

# APPENDIX C—CHARLOTTESVILLE:

## A FICTIONAL ACCOUNT BY NAN RANDALL

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*In an effort to provide a more concrete understanding of the situation which survivors of a nuclear war would face, OTA commissioned the following work of fiction. It presents one among many possibilities, and in particular it does not consider the situation if martial law were imposed or if the social fabric disintegrated into anarchy. It does provide detail which adds a dimension to the more abstract analysis presented in the body of the report.*

At first, it seemed like a miracle. No fireball had seared the city, no blast wave had crumbled buildings and buried the inhabitants, no dark mushroom cloud had spread over the sky. Much of the country had been devastated by massive nuclear attack, but the small, gracious city of Charlottesville, Va., had escaped unharmed.

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The nuclear attack on the Nation did not come as a complete surprise. For some weeks, there had been a mounting anxiety as the media reported deteriorating relations between the superpowers. The threat of possible nuclear war hung heavy in the world's consciousness. As evidence reached the U.S. President's desk that a sizable number of Americans were deserting the major cities for what they perceived to be safety in the rural areas, he considered ordering a general evacuation. But, with the concurrence of his advisors, he decided that an evacuation call from the Federal Government would be premature, and possibly provocative. There was no hard evidence that the Soviets were evacuating and there was a good chance that the crisis would pass.

Spontaneous evacuation, without official sanction or direction, grew and spread. A week before the attack, Charlottesville had no free hotel or motel rooms. A few evacuees found lodgings with private families, at great expense, but most were forced to camp by their cars in their trailers next to the fast-food chains

on Route 29. The governing bodies of Charlottesville and surrounding Albemarle County were rumored to be concerned about the drain on the area resources, without really having any way of turning back newcomers. "If this keeps up," remarked a member of the Albemarle Board of Supervisors, "we're going to be overrun without any war."

A few of the students at the University of Virginia left Charlottesville to join their families. But the majority of the students stayed, believing that they could go home easily if it were necessary.

Refugees came from Washington, 130 miles to the north, and they came from Richmond, 70 miles to the east. A few of the hardier types continued on into the mountains and caverns near Skyline Drive; the majority sought the reassurances of civilization that the small city could provide.

The population of Charlottesville normally stood a little above 40,000, while Albemarle County which surrounds the city like a donut boasted an additional 40,000 to 50,000. With the arrival of the city evacuees, the combined population was well over 120,000.

In the week before the nuclear attack, much of the population familiarized itself with the location of fallout shelters. Little hoarding took place as retailers limited sales of food and other necessities. Transistor radios accompanied both adults and children when they were away from home. However, most of the residents of Charlottesville continued to live as

they always had, although they were particularly alert for sirens or bulletin broadcasts on the radio. Many children stayed out of school.

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At the sound of the sirens and the emergency radio alerts, most of Charlottesville and Albemarle County hurried to shelter. Fortunately, Charlottesville had a surplus of shelter space for its own population, though the refugees easily took up the slack. Many headed for the University grounds and the basements of the old neoclassical buildings designed by Thomas Jefferson; others headed downtown for the office building parking garages. Carrying a few personal effects, blankets, cans and bottles of food, and transistor radios, they converged in a quiet if unordered mass. For most people, the obvious emotional crises—grief at leaving behind a pet, anxiety at being unable to locate a family member or relative—were suppressed by the overwhelming fear of the impending attack.

Some residents chose not to join the group shelters. Many suburbanites had ample, sturdy basements and food stocks. They preferred not to crowd themselves. In the event, those who had taken the precaution of piling dirt against the windows and doors of their basements found that they provided adequate shelter. Among the rural poor, there was a reluctance to desert the small farms that represented the sum of their life's work. They wondered whether, if they left, they would return to find their means of livelihood gone. Further, many lived far from an adequate public shelter. So they stayed.

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Most did not see the attacks on Richmond and on Washington as they huddled in their shelters. But the sky to the east and north of Charlottesville glowed brilliant in the noonday sun. At first no one knew how extensive the damage was.

Communication nationwide was interrupted as the Earth's atmosphere shivered with the assault of the explosions. Each town, city, village, or farm was an island, forced to suffer

its selected fate of death or salvation alone. (Some time later it was learned that more than 4,000 megatons (Mt) had destroyed military and industrial targets, killing close to 100 million people in the United States. The U.S. counterattack on the Soviet Union had had a similar, devastating effect. Destruction ranged from the large industrial centers on the coasts and Great Lakes to small farming communities that had the misfortune to be close to the great missile silos and military bases. )

Areas of the country such as the northeast corridor were reduced to a swath of burning rubble from north of Boston to south of Norfolk. Still, there were some sections of the Nation that were spared the direct effects of blast and fire. Inland in Virginia, only the town of Radford, west of Roanoke, received a direct hit. The farming and orchard land of the rural counties were not targets.

Charlottesville, the small but elegant center of learning, culture, and trade in central Virginia, was not hit either. This monument to the mind and manner of Jefferson retained its status as a kind of genteel sanctuary, momentarily immune to the disaster that had leveled the cities of the Nation.

