked in. Moments later, a glance out the port showed them they were in space. When she discovered the ship had taken off, Susan Calvin hurried to question the Brain. She was able to find out only that the Brain had sent the ship off because the two test pilots were aboard, that the men would be all right, and that they could talk to the men by radio. They tried the radio, but could get no answer. On the ship, the men could hear the voice, but could not get an answer through. No food or plumbing had been found on the original exploration, but they tried again. This time sections of the wall fell away at their approach and they found both of their requirements, even if the food consisted only of beans and milk. Five days out the ship went into hyperdrive, and both men went into a pseudo-death, during which weird voices shouted at them -- everything from advertisements for caskets to conversations of people queued up to get into Hell. Then they came back to life to find out that they were outside the Galaxy. Later, when they returned to Earth, Calvin explained the actions of the Brain: when she depressed the importance of death to the Brain, it had had time to take a second look at the data involving the length of time for the hyperspace jump. After realizing that the jump meant death for men, it was able to realize also that the men would come back to life again, so it accepted the data with only a slight jar: as a form of escape from reality, necessary to those faced with unsolvable dilemmas, it took a mild one. It became a practical joker. The experts of U. S. Robots set about improving the interstellar motor, elimination of the interval of jump being their goal. They also delivered the ship to Consolidated, collected the fee for the solution plus ship construction costs, and let the Brain have a little more fun during Consolidated's test run. By 2058 the drive had been perfected and colonies established on planets of some of the nearer stars.

Stephen Byerly, District Attorney of New York City, ran for mayor against Francis Quinn, a rather low politician, around the early 2040's. Against Byerly's popularity Quinn employed a charge that Byerly was a robot, a clever humanoid robot designed by an old cripple who lived with Byerly and who Byerly said was his old teacher, but who Quinn claimed to be the real Stephen Byerly. Laws had been passed on Earth between the years 2003 and 2007, banning the use of robots on Earth for anything but scientific research, but before the court could interfere Quinn had to prove beyond a doubt that Byerly was a robot, and Quinn had merely circumstantial "Evidence". Byerly had never been seen to eat, drink, or sleep. He would not allow an X-Ray, pleading his right of privacy. U. S. Robots entered the picture, to prove Byerly human, since the existence of a humanoid robot good enough to fool people would have caused a panic of anti-roboticism. They could prove nothing from talking with Byerly, and the cripple was away for a rest of several months. Byerly brought the old teacher back in time for the final campaigning. Susan Calvin listened and watched as Byerly spoke to a hostile mob and a world-wide ultra-wave audience. At the end of the speech, a thin man struggled to the front of the mob shouting words that could not be heard against the roar of the crowd. Byerly saw him and said that if the man had a legitimate question he could come up to the balcony and Byerly would answer it. When he got there the thin man only screamed "Hit me!" at Byerly, knowing that, under the First Law, a robot could not do so. With all the world watching, Byerly drew back and

cracked the thin man on the jaw, then had him taken off to be cared for. It was enough -- Byerly was elected. After the election, he and Susan Calvin met again, and Calvin explained Quinn's theory: Stephen Byerly was in an auto accident which killed his wife and cost him his legs and most of his voice. He retired, having only his intelligence and his hands. Somehow he could get positronic brains, made a humanoid body for one, and sent it into the world as Stephen Byerly. Byerly pointed out that this theory was demolished when he hit the thin man. Calvin disagreed. She said there one time only that a robot can hit a man and not break the First Law: when the man to be hit is only another robot. And the old "teacher" had been away for several months just before the election. But Susan Calvin never said anything of that to anyone else, and Byerly was a very good mayor. Later, he was also a very good World Co-Ordinator.

The final story of I, Robot, 'The Evitable Conflict', was set in 2052. Earth had been divided into four Regions, each with a Machine to control the economics of the Region -- deciding from data given it what would be the best means, quotas, wages, etc. of production, employment, etc. The Machines were giant conglomerations of calculating circuits, using positronic brains so complicated that no human could check them, since they were extrapolations of extrapolations. They were self-correcting, and in the light of the First Law could cause no harm to humans, but there were still discrepancies and dislocations in the world's economics. When asked to explain them, the Machine in New York City, capitol of Earth, said that the matter admitted of no explanation. The first theory that came to Stephen Byerly, then World Co-Ordinator, was that the machines were being fed wrong data. MacKenzie, Vice--Co-Ordinator of the Northern Region, said that the theory could not be true; the machines would reject false data. Trained in robotics, MacKenzie gave the example of asking the Machine to give an agricultural scheme for an average midsummer's day in Iowa at a temperature of 40-some degrees Fahrenheit. The machine would reject the data since it knew that 40-some degrees was not the temperature of an average Iowa midsummer's day. The alternative solution was that the data were right, the machines were right, but their orders were being ignored; someone was deliberately rocking the boat. The most likely candidate was the Society For Humanity, a Northern Region organization with members in all Regions, which was very anti-Machine. Each dislocation was connected with the Society in some way. In a talk with Susan Calvin, Byerly explained his theory, and proposed to have the society outlawed. Calvin objected, protesting that the Machines could not be disobeyed: each act which did not follow the directions of the Machine on one problem became data for the next problem, so that the Machine could quantitatively judge the amount and direction of the disobedience, and allow for it the next directions. So actually there was nothing wrong, she said. The dislocations were made by the Machines themselves. Since the Machines worked for humanity, their First Law read: No Machine may harm humanity, or, through inaction, allow humanity to come to harm. Economic dislocations harm humanity most of all, and in the future, that most likely to cause dislocations was destruction of the Machines. So the Machines were shaking the boat, just a little, to dislodge those hanging on to the sides for purposes harmful to humanity. "The matter admits of no explanation" -- it would have been harmful to humanity to have the explanation known, for the Machines were guiding the entire future of mankind, not just answering specific problems. Having an infinite number of factors at their disposal, they knew best what form of society was optimum for humanity -- complete urbanization, caste-ridden society, total anarchy. Humanity has always been at the mercy of social forces it did not understand, and therefore could not deal with. But the Machines were dealing with them, and all conflicts were evitable on Earth, only the Machines were inevitable. Twelve years after unravelling this problem Susan Calvin died at the age of eighty-two.

II. THE CAVES OF STEEL

The second book in Asimov's Future History series, The Caves Of Steel, was originally published as a three-part serial in Galaxy Science Fiction, from Oct to Dec 1953. It was later published as a book by Doubleday.

There is a three-thousand-year gap between I, Robot and The Caves Of Steel, during which the population of Earth coagulated into eight-hundred enclosed, capital-C Cities, each having an average of ten million people. The Cities were domed over and burrowed under until they resembled huge caves of steel and plastic. So all-encompassing were the Cities that after several generations no one even thought of going out into the open air. Travel between the Cities was done in enclosed, radio-controlled planes, taking off from and landing at completely enclosed runways. A planet-wide agoraphobia had settled upon the population of Earth, with the possible exception of those few who supervised the robots on the luxury-food farms and ranches and in the mines which provided the raw materials for the yeast and plastic on which the Cities lived. Very few indeed, for one man could supervise a phalanx of robots, and Earth was quite willing to use robots outside the Cities.

But inside the Cities, it was different. There, robot labor meant loss of a job, and the rating and privileges that went with it, to some human. In their place would come bare subsistence.

Diametrically opposed to this, the Outer Worlds -- colonies of an Earth not yet hardened into the mold of the City and now independent of Earth -- had developed into underpopulated societies making extensive use of robots in their economy. But they had banned immigration from Earth because their atmospheres were clear of the many disease germs which Earth took for granted, and they would have been quite open to attack from the germs carried in by immigrant Terrans.

Between the agoraphobia of Earth and the underpopulation of the Outer Worlds, colonization of the Galaxy had come to a halt. But a small group of idealistic men from the Outer Worlds -- "Spacers" to Earthmen -- established a mission in Spacetown, just outside New York City, trying to introduce a robot economy to Earth and create a class of jobless men willing to leave Earth to colonize new worlds. The people of Earth resented the Spacers, but the advanced technology of the Outer Worlds made interference tantamount to suicide. So the Earthmen formed Medievalist societies, underground organizations advocating a return to the way of life before the growth of the great caves of steel in which they lived. Though the membership was small, most Earthmen had some Medievalist tendencies. Even the New York Commissioner of Police, Julius Enderby, wore old-fashioned spectacles, although they might break at inconvenient moments, leaving him almost blind. Just as they did, twenty-five years after the founding of Spacetown, when there was a murder -- of a Spacer.

Dr. Roj Sarton, an important Spacer, was murdered, presumably by an Earthman, and there arose the possibility of an interstellar crisis. Enderby was actually at the scene of the crime just after the time of the murder, and when responsibility for solving the murder is fixed on New York, he assigned his old friend, Elijah Baley, to the case, impressing upon him the fact that failure to solve it might bring about demands for an indemnity to the Outer Worlds, and also hasten the gradual replacement of the Police Department's human members by robots. In addition, Lije was forced to accept a Spacer robot, R. (for Robot) Daneel Olivaw, as his partner in the case. R. Daneel was a humanoid robot, so perfectly constructed that even Baley first

took him for a human.