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An hour after nothing fell on Charlottesville, rescue squads and police were dispatched to scour the countryside for stragglers to get them to shelters. Because, even if the population was safe from the direct effects of the nuclear warheads, another danger was imminent. Fallout, the deadly cloud of radioactive particles sucked up by the nuclear fireballs, could easily blanket the town of Charlottesville in a matter of hours. And no one could predict how much, and where it would go. Fallout could poison many of those idyllic rural towns and villages that seemed light-years away from the problems of international power and politics. While a few places, such as Roseberg, Ore., would receive no fallout at all, the rest of the Nation would have to constantly monitor to know the level of radiation and where it *was* located. Fortunately for Charlottesville, the University and the hospitals had

sophisticated radiological monitoring equipment, and the training to use it. Many other towns were not so lucky.

Two and one-half hours after the warnings had sounded, the nuclear engineering staff from the University picked up the first fallout. Starting at a moderate level of about 40 rems an hour — a cumulative dose of 450 rems received in a 1-week period would be fatal to one-half of those exposed — the intensity rose to 50 rems before starting the decline to a level of about four-tenths of a rem an hour after 2 weeks. (The total dose in the first 4 days was 2,000 rems, which killed those who refused to believe shelter was necessary, and increased the risk of eventually dying of cancer for those who were properly sheltered. ) For the immediate period, it was essential to stay as protected as possible.

For several days, Charlottesville remained immobile, suspended in time. It was unclear just what had happened or would happen. The President had been able to deliver a message of encouragement, which was carried by those emergency radio stations that could broadcast. As the atmosphere had cleared, radio station WCHV was able to transmit sporadically on its backup transmitter and emergency generator in the basement. However, the message from the President posed more questions than it answered — the damage assessment was incomplete. Nevertheless, he said that there was a tentative cease-fire.

In the first days of sheltering, only those with some particular expertise had much to do. Nuclear engineers and technicians from the University were able to monitor radiation in the shelters they occupied, and CB radios broadcast results to other shelters. The doctors were busy attempting to treat physical and psychological ailments — the symptoms of radiation sickness, flu, and acute anxiety being unnervingly similar — while the police and government officials attempted to keep order. The rest waited.

For the time being, the food stocks brought to the shelter were adequate if not appetizing. The only problem was the water supply which,

though it kept running because of its gravity system, was contaminated with Iodine 131. Potassium iodide pills, which were available in some shelters, provided protection; elsewhere people drank bottled water, or as little water as possible.

Not all of the shelters had enough food and other necessities. Most shelters had no toilets. The use of trash cans for human waste was an imperfect system, and several days into the shelter period, the atmosphere was often oppressive. As many suffered from diarrhea — the result either of anxiety, flu, or radiation sickness — the lack of toilet facilities was especially difficult.

Shelter life was bearable in the beginning. Communications by CB radio allowed some shelters to communicate with one another, to locate missing family members and friends. A genuine altruism or community spirit of cooperation was present in almost all the shelters — though some of them were fairly primitive. Even those refugees who were crowded into halls and basements with the local residents were welcomed. Parents watched out for one another's children or shared scarce baby food. Most people willingly accepted direction from whomever took charge. Among the majority of the shelter residents, the out-of-town refugees being an exception, there was a sense of relief, a sense that they had been among the lucky ones of this world. They had survived.

Within a few days, the emergency radio was able to broadcast quite regularly. (As the ionosphere does not clear all at once, occasional interruptions were expected. ) The station had had no protection from the electromagnetic pulse that can travel down the antenna and shatter the inner workings of electronic equipment during a nuclear explosion. However, by detaching the back-up transmitter at the sound of the warning, the station engineer had protected equipment. Intermittent communications from Emergency Operations Centers got through to Charlottesville officials, though the main communications center at Olney, Md., was silent. Telephone switching facilities were almost entirely out, although the

small, independent phone company could expect to be operational fairly quickly. The complex, coast-to-coast trunk lines of Ma Bell might take a year or more to reconnect.

Lifeline of the sheltered community was the CB radio. Rural Virginians had been CB fans long before it became a national craze, and they put their equipment to imaginative use. Prodded by anxious refugees, as well as by local residents who had relatives and friends in other parts of the world, Cbers tried to set up a relay system on the lines of an electronic pony express. Though less than perfect, the CB relay was able to bring limited news from outside, most of that news being acutely distressing. From the limited reports, it was clear that there was little left in the coastal cities; those who had abandoned family or friends to come to Charlottesville understood that probably they would never see them again.

The first surge of grief swept over the refugees and those Charlottesville residents who were affected. In time, the sorrow of loss would affect almost everyone. Although they had survived themselves, still they had lost.

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Three days after the attacks, the next large influx of refugees poured into Charlottesville, many of them suffering with the early symptoms of radiation sickness. They had been caught poorly sheltered or too close to the nuclear targets themselves. A few showed the effects of blast and fire, bringing home to Charlottesville the tangible evidence of the war's destruction. Some refugees had driven, while others had hitchhiked or even walked to reach what they hoped was safety and medical help. On the way, many were forced to abandon those who were too weak to continue.

The hospitals were completely overwhelmed. Up to now, the hospitals had managed to treat the ill with some modicum of order. The hospitals themselves were fallout shelters of a kind; patients' beds had been moved to interior corridors for fallout protection; emergency surgery was feasible with the emergency generators, hospital staff slept in the most protected areas. Some borderline

cases in intensive care were released to nature's devices while any elective medical procedures were eliminated. Still, hospitals were able to cope, even with the increasing number of common ailments caused by the shelter crowding.