Baley brought R. Daneel to his apartment, where the robot met Baley's wife Jessie (her full name was Jezebel, but as a result of an argument with Lije over the character of the Biblical Jezebel, she stopped using her full name) and his son Bentley, both of whom left to give Lije and his partner, whose nature they did not know, privacy. The robots they were used to, such as R. Sammy, the Police Department office boy, were easy to identify as being robots. Jessie returned early, having learned of R. Daneel's nature through some unspecified outside source, and urged Lije to drop the case, even to resign from the Department, for fear of violence resulting from anti-robot feeling.

Instead Lije traveled to Spacetown, after going through the complicated procedures used by the Spacers to make sure he did not bring in any infection or weapon. There he accused the Spacers of having set up a false crime for their own devious motives, presenting the Commissioner with a "corpse" that was actually the remains of a humanoid robot. Meanwhile, he claimed, the real Dr. Sarton was masquerading as the "robot" R. Daneel Clivaw. R. Daneel disposes of the theory by opening his body to show his mechanical interior.

Baley was forced to seek another solution, plagued by three facts: the blaster used in the murder had never been found; no City-dweller could have brought a weapon through the inspections of the Spacers; it was psychologically impossible for a City-dweller to leave the City and enter Spacetown by going through the open space between them and entering at a point not inspected. The first idea was that R. Daneel might not be properly equipped with the First Law, might have killed Dr. Sarton and hidden the blaster in the interior of his robotic body. But an expert roboticist assured the policeman that R. Daneel's First Law was perfectly intact.

Then R. Daneel turned the tables and inquired about activities of Lije's wife. How did she learn that R. Daneel was a robot? He accused her of being a Medievalist, which idea Lije fought bitterly, since it would have meant declassification for both of them. At that moment Jessie burst into the room to confess that she had indeed gone to Medievalist meetings ever since their argument over her Biblical namesake, since both Jezebel and the Medievalists were only conservatives fighting for the customs of their ancestors. But now they were stirring anti-robot trouble, and she feared for Lije's safety. Lije reassured her and sent her to a place of safety from any Medievalist trouble.

Later that day another "murder" was discovered -- R. Sammy had his positronic brain deactivated by an instrument which sprayed out hard radiations. Dr. Gerrigel, the roboticist, looking for Lije, was given a guide rod attuned to his office, but it was defective, and Dr. Gerrigel found himself in a photo lab, where he discovered R. Sammy with the alpha-sprayer held to his head. The alpha-sprayer was traced to a power plant through which Lije and R. Daneel had come that morning, after being chased by a group of Medievalists.

Without notice, R. Daneel announced that the Spacers were about to leave Spacetown. Analysis of the effect of a lecture by Baley on a leader of the Medievalists whom they had taken into custody showed that the Medievalists, with their ideas of a back-to-the-soil movement, could be easily persuaded to emigrate to colonize new worlds. The murder investigation would be called off, and no indemnity would be demanded. But Lije still had the matter of R. Sammy's murder hanging over him, as well as Jessie's membership in the Medievalist movement. He was being framed to pull him

off the Sarton case; he had too much curiosity. Thinking of curiosity led to R. Daneel's earlier questioning in which he tried to find out all he could about Earth's customs. This in turn brought a passing mention of a question he asked concerning Lije's son Bentley's contact lenses. And suddenly Lije had the answers.

Commissioner Enderby called Lije into his office and asked him when he had last been at the power plant where the alpha-sprayer was stolen from. Lije told him, and denied taking the alpha-sprayer, but he could not prove it, as R. Daneel's evidence was not acceptable in court. Then Enderby said that the Medievalist they had arrested had claimed that a Jezebel Baley was a member of the Medievalists. The summation of the circumstantial evidence would be enough to suspend Lije.

The Spacers would leave Earth at 2400. Baley had only one hour to prove who murdered Sarton and clear himself of the R. Sammy matter. He obtained a three-dimensional film taken at the scene of the murder, and with R. Daneel in communication with Spacetown through a self-contained unit, Lije accused Julius Enderby of murdering Dr. Sarton. His theory was that Enderby had told the Medievalists about Daneel, since Jessie had found out him from them. And he must have lied about the Medievalist leader knowing Jessie was a member, since she had not used her full name in the organization, and only the Commissioner, as an old friend of Lije's, knew of Jezebel Baley. When Enderby went to Spacetown, theorized Baley, he first sent R. Sammy out of the City to Spacetown through the open space, went through the inspection and was relieved of his own blaster, entered Spacetown and received another from R. Sammy, shot Dr. Sarton and gave the blaster back to R. Sammy to take back to the City. Later he stole an alpha-sprayer from the power plant which the other Medievalists saw Lije enter, and destroyed R. Sammy, who had become dangerous. Then, after explaining his theory, Lije set up the projector and ran the film taken at the scene of the murder. The tridimensional image was enlarged until small specks on the ground could be seen near the body -- small specks of glass. Enderby had gone to Spacetown to murder, not Sarton, but Sarton's creation -- R. Daneel. But in his agitation, he dropped his spectacles, and mistook Sarton for the robot. The proof was there -- the small pieces of glass matched the lens specifications of the Commissioner's new spectacles. The Commissioner confessed. But the Spacers decided not to prosecute if Enderby, an important figure in the Medievalists, would help maneuver the back-to-the-soil organization towards the colonization of new planets -- back to the soil on other worlds.