Suddenly, this changed. Fallout levels were too high for anyone to be out in the open for any length of time, but the people came anyway. The carefully laid plans of the University of Virginia Emergency Room, devised for the possibility of peacetime accidents, were hurriedly modified. No longer was the careful showering and decontaminating of victims possible with the single shower and uncertain water pressure. Instead, patients were stripped of their clothes and issued hospital gowns. With no time for studied decision, doctors segregated the very sick from the moderately sick — the latter to be treated, the former given medication and allowed to die.

Nevertheless, the day came when the hospitals were full. The University Hospital, Martha Jefferson Hospital, the Blue Ridge Sanatorium, and the others were forced to lock their doors to protect those patients they had already accepted.

After being turned away, the sick had no specific destination. Many still clustered around the middle of town near the two major hospitals, taking up residence in the houses abandoned by local residents several days before. With minimal protection from fallout and no medical treatment for other trauma, many died, their bodies left unburied for several weeks.

The combined populations of Charlottesville and Albemarle County rose to 150,000 in the 7 days after the nuclear attack. Slowly, hostility and resentment wedged a gap between residents and refugees who attempted to join the group shelters. The refugees, still in a daze from their experience, believed that they had priority rights after all they had suffered. The local residents viewed the outsiders as a threat to their own survival, particularly as the extent of the war damage was becoming evident.

In fact, the supply of food was not a problem in the short run. Like most other towns and cities, Charlottesville and Albemarle had some 3 weeks worth of food on hand, on home shelves, in supermarkets and wholesale outlets. The Morton Frozen Food plant could be expected to supply a rich diet of convenience foods for a short time, even after the refrigeration was off. The problem was, after the local supplies were exhausted, where could they get more?

Nerves, already frayed by the stresses of the past days, threatened to snap. Older people were irritated by the noise and commotion of children; children resented the lack of freedom. The friction between differing groups became increasingly evident, and vocal. An experiment in communal living was clearly not to the taste of many, and the discomforts, both physical and psychological, had the effect of pushing local residents out of the shelters. (There was some effort to stop them as the radiation levels still posed some hazards; they were urged at least to stay inside most of the time.) Left in the shelters, now, were mostly those out-of-town refugees who had no homes to go to.

Not all the residents of Charlottesville and Albemarle found their homes intact. In some cases they returned to find the house looted or occupied by refugees who were unwilling to give up squatters' rights. Sometimes claims were backed with guns; in a few cases, squatter and owner worked out a *modus vivendi* of sharing the property.

Some animals had survived, in varying states of health. Unprotected farm animals were dead, while those which had been confined to fairly solid barns with uncontaminated feed had a fair chance of surviving. Many of these farm animals, however, were missing, apparently eaten by hungry refugees and residents. Some pets had remained indoors in good *de facto* shelters so that, if they had found water, they needed only to be fed to regain health. Worried about the amount of food pets could consume, many families simply put them out to fend for themselves.

For the first week or so after the nuclear attacks, authorities had few options. Simple survival was the priority, the elements of which included food and water distribution, fallout protection, and retention of some civil order. Government was *ad hoc*, with the leadership of the city and county naturally cooperating, along with the different police forces. As the population left the shelters, however, officials felt that some more formalized system was desirable. After several long meetings — in the basement of the courthouse where the government officials had stayed to avoid fallout — an emergency government, led by the city manager of Charlottesville, was agreed on. The combined city council and the Albemarle County Board of Supervisors also elected the chairman of the board of supervisors as deputy, and the sheriff of the county as chief of public safety to oversee the combined police forces and provide liaison with those military units which were still in the area.

The powers given to the city manager were sweeping in scope, certainly far beyond any powers he had held before, and ran "for the duration of the emergency." While some considered the new form of local government close to martial law, great care was exercised to be sure that the offensive term was not used. In effect, however, Charlottesville and Albemarle were under a highly centralized, almost totalitarian rule.

Whatever it might be called, under the new system, the city manager was able to take over all resources and their allocation. Following to some extent the paper plan that the area had developed, the new government attempted to set out priorities. It was greatly aided by the experts from the University, who volunteered time and expertise to analyzing the needs of the area. (In this respect, Charlottesville was particularly fortunate in having an extensive pool of talent on which to draw.)

However, if Charlottesville was lucky to have reasonably functioning government and a number of experienced planners and managers, and to have suffered comparatively modest disruption from refugees and fallout,

the city and county authorities were becoming painfully aware that they were not set up to 'go it alone' without any outside help. Even were the weather suitable for planting, Charlottesville was no longer an agricultural center. There wasn't enough energy to process any food that might be grown. Where would people get clothes and building materials and medicines and spare parts for the cars and buses? The very complexity of American society— its technological marvels and high standard of living — could well prove to be a barrier to the reconstruction of any one part.

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During the third week after the attacks, the new rationing system came into force. Individual identification cards were issued to every man, woman and child. Food was distributed at centralized points. Those without I.D. cards were unable to get their ration of flour, powdered milk, and lard—and the processing of cards could take 3 or more days. Some desperate refugees resorted to stealing I.D. cards in order to get food, while an enterprising printer started turning out forgeries within 2 days after the government had first issued cards. Rumors of hoarding and black marketeering abounded. Some of the missing supermarket food turned up in black market centers, accompanied by exorbitant prices.

Fuel supplies were dropping more rapidly than the government had hoped. Most families were heating their homes with wood, either in fireplaces or in recycled oil drums for stoves. As the winter was waning, the most desperate need was for fuel for driving motors and generators. Even the drinking water was dependent on the emergency generator that ran a single purifying system for the Rivanna Water and Sewer Authority. (Water for other uses could simply be drawn from the gravity-powered reservoir system, bypassing the filtration system entirely. ) The hospital and radio stations all ran on small generators. The University could luxuriate in its coal-powered steam heat, but there was no way, save generators or candles and lanterns, to get lights.

No one was exactly certain how much fuel there was in the area. Both jurisdictions had once surveyed, for emergency planning purposes, the fuel storage capacity, and they hoped they could count on having about half of that on hand. Armed guards were assigned to those larger facilities that had not already been raided by the desperate. All private use of cars or tractors was outlawed, and the government threatened to confiscate any moving vehicles.

Electricity was restored, partially, some two weeks after the attack. Workers from the small Brems Bluff generating plant, about 15 miles away from Charlottesville, succeeded in starting the plant with the coal reserves that were on hand. From then on, limited electricity use was permitted for a few hours a day. This was particularly pleasant for those families whose water came from electrically powered well pumps. Well water was issued to children for drinking, as it had escaped the Iodine 131 contamination which was still elevated in the reservoirs.

The radioactivity level continued to drop (after two weeks it was 0.4 rem per hour) and it was "safe" to go outdoors. However, the resulting doses, though too low to cause immediate illness or deaths, posed a long-term health hazard. The authorities, while recognizing that everybody would receive many times the pre-war "safe dose," tried to reduce the hazards by urging people to stay inside as much as possible when not picking up food rations at the distribution centers. Life for the residents of Charlottesville revolved around those trips and figuring out ways to make do without the normal supplies and services. Some chanced outings to forage for a greater variety of food, but most were resigned to waiting. There wasn't much else they could do.

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Three weeks after the nuclear attack, almost all the Charlottesville and Albemarle County residents had returned to their homes. Those few whose homes had either been occupied by squatters, or been destroyed by fire, easily

found some alternate housing with the government's help.

This left the refugees. Though the drop in fallout intensity allowed the refugees to move out of basements and interior halls, they still were forced to live a version of camp life. They spent their endless, empty hours waiting in lines for food, for a chance to use the bathrooms — which at least functioned now — for a chance to talk to authorities. Information from the outside was still sketchy, and for the refugees, this uncertainty added to their already high level of anxiety.

The city manager and the emergency government attempted to solve the refugee housing problem by billeting refugees in private homes. At first they asked for volunteers, but got few. The authorities then announced that any house with fewer than two people per room would be assigned a refugee family. Resistance to this order was strong, and, particularly in the outlying areas where it was hard to check, outright defiance was common. Families would pretend to comply and then simply force the refugees out as soon as the authorities had left. The refugees would struggle back to town, or take up residence in barns or garages.

And still the refugees came to Charlottesville, bringing with them stories of the horrors they had experienced. They camped in schools, in banks, in warehouses. By night the neoclassical architecture of the University was packed with the residents of Arlington and Alexandria. By day, the new downtown mall was awash with a floating mass of men, women, and children, who, with nothing to do, milled around the unopened stores. A retired ambassador was overheard comparing the scene to that of downtown Calcutta.

By now, the emergency government recognized that the need for food was going to be acute. Without power for refrigeration, much food had spoiled; stocks of nonperishable foods were mostly exhausted. As the shortages became clear, the price of food skyrocketed. Many people refused money for food, preferring to barter. Food and fuel were the most

valuable commodities, with shoes and coats high on the list as well.

Since shortly after the attack, the city manager had been in contact both with the Federal Government and with the relocated State government in Roanoke. He had repeatedly asked for emergency rations, only to be met with vague promises and explanations about the problems of transportation. He was generally urged to cut rations further and hang on. Help would arrive when it could.

For some time, the relatively few surviving farm animals had been gradually and mysteriously disappearing. The farmers concluded that "those damned city folks" were stealing them for food, although some of the local residents were also making midnight forays on the livestock. Farmers themselves slaughtered animals they had planned to fatten-up for the future. They couldn't spare the feed grain, and they needed food now.

Finally the emergency authorities announced that they would take a percentage of every farmer's livestock to help feed residents and refugees. Farmers were outraged, considering the action simple theft. There were rumors that angry farmers had shot several agents who had tried to confiscate the animals. Though they were offered promissory notes from the city authorities, the farmers thought such payment worthless.

(The radiological experts at the University had been questioned on the advisability of eating the meat of animals with radiation sickness. Many of those beasts which had remained outside during the high fallout period were showing clear signs of illness. The experts decided that the meat would be edible if cooked sufficiently to kill any bacterial invasion — the result of the deterioration of the animal's digestive tract. Strontium 90 would be concentrated in the bones or the milk, not the muscle tissue.)

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Although the city government had relatively frequent contact, mostly by radio, with the Federal and State governments, the citizens

had to rely on the occasional Presidential message that was broadcast on WCHV. Three weeks after the attacks, the President made a major address to reassure the people. He announced that the cease-fire was still holding and he saw no reason why that would change. He described the damage that the U.S. retaliatory strike had done to the Soviet Union. He also noted that the United States still retained enough nuclear weapons, most of them at sea on submarines, to inflict considerable damage on any nation that attempted to take advantage of the recent past. He did not mention that he suspected that the Soviets also held reserve weapons.