Baley, looking forward to the day when his son might be among the emigrants, admitted a trust and admiration for his robot partner, where there used to be utter dislike for all robots. "... and they walked out the door, fleshly arm in robotic arm."³

It was the beginning of the end for the huddling places of Earth, the giant caves of steel.

3. Asimov, Isaac, "The Caves of Steel", New York, Galaxy Science Fiction, Dec 53, page 159.

III. THE NAKED SUN

The most recent of the Future History series, "The Naked Sun" was published in Astounding Science Fiction as a three-part serial from Oct-Dec 56. It is scheduled for publication in book form by Doubleday in the latter part of Jan 57.

In setting, "The Naked Sun" occurs only a few years following The Caves of Steel, and involves the same two protagonists. It carries forward the plan of emigration from Earth, establishes starting points for books set further into the future, and up bases for several more books yet to be written.

The most extreme of the Outer Worlds was Solaria. It had a population of twenty--thousand humans and two-hundred million robots. The humans were parcelled out on large estates and made contact with each other entirely through three-dimensional images, a process they called "viewing". Direct sight of one another, which they termed "seeing", was unthinkable except in the case of husband and wife, and even then, but rarely.

Dr. Rickain Delmarre had been murdered on Solaria, his skull crushed by some heavy object. Solarian psychology made it impossible to believe that anyone but his wife Gladia could have been close enough to commit the murder. She was indeed found on the scene in a state of nervous prostration, but she claimed to have heard a shout, run into the room, and found him dead, whereupon she collapsed. Also on the scene was a robot in a state of extreme disorganization, since it had witnessed a murder it could not prevent and thereby had violated the First Law. But no weapon was found at the scene.

Solarian officials were at a loss to explain the situation. There had been no previous murders in Solarian history, and virtually no crime; therefore there were no trained detectives. So Jannis Gruer, head of Solarian Security, arranged to have Earth send Plainclothesman Elijah Baley to take over the investigation. When Lije arrived on Solaria, he found that R. Daneel Olivaw had been sent by the Planet of Aurora, oldest and strongest of the Outer Worlds, to assist in the case. He also discovered that the Solarians believed Daneel to be a human.

Baley, suffering from agoraphobia brought on by life in the Cities, was horrified at being forced into the open air and under the naked sun. But he made efforts to force himself to face the open. R. Daneel, under the First Law, tried to shield him from the open.

At the mansion built particularly for Baley and R. Daneel, Baley first interviewed Jannis Gruer, and discovered and experienced the system of viewing. He next interviewed Gladia Delmarre, and learned, to his embarrassment, that the Solarians had no nudity taboo in viewing. She exhibited surprising interest in Earth, an interest most Spacers would scorn. Daneel, who was with Baley throughout the interviews, was convinced that she was guilty and that her behavior was designed to gain Baley's sympathy.

At another interview with Gruer, the latter got Daneel out of the room on a pretext and spoke to Baley in private. He said there was reason to think that the matter had political significance. Rickain Delmarre had intimated to Gruer that he had found out something important about underground forces on Solaria with plans which would undoubtedly unsettle the Galaxy if they were known. Unfortunately Delmarre kept the details to himself, pending verification.

While explaining that to Baley, Gruer, sipping at a drink, collapsed, poisoned.

Baley instantly tried to establish the method of poisoning, since no human could have been on Gruer's estate, and no robot could harm a human. He interviewed the attending robots and the human doctor who examined the near-dead Gruer, and who had earlier examined Rickain Delmarre's body.

Baley later told Gladia that he knew how Gruer might have been poisoned, and that a human need not have been on the scene. She concluded that he was accusing her of the poisoning as well as the murder of her husband, and angrily broke off the viewing contact.

The next day, Baley decided that he must see Solarians to gain information, and bluffed an Acting Head of Security into giving him a permit to see Solarians. R. Daneel refused to let Baley expose himself, both because of the psychological trauma and because Baley might be murdered in his turn. But Baley tricked Daneel into revealing his robotic nature to several Solarian robots, who promptly put Daneel under arrest at Baley's orders.