Describing the damage that the country had suffered, the President noted that, even with the loss of over 100 million lives, "We still have reserves, both material and spiritual, unlike any nation on earth." He asked for patience and for prayers.

There had been broadcasts earlier by the Lieutenant Governor of Virginia —the Governor was killed in Richmond — from his shelter in Roanoke. However, as fallout in the Roanoke area was quite high (Radford just to the west had been struck), he was effectively immobilized for some time. The State government appeared less organized than the Federal.

Charlottesville was still on its own. Residents hunted game as the last of the food stocks disappeared, but the fallout had killed most animals that were in the open. Refugees were reduced to stealing. A number of people managed to fill their gas tanks with contraband gasoline and set out to forage in the mountains to the west.

Three and one-half weeks after the attack, an old propeller-driven cargo plane landed at the Charlottesville Airport with a supply of flour, powdered milk, and vegetable oil. The pilot assured the few policemen who guarded the airstrip that more would be on the way by truck as soon as temporary bridges could be built over the major rivers.

The emergency airlift was supposed to supply Charlottesville with food for a week or two.

However, the officials who had calculated the allotment had overlooked the refugees. Charlottesville's population was some three times the normal. (No one was absolutely sure because the refugees moved around a good deal, from camp to camp )

The first of the deaths from radiation had occurred 10 days after the attacks, and the number grew steadily. By now, it was not uncommon to see mass funerals several times a day. The terminally ill were not cared for by the hospitals — there were too many, and there was nothing that could be done for them anyway— so it was up to their families to do what they could. Fortunately there were still ample supplies of morphia, and it was rumored that college students had donated marijuana. The city set aside several locations on the outskirts of town for mass graves.

In addition to those with terminal radiation sickness, there were those with nonfatal cases and those who showed some symptoms. Often it was impossible for doctors to quickly identify those with flu or psychosomatic radiation symptoms. The number of patients crowding the emergency rooms did not slacken off. The refugees, crowded together, passed a variety of common disorders, from colds to diarrhea, back and forth. Several public health experts worried that an outbreak of measles or even polio could come in the late spring. "So far, we have been lucky not to have a major epidemic of typhus or cholera," a doctor observed to his colleagues.

The supply of drugs on hand at the hospitals was dwindling fast. Although penicillin could be manufactured fairly easily in the laboratories at the university, many other drugs were not so simple, even with talent and ingenuity. (The penicillin had to be administered with large veterinary hypodermics as the home-made mix was too coarse for the small disposable hypes that most doctors stocked. There was a considerable shortage of needles.) Other medications were in such short supply that many patients with chronic illnesses such as heart disease, kidney failure, respiratory prob-



lems, hypertension, and diabetes died within a few weeks.

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Food riots broke out 4½ weeks after the attacks — precipitated by the first large shipment of grain. Three large tractor-trailers had pulled into the parking lot of the Citizens Commonwealth Building quite unexpectedly, the word of their arrival somehow misplaced between the Agriculture Department dispatchers and the local authorities. The trucks were greeted with cheers until the residents of Charlottesville discovered that they had been shipped raw grain rather than flour. The drivers were taken unawares when empty cans and bottles showered them and one driver jumped in his cab and departed. (The official explanation, delivered some time later, was that processed food was going to those areas where the bulk of the population was sick or injured. It was also assumed that Charlottesville had some livestock reserves. )

With only a fraction of the population knowing what to do with raw grain, a number of angry citizens broke open the sacks and scattered wheat through the parking lot. They in turn were set upon by those who wanted to conserve as much as possible. The local public safety forces waded into the melee with night sticks and tear gas.

Everyone blamed everyone else for the incident, but the fragile glue that had held public order together began to unstick.

From this time on, it was almost impossible for the local authorities, not to mention the State and Federal governments, to convince everyone they were getting a fair share. People in one section of town would watch suspiciously as delivery trucks passed them by and headed somewhere else. Blacks distrusted whites, the poor distrusted the rich and everyone distrusted the refugees as “outsiders. ”

The refugees were convinced that the local authorities were favoring the residents and tried repeatedly to get State intervention, with little success. Still billeted in dormitories, schools, and motels, the refugee camps were a

breeding ground for discontent and even rebellion.

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The presence of the Federal Government was not entirely confined to the occasional delivery of food or radio broadcast. Some time before, the National Guard and the Reserve Unit were moved to North Carolina, partly to give the impression of military readiness, and perhaps to be assigned to dig out cities and start reconstruction. The Government had put out calls for volunteers to help in the reconstruction, but found that most workers, young and old, wanted to stay with their families. A system of national conscription for young men and women with no children was in the planning stage.

The Federal Government attempted to urge refugees back to where they had come from, first to assist in the rebuilding of the damaged cities which were rich in resources, and ultimately to redistribute the population to a more normal pattern. Some refugees were happy to attempt to return, particularly those whose houses were more or less intact. However, those who found their homes destroyed preferred to return to the refugee camps inland. There was nothing to hold them to their former lives. Fearful memories of the past made any time spent in the cities painful.

One day, quite without warning, the city manager was informed that one-half of his fuel stores were to be confiscated by the Federal Government, for the military and for the reconstruction effort. (Earth-moving equipment was gathering on the outskirts of the devastated cities and needed fuel. ) After it was clear that there was no way to stop the Government from taking the fuel, the city manager suggested that unmarked tank trucks, well guarded, pick up the stocks at night. He was aware of the effect this action would have on the morale of the population.

Already transportation was difficult for the elderly and those who lived in the rural areas. A sporadic bus service ran from one end of town to the other once a day and an occasional school bus made a sortie out into the suburbs. Bicycles were prized, and sometimes

fought over. Those gentlemen farmers whose thoroughbred horses had been protected from fallout could use these animals for transportation, but it was risky to let the animals stand unprotected. Horse thievery had made an anachronistic reappearance.

With even less fuel, the bus service would be cut in half.

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By now, barter was clearly established as the preferred means of trade. For a time, the government had paid for commandeered foodstuff and resources with checks and promissory notes, but no one wanted them any more. The local banks had opened for a few days, only to find all their savers lined up to withdraw everything. They closed down. Stores either never opened, or shut down quickly when they were overrun. (Many stores had been looted in the second week after the attack, when the fallout intensity had dropped.) A few people hoarded money, but most thought money worthless.

Workers in the small industries in the Charlottesville area saw no point in turning up for work if all they could get was paper money. They preferred to spend the time hunting for food and fuel. If barter was a highly inefficient way to do business — it's hard to make change for a side of beef—still, it was preferable to using worthless currency.

Psychologically, the population seemed to be in a quiet holding pattern. The refugees, many of them, had survived experiences that would mark them for years. The memories of fire, collapsing buildings, and screaming, trapped people were still vivid, and some would tremble at loud noises. However, the profound grief over what they had lost—family members, possessions, or friends — underlay emotions and made many apathetic and passive. Victims of the nuclear attacks, they appeared willing to be victims afterwards too. Still shunned as outsiders by the resident population, most refugees appeared to accept the exclusion just as the surviving population of Hiroshima and Nagasaki had 30 odd years before.

The effect on the Charlottesville and Albemarle residents was less pronounced. They were disoriented. For each lucky one who had a specific job to do, there were many more who were in effect unemployed. They turned inward to their families or else friends and relatives. Their worries about the future—would there be another attack, would they go back to their old jobs, etc. — made most days rather anxious, unproductive ones. Children particularly reflected a continuous nervousness, picked up from their elders, and had difficulty sleeping at night. Though many parents hoped for a return to normalcy once the schools reopened, others quietly decided not to send their children for fear of a second outbreak of war.

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Spring changed a lot of things. A new optimism surfaced as everyone looked forward to planting, to good weather and warmth. The residents of Charlottesville had survived the first hurdle; they felt confident they could survive the next.

At the University, agronomists studied the best crops to plant in the Charlottesville area. No one was certain what effect the nuclear explosions had had on the ozone layer. If indeed the ozone was severely damaged, more ultraviolet rays could reach the crops and perhaps burn them. This effect would be more pronounced on delicate crops such as peas and beans. Instead it was suggested that potatoes and soybeans be encouraged and whatever limited fertilizer became available go to farmers who followed the government guidelines.

The emergency government announced that two-thirds of the former pasture land was to be cultivated. Feed grains were to be used for humans, not livestock. Dairy cattle and chickens were the only exceptions.

The next few months in Charlottesville and Albemarle County had a slow, almost dreamlike quality. Fears of new attacks had abated. It was a time of settling into a new lifestyle, a severely simplified way of being, of making do. Children ate meat, cheese, or eggs rarely,

adults practically never. A good pair of shoes was guarded — and worn only on special occasions. (With warmer weather, most children and adults went barefoot, bringing concern to doctors that there would be an increase in parasitic diseases such as hookworm. )

Many people were unable to return to their former jobs. In some cases, their employers never reopened for business, their goods and services being irrelevant in the postattack society. College teachers, for example, had no students to teach; computer programmers had no computers to program.

For some, it was relatively easy to adapt. Electronics experts set up CB and short wave radio repair shops. Cottage industries — sandal and clothing manufacturing from recycled materials, soap and candle making — sprang up in many homes. Some workers were able to acquire new, relevant skills quickly.

Others had to make do with menial jobs—burying the dead, cleaning the streets, assisting carpenters and bricklayers — that took little skill.

And then there were those who could not fit in anywhere. Many found it difficult to adapt to the idleness. Disruption of the 9 to 5 work ethic was a disruption of basic psychological props, of a sense of identity. In the immediate period after the attacks, parents concentrated on protection of their families. Once their families were no longer directly affected, adults were robbed of their traditional roles.

By now, a few of the refugees had melted into the general population. But the vast majority were no further along than in the late winter. The drag on the area resources was significant, and many in the leadership wanted to force them out.

Charlottesville was fortunate in many respects, however. Being located on two easily repairable rail lines —with a major storage yard for cars only two counties away—there was some access to the outside world. Travel was only permitted with a special pass, naturally, and so the younger members of the

community resorted to the hallowed art of riding the rods.

Government officials, many of whom had visited Charlottesville and the University frequently in the past, kept in closer contact with the city than with many other locales. Doubtless the area residents benefited with more Federal assistance. As a result, Charlottesville became the unofficial “capital” of the area, economically and politically.