He then went to Rickain Delmarre's office, which he found to be a "farm" at which Solarian children were brought up from early fetus-hood, through "birth" to adolescence. They were gradually accustomed to isolation and introduced to viewing. Throughout his travelling Baley had to battle desperately with his fear of the open.

Delmarre's female assistant was now in charge of the farm, and she conducted Baley on a tour, taking care to keep a good twenty feet from him, but somewhat inured to the discomfort of seeing from the necessity of rather close contact with the children of whom she was in charge. While Baley was watching youngsters at play, he was shot at and barely missed by an arrow from a bow in the hands of a youngster who had been told Baley was only an Earthman. After examining the arrow, Baley announced that it had been poisoned. They were unable to find out who had poisoned the arrow.

Baley viewed Gladia and told her that he wanted to see her. He also found out from her that her husband had worked with Jothan Leebig, an expert roboticist, and a personal friend of Gladia. But Rickain had come to consider Leebig, who was unmarried and deathly afraid of personal presence, as a bad Solarian, and was about to break off their working together.

Then Baley viewed Leebig, making contact only after threatening personal appearance. He discovered from Leebig that Delmarre was interested in new types of robots. Baley proposed a theory that robots could commit indirect murder: one robot is told to pour a liquid into a glass of milk which will later be poured out, and a second robot who has poured the milk offers it to a human. Leebig is forced to admit that such a clever circumvention of the First Law would be possible, and that the only solution would be to make the robots more foolproof, using both specialization and generalization: instead of robots working controls, positronic brains built into the controls themselves; instead of several different robots for different jobs, one robot with interchangeable parts; instead of robots with . . . he chattered on. Baley questioned him further, and found that he had been friendly with Gladia Delmarre, and that she had quarrelled frequently with her husband; she hated him.

When he called to see Gladia, he found that she showed very little aversion to personal presence, less even than the assistant fetologist at the farm. She persuaded

him to take a walk with her, and he conquered his fear enough to do so. During their walk to a lake he learned that Gladia hated her husband for being unaffectionate, although it was her affection that was strange for Solaria. She was quite emotional, even to her hobby of field-colorings -- an art form which set up force fields at different energy levels, colored according to the level, expressing each emotion the artist could evoke. They stopped and sat down at the lake, and suddenly Baley felt dizzy and lost consciousness.

He awoke in a room of Gladia's home, to find Daneel standing over him. Gladia had viewed him earlier and, at his suggestion that she could handle them better than he, she had ordered the robots guarding him to leave. Through a robot communication network he was able to locate Baley, and arrived in time to prevent the latter's falling into the lake. He had put Gladia under house arrest, as a result of researches of his and the fact that she had almost killed Baley by letting him fall into the lake. Although she would have been able to say it was psychologically impossible for her to touch him, she had persuaded him to go out in the open and she did suggest they sit down by the lake. These were reason enough.

Baley sat up in bed and said to R. Daneel, "Give me a hand.". The robot, who took things literally, looked at his hand and asked what Baley meant. He rephrased the request and Daneel helped him up from the bed. Suddenly the solution to the whole affair became clear. He outlined a plan of action to Daneel and the next day he put it into effect.

Baley called a viewed meeting of all those concerned in the affair -- Gladia Delmarre; Jothan Leebig; Attlebish, the Acting Head of Security; Kloitta Cantoro, Delmarre's assistant; Quemot, the planet's only sociologist, whom Baley had interviewed about Solarian sociology; and Dr. Thool, who examined Gruer and the body of Rickain Delmarre. He then first discussed motive: Gladia could have committed the murder through anger; Delmarre was about to break off relations with Leebig, causing public humiliation; Kloitta Cantoro inherited Delmarre's responsible position; Dr. Thool had been found out to be Gladia's father, and he was aware of the fact, though such knowledge was socially distasteful to most people. Conclusion: motive alone was not enough to accuse.

Then Baley attacked opportunity: he pointed out that anyone could have entered Delmarre's home and killed him before the latter even knew he was seeing and not viewing. Opportunity did not give a definite proof either.

Finally he came to means. If Gladia had committed the murder, someone else would have had to carry it away, since no weapon was found, and Gladia was unconscious at the scene when the body was discovered. Dr. Thool could have removed the weapon, and as Gladia's father, he had a motive for doing so, but he swore that he had removed nothing. So, if Gladia did it, the weapon would have still remained. And if anyone else did it, they would have been fools to carry the weapon away. Either way, the weapon must have remained at the scene of the murder. But Solarians, as such, were unable to recognize the weapon -- the disorganized robot. He then showed how two cleverly instructed robots might have poisoned Gruer, and went on to point out that the robot with which Delmarre was working was one with detachable limbs. If someone said "Give me your arm." the robot would detach it and hand it to the person. Such an enormous arm would have been an excellent weapon, and with Delmarre dead it could have been snapped back into place.