But as autumn approached, a universal depression settled on the residents and refugees. Starvation had been held at bay by the planting — but crop yields were smaller than expected. No one was cold, but the weather was still fine. There seemed to be no appreciable progress towards preattack conditions. Those young men and women who had been conscripted to build housing for the Nation’s refugees returned with gloomy reports of the devastation to the Nation’s commerce. The east coast was effectively leveled. Where factories were rebuildable, the shortage of materials precluded their operation.

Recognizing that many families would have to make do without heating oil or gas, the Agriculture Extension Service issued pamphlets on how to make your own wood-burning stove. Fortunately for Charlottesville and the surrounding area, trees were plentiful. However, the momentum that had started with the spring planting slowed,

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Winter was harder than anyone had expected. There were few additional deaths that could be directly attributed to the nuclear blast effects or the radiation; however, a large percentage of the surviving population was weakened. Lack of medicines, lack of adequate food and reasonable shelter, plus the lingering physical and psychological effects, meant that many were unable to work effectively, even if there were work available. An epidemic of flu raged through the cities of the east where refugees were huddled in camps. Many died, especially children and old people. Although vaccine for this particular, common

strain of flu had been developed, the stocks had been destroyed in the attacks

In the northern sections of the country, food supplies were inadequate and poorly distributed. The average diet — day in, day out — consisted of unleavened bread and potatoes, where there was enough of those. As animal herds, both domestic and wild, had been decimated by fallout and indiscriminate hunting, the only available meat came from dogs, cats, and rats — those animals whose living habits protected them from fallout. Dietary deficiency diseases appeared.

Growing children were the first to notice the lack of replacement clothes—particularly leather shoes. Coats and blankets were highly prized in the cold climates.

Next to food, the most severe shortage was housing. Even with the temporary barracks that had been erected in a cluster around the damaged cities, refugees were crowded two or three to a room, Kitchens were shared by four and five families; bathrooms by as many as 12 people.

Although there was relatively little work to occupy time, and schooling was strictly curtailed, if indeed it existed, there was also very little available recreation. The entertainment industry located in California and New York had been particularly hard hit. Local TV stations could broadcast and rebroadcast those old films and cartoons they had in stock, but little was fed nationwide. In the small towns, public libraries were overwhelmed. In the large cities, the libraries had been destroyed. There were no movie houses to speak of; there were no professional sports. The lack of recreation, perhaps a minor problem, still served to underscore the bleakness of the winter.

In Charlottesville alone, several thousand people died in the first winter after the nuclear attack.

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A year almost to the day after the nuclear war between the United States and the Soviet Union, Charlottesville was host to a blue ribbon panel of experts on reconstruction plan-

ning. The University had not returned to normal — there were no undergraduate classes as the students had been conscripted for reconstruction work in the cities — but it was a natural meeting place since so many centers of learning had been destroyed.

The questions before the group centered on setting priorities: what were the goals and how could the country reach them?

The U.S. Government still existed, if in a Slightly reordered form. The President, now permanently located in the Midwest along with the surviving Members of Congress and the Cabinet, retained the emergency powers he had taken just after the attacks. (Congress had had no choice but to ratify his assumption of these extraordinary powers at the time. However, there was growing resentment that he showed few signs of relinquishing them. Congress was reduced to a kind of advisory body, its Members spending most of their time on helping constituents relocate or obtain a id.)

The State governments had, by and large, re-established themselves, often in new locations. Virginia's government was located in Roanoke, for example, under the Lieutenant Governor. State governments were not as well respected as before; citizens tended to blame them for the mixups in aid distribution. Only the refugees looked to the States for assistance against the local governments, which they distrusted. The residents of an area such as Charlottesville were most loyal to their local government, particularly when that government had a reputation of basic evenhandedness.

Everyone, however, was growing hostile to the imposition of strict governmental controls over their lives —what they could or could not buy, or eat, where they could travel, etc. In certain rural sections, such as Nelson County, south of Charlottesville, farmers had barricaded themselves off, ignored government orders, and occasionally, it was rumored, took potshots at the government agents.

Attempts to conscript the able-bodied to rebuild the damaged areas often failed miserably. Many simply walked off the job and returned to their families. Since there were no

adequate records remaining of the prewar population, and no records at all of war deaths, the Government found it an impossible task to track down offenders. (Criminals in medium- and light-security detention facilities had simply evaporated into the population.)

Charlottesville, like the rest of the undamaged parts of the country, still had a huge refugee population that was unwilling or unable to return to former homes. The majority were in camps such as the large facility in the old Lane School, and children were in day care or orphanages, depending on the status of their surviving families. If anything, the refugees were both more apathetic and more rebellious when faced with simple assignments. Lawless bands of teenaged refugees roamed the countryside, hijacking supply trucks and raiding farms and villages. Partly it was simple bravado, partly a way to feed themselves. Most refugees simply sat and waited for the next meal.

Yet even now, the flow of refugees continued. The winter had driven out those who could not find enough to eat or enough shelter. Stories of Vermont families subsisting on maple syrup and wild rabbits might have proven entertaining in the retelling, but those who had survived did not want to repeat the performance.