Maneuvering robots to indirect murder took quite a bit of skill in robotics. And

Jothan Leebig was the best expert on robots on Solaria. Motive was easy to establish: Leebig was quite friendly with Gladia Delmarre, and more important, Rickain Delmarre had uncovered Leebig's plans for conquest of the Galaxy. Leebig was trying to build unmanned spaceships with positronic brains to attack the fleets of the galaxy. The ships would be instructed that the other ships were also unmanned, and they would attack any other ships easily.

Then Baley announced that he had sent his partner to Leebig's estate to keep the latter under restraint and confiscate his records. Leebig, not knowing Daneel for a robot, screamed in terror at the thought of seeing someone and confessed everything. He had not yet succeeded in building the ship, but he had planned them. As Daneel reached the estate, Leebig committed suicide, unaware that the "person" he was seeing was only one of the robots he was so familiar with.

The rest was anti-climactic. Gladia left for Aurora, for a life better than the psychotic one she had lived on Solaria. And Lije Baley went back to Earth, to the safety of the Caves. But he felt strangely empty. He made his report to the Undersecretary of State, concluding that Earth and Solaria were both weak and both quite alike: Solarians were isolated from each other, Earth was isolated from the Galaxy; Solaria was leaders without followers, only robots which did not talk back, Earth was followers without leaders, only Cities to keep them safe. But Earth had to free itself. It must compete with the Spacers, not hide from them.

He thought back to a dream he had on Solaria in which he had returned to the City and could still see the sun shining down on him through the concrete and steel. And now he could actually feel it when awake -- "a beacon set in space to lure men outward. He could see it shining down. The naked Sun!"⁴

4. Asimov, Isaac, "The Naked Sun", New York, Astounding Science Fiction, Dec 56, page 146.

IV. THE STARS LIKE DUST

Of all the books in the Future History series, The Stars Like Dust is the most difficult to adjust chronologically. It occurs a thousand years after an atomic war has ravaged Earth, but there are no dates, in either the Anno Domini or the Galactic Era system, given in the book as reference points. It seems likely that the book is merely fringe material and not part of the main stream of the series. Further evidence of this is found in the fact that the plot is the closest Asimov comes to pure "space opera." The book adds virtually nothing in the way sociological extrapolation to the series.

The book was first published in Galaxy Science Fiction from Jan-Mar 51, as a three-part serial under the title of "Tyrann". It was published in book form by Doubleday in 1952.

"The stars, like dust, encircle me
In living mists of light;
And all of space I seem to see
In one vast burst of sight."

The book concerns Biron Farrill, son of a nobleman who had been executed by the Tyranni, natives of the planet Tyrann, and conquerors of all the planets in the Nebular Kingdoms. Leaving his studies on Earth, a university planet, in a disguise which fails, Farrill arrives on Rhodia, the largest planet of the of the Nebular Kingdoms, and is delivered to Simok Aratap, Tyrannian Commissioner Of the Region. Aratap releases him to trace the threads of a conspiracy against the Tyranni, and perhaps locate a document which the conspirators are seeking madly and on which is dependent the success of the entire conspiracy of rebellion.

The director of Rhodia, a tool of the Tyranni named Hinrik, tries to have Farrill re-arrested, but the latter escapes, along with Hinrik's daughter, Artemesia, who is fleeing marriage with an old Tyrannian noble, and Gillbret, Hinrik's cousin, who hates the Tyranni on general principles. They steal a Tyrannian ship, not knowing that the Tyranni can trace their ships through hyper-space, and head for Lingane, an outlying world of the Nebular Kingdoms not fully conquered by the Tyranni. Aratap, still intent on giving Farrill enough rope, follows without attempting to capture them.

Meanwhile, Gillbret reveals that through a mechanical error in the direction of a jump through hyper-space twenty years ago he came across a hidden world preparing a military power for use against the Tyranni. He believes the organizer of the "Rebellion World" to be the Autarch of Lingane.

At Lingane, the Autarch boards the ship and turns out to be one of Farrill's college friends, Sandar Jonti, who blasts the growing romance between Farrill and Artemesia by telling Farrill that his father was executed on evidence from Hinrik of Rhodia.