The medical problems were still acute. Drug supplies were almost exhausted, but the weakened population remained more susceptible to disease. The birth rate had fallen drastically 9 months after the attacks, partly because of the radiation, which produced temporary sterilization – but there had also been a rise in miscarriages, stillbirths, and abnormalities. Infant mortality soared. Experts worried that an unprecedented increase in cancer, particularly in children, could be expected in several years. And there was still the possibility of some devastating epidemic as cholera running unchecked through the population. The Blue Ridge Sanatorium in Charlottesville, which had seen few tuberculosis patients in the last years before the attacks, was making plans to convert back to specializing in the disease. TB was making a comeback.

The Nation's economy was in shambles. The bulk of the oil refining capacity had been knocked out, and only a few facilities were functioning again. The small oil wells around the country that were situated away from target areas produced more oil than the refineries could handle— and it was only a fraction of the need. Coal mining, mostly by the time-honored pick and shovel method as strip mining took heavy equipment, was the only industry that could be called booming. (There was a major migration to the mining areas by the unemployed. ) Agriculture, of course, was a major undertaking for much of the population. However, yields from the farms were considerably below what had been hoped for. The lack of pesticides and fertilizer cut heavily into the crops and there was concern about a major insect invasion next summer. Food processing—wheat and corn milling particularly—showed encouraging signs of recovery.

Most major industries, however, were in disarray as a result of lack of energy, lack of raw materials, and lack of managerial expertise. The world economy was staggering from the effect of losing both the United States and the Soviet Union as suppliers and markets. (If the Latin Americans were able to make small fortunes on selling the U.S. refined petroleum, political pressures were building in those countries to raise the prices to double the current rates. )

An efficient system of money still had not been reestablished. The Federal Government paid the military and other Federal employees with dollars and tried to preserve purchasing power through a series of price controls. However, most people were reluctant to accept dollars in exchange for essentials such as food or clothing. As a result, a barter system continued to flourish and the black market, with its highly inflated prices, continued to encourage defiance of the law.

Most experts believed that the experience of post-World War II in Europe and Japan could provide the model for currency reform, including replacement of the dollar, that was necessary to restore an economy based on the divi-

sion of labor. However, the resolution of two policy issues stood in the way. First, should the market, on one hand, or Government control, on the other, determine the distribution of scarce resources? Second, should the new money go to those with legitimate claims, pensions, promissory notes for goods confiscated during the postattack period etc., or to those who held productive jobs, or even to the entire population even if many were more drag than help to the recovery? Politically, the Government was unable to deny any one of the groups; practically, it was obvious the Government could not satisfy all three.

It was clear that if the economy did not get moving again soon, it might never. Already there were indications that manufacturing was not reestablishing itself with anywhere near the speed the planners had hoped. The amount of shipping, by rail and by truck, was actually down from the mid-summer high.

“We are in the classic race,” remarked one of the participants who had written a major study of postattack recovery some years before. “We have to be able to produce new goods and materials before we exhaust our stored supplies. We can continue to eat the wheat that is in the grain elevators of the Midwest for another year, perhaps. But after that, we have to have the capacity to grow new wheat. When our winter coats wear through, we have to have the capacity to weave the cloth for new ones. When our railroad cars break down, we have to be able to make new ones, or replacement parts. Right now we are a long way from that capacity.” Privately, he and a group of conferees agreed that heavy controls on the economy, and ultimately on the population, would be the only way to get things going. Resources, both material and human, were severely limited,

One of the major problems, it was obvious to everyone, was the drag the huge refugee population had on the recovery effort. While numbers of workers were actively engaged in the rebuilding of the cities as well as the factories and services that powered the economy, there were as many more who were unem-

ployed and unemployable for the time being. Their skills were not suited to the priority tasks. Several participants had prepared a statement on what should be done with these nonproductive members of society. “We cannot let this mass of people drain our resources while they do nothing to contribute,” it was rumored to say. “If we cannot let them starve outright, we suggest that they be issued only that amount of food which is minimally necessary to sustain life. They should be moved to camps away from the center of activity for reason of public morale.” The report was suppressed but several copies were leaked to the press anyway.

The most basic disagreement among the participants in the conference was over the level of reconstruction that might actually be feasible. Optimists cited the phenomenal recovery of Japan and West Germany after World War II and insisted that these be the models for the United States in the next 5 to 10 years

Pessimists, noting the major differences between the post-World War II era and the situation of Japan and Germany, felt these examples were irrelevant, or worse, misleading. “Everyone forgets the amount of aid that came in from outside in the late ‘40’s and early ‘50’s. We don’t have the United States, wealth to turn to. Such a goal is unrealistic and un-reachable, even with absolute controls on the economy.”

The pessimists were divided. Some saw the Nation building itself along the line of some of the Asian nations, which boasted a small technologically advanced segment in the midst of a large agrarian or unskilled worker population, on the model of India or Indonesia. Some thought technology itself would eventually disappear from American society. “If you don’t have computers to run, you don’t train computer programmers,” one expert was overheard to say. “After a while, in a few generations, no one remembers how the machines worked at all. They remember the important things: how to plant crops, how to train draft horses and oxen, how to make a simple pump. We will have survived biologically, but our

way of life is going to be unrecognizable. In several generations, the United States is going to resemble a late medieval society.”

Because the conferees could not agree on what was a reasonable goal, much less how to

get there, the conference report straddled all fences and concluded nothing. Follow-up task forces were appointed and the conferees agreed to meet again in the summer. Perhaps by then they would have a better idea of whether or not they were winning the race.