Jonti tells them that he is not the organizer of the "Rebellion World" and that he too wants to find it. From Gillbret's story Jonti calculates that it can only be on one of five star systems in the Horsehead Nebula. With a detachment of soldiers, they

5. Asimov, Isaac, The Stars Like Dust, New York, Doubleday, 1952, page 41.

[I would like to point out that Asimov did date The Stars Like Dust, at 30,000 A. D. (see pages 62 & 63, TWS Win 55.) The omission from discussion of the other robot stories and "Mother Earth" also impair this article. Of the other Future History stories that I've read none tie in explicitly with those in this article. I guess leading an ethereal existence doesn't leave time to be a fan.]

enter the nebula to investigate the stars, and are followed by Aratap and Hinrik.

The first three stars turn out to have no planets at all, but the fourth has five planets, one of which has a breathable atmosphere. They can see nothing from circling the planet, so they land to set up a transmitter. Farrill and Jonti go out alone to set it up, and Farrill accuses Jonti of betraying his father himself, claiming that the elder Farrill would never have given the weak-minded Hinrik any evidence to use against him. Jonti pulls out a blaster, admits the betrayal, and fires -- misfires, actually, since the blaster is unloaded. The two fight, but are interrupted by Colonel Rizzett of Lingane, who has heard the confession and arrests the Autarch for treason. Farrill and Artemesia are re-united.

Then Aratap lands and takes over, sending the Autarch's men back to Lingane and trying to bargain with the other five (Farrill, Artemesia, Gillbret, Rizzett, and Jonti) for the location of the fifth star, which must be the "Rebellion World". The latter, realizing that Gillbret is mentally ill, tricks a guard, escapes, and alerts Aratap to the danger. He also tells Aratap that there is no "Rebellion World" -- that Gillbret's insane mind dreamed something twenty years ago on the basis of which Autarch calculated five possible planets as the site of a dream.

Aratap does not believe him and, after fixing the engines, makes the jump. The star is there, all right, but it had become a nova. There is no "Rebellion World". Aratap frees everyone since they are no longer dangerous, and Farrill pilots them and Hinrik back to Rhodia, where, on the advice of Aratap, he will marry Artemesia before the old Tyrannian can do anything about it.

During the flight Farrill tells them that there is a "Rebellion World" -- in the Rhodian system. Gillbret's jump had not made an error in direction; he had merely blacked out before he came out of the jump. The organizer, therefore, had to be -- Hinrik, playing a dangerous role as a feeble-minded tool of the Tyrannians. Hinrik admits it and says that it will still be so when they reach Rhodia, for Aratap still suspects the existence of a "Rebellion World", though he can not prove it. And in a few years they would be ready to rebel, for the documentary weapon had long been in Hinrik's hands -- a document which would completely overthrow despotism: "We, the people of the United States, ...".

V. THE CURRENTS OF SPACE

The Currents Of Space is the first of Asimov's Future History series to deal with a galactic government. It was originally published in Astounding Science Fiction as a three-part serial from Oct-Dec 52. In the same year it was published in book form by Doubleday.

The story centers around a Spatio-analyst -- one who charts and traces the various streams of atoms found in outer space. There are many streams, and atoms of the same kind group together, each element in its own stream. One of these streams is a carbon current, and any sun passing through such a current becomes unstable, as a result of carbon's catalytic effect on the conversion of hydrogen to helium, and the sun slowly becomes a nova.

Having discovered that the sun of the planet Florina was in the midst of a carbon current and was likely to become a nova in a few years, the Spatio-analyst sent a report to the planet Sark, which governed Florina. The report said only that there was great danger to the planet Florina, and did not mention the cause of the danger. When he landed on Sark, he was intercepted by someone calling himself the Squire Of Fife, whom the Spatio-analyst knew to be the most important man on Sark. He told the "Squire" all about the pre-nova condition threatening Florina and insisted the immediate action was urgent. He was about to leave to broadcast the matter to all Sark, when the "Squire" pulled a psychic probe from his pocket and turned it on him. Darkness and mindlessness settled upon him, some of which never lifted. It was a year later that the first portion lifted.

He was on Florina working in the kyrt mills when he remembered that he had a job before, analysing Nothing. The kyrt mills were Florina's only industry, but it accounted for the entire wealth of the ruling class of Sark. On Florina, kyrt was kyrt, but elsewhere, the same seeds grew into cotton instead of the different fiber which could be woven into a fabric which glistened metallicly.

The almost mindless man had been found in the fields and taken care of by Valona March -- Big Lona -- a heavy-set, hulking girl. Everyone called him Rik, which meant moron in the local slang. He could not remember his real name. He slowly remembered different things, his vocabulary increased. When he remembered as a fact that all the people on Florina would soon die, Lona took him to the local Townman, a Florinian underling of the Sarkite Squires. She had taken him to a doctor before, and the doctor told her that Rik had been psycho-probed, and that he would have to report the case to Sark. But he died in an accident before he could report, so only Lona knew of the psycho-probing. She told the Townman everything, and he took over Rik's re-education.

Meanwhile, the Spatio-analyst had been missed by his department, and Dr. Junz began a search for him, enlisting the aid of Ludigan Abel, the ambassador to Sark from the Trantorian Empire, which was rapidly extending its borders to include more and more of the Galaxy. Junz also left word with the Sark library to notify him in case of anyone not a native Sarkian requested books on Spatio-analysis. Months later, Lona took Rik to the Townman, who in turn took him to visit the library in Sark City on Florina.

In the library, the phrase, "We analyse Nothing" brought Rik to remember that he was a Spatio-analyst, but when they requested books on the subject, the librarian stalled, and a Patroller with a neuronc whip held them at bay. Suddenly Lona appeared from behind the Patroller and cracked him over the head. The three quickly escaped the library into the native section of the city, with Patrollers in pursuit, and were

hidden by a Trantorian agent. When they emerged, they separated.

Rik and Lona stowed away on a spaceship bound for Sark, but had the bad fortune to choose the one belonging to Samia, daughter of the Squire of Fife. They were arrested and questioned. Rik was able to remember more -- that he was from Earth, a radioactive world in the Sirius Sector which, although other planets regarded the idea as superstition, was the home planet of mankind. The Captain of the ship did not believe him, and took them to the Squire of Fife as spies.

The Townman was forced to kill a Patroller; then he killed a Sarkian and stole his clothes and papers. He found that the Sarkian owned a space-yacht; so the Townman went to the spaceport. There he was approached by a Sarkian interested in buying the yacht. The latter suggested he fly the ship to Sark to try it out, and the Townman agreed, since he could not fly the yacht himself and he wanted to get to Sark to find Rik. He let the other take the controls and went to sleep. He awoke disarmed and under a gun held by the Sarkian, a Security Department man given the job of capturing the Townman for the Squires, and also an undercover Trantorian agent. The latter position was more important to him, and he turned the Townman over to the Trantorians on Sark.

A conference was held among the Squire of Fife, Dr. Junz, Abel, and the three captives to solve the mystery of who psycho-probed Rik, and why. Rik remembered that he had landed and talked to a man named Fife, but he could not remember what the man looked like. Fife denied meeting Rik.

The conference brought out the fact that a record of Rik's examination by the doctor to whom Lona took him had been found in a set of duplicate files kept by the doctor, but the original had been taken from the doctor's office. Obviously the psycho-prober had kept watch over Rik, and had probably killed the doctor. The Townman was questioned about any Sarkians frequently in Rik's neighborhood, but he could not remember that any had been there often.

Then Lona, hitherto silent, told them of one person who could have kept daily check on Rik and who knew about the doctor because she had told him -- the Townman. He soon confessed. He hated the Sarkians who took all the profit and let the Florinians do all the work. He had been on duty in communications on Sark when Rik's message came in, so he met him, calling himself the Squire of Fife to get Rik to talk openly. He had used the probe only to keep Rik quiet, but he was unskilled in its use and blotted out all of Rik's mind. He arranged to be transferred to Florina as Townman, and took Rik back with him, letting him be found in the fields.

He sent letters to the five Great Squires who controlled the kyrt industry and threatened to announce an impending destruction of Florina publicly if they did not sign over control of the kyrt industry to him. He had hoped to use the value of the kyrt to bargain with Trantor to free the planet from Sark's control, but the Great Squires considered the letters the work of a crackpot. The Squire of Fife had advanced the theory that the unknown sender was one of the Great Squires trying to force the others out. They chased themselves in circles to find the sender.

The townman hadn't understood the details of the disaster, but he did know that, according to Rik, Florina's sun was in the pre-nova stage. He remembered Rik talking about a carbon current and a catalytic effect. That was enough information for Junz, who explained the theory to the others. He insisted that Florina be evacuated, but both Fife and Abel, speaking for Sark and Trantor, refused, since that

would cut off the supply of kyrt. Sark would not give up its wealth and Trantor would not support a war which would end the kyrt trade. Humane considerations meant nothing.

Then Junz told them that the Interstellar Spatio-analysis Bureau had found that the growth of kyrt was dependent upon a pre-nova sun, and in a year they would be duplicate the conditions of such a sun in a laboratory. The tables were turned. The Florina holdings would soon be worthless; so Sark sold out. Trantor bought, evacuating the planet and gaining the good will of the people.

Rik and Lona were married and returned to Earth. The Townman was released to help organize the evacuation of Florina. But the planet would never be completely evacuated. Driven by an intense feeling for Florina, the Townman would not let it die alone. He would remain until the planet perished, killed by its own sun and the currents of space.

TO BE CONTINUED