A Tale of Two Islands: Bikini and Enewetak

by

Glenn Alcalay

Graduate Student, Rutgers University

Last year, the inhabitants of Enewetak, a former nuclear test site in the Marshall Islands, returned home. They had been in exile for thirty-three years. Will their resettlement prove as catastrophic as that of the Bikini islanders?

There is a traditional folk legend in the Marshall Islands about Etao, the mischievous spirit who was half-human and half-god. Etao — whose name in Marshallese is synonymous with slyness — was known to play mean tricks on people and then laugh at them; when something un-toward happened people used to say that Etao was behind it. After sixty-six nuclear weapons tests and many gross violations of its United Nations trust agreement, the United States is seen by the Marshall Islanders as the latter-day Etao.

Last year the US Government performed an alchemy trick in the Marshalls, but instead of transmuting base metal into gold, it concluded the largest radiological cleanup and rehabilitation project in history at Enewetak. Five hundred and fifty of the original inhabitants of Enewetak, a former nuclear test site, returned home after their 33-year forced exile to an inhospitable and previously uninhabited atoll. The resettlement project and desire of the Enewetak islanders to return home has caused much infighting between various US agencies. Radiation experts are uncertain about the potential health risks associated with the return to a still-radioactive environment where the people are expected to adhere to a concocted living pattern very different from that of their neighbours on other atolls. The catastrophic
resettlement failure a few years ago at Bikini, another test site, looms ominously in the background of the present resettlement programme.

The newly-elected Government of the Marshall Islands, not forgetting the awesome lesson learned at Bikini, has cautioned the Enewetak islanders about the need for further study of their atoll by independent radiation scientists outside of the US Government. In response to the Marshall Government’s perceived interference with the resettlement, some Enewetak islanders have recently announced their plan to separate from the Marshalls at hearings before the US Congress and at the Trusteeship Council of the U.N.

The Marshall Islands

The Marshalls comprise the easternmost group in the Trust Territory of the Pacific Islands, commonly known as Micronesia. The Territory covers an expanse of the North Pacific Ocean larger than the continental US, yet the 2,000 islands (of which only 100 are inhabited) make up a land mass of 700 square miles — roughly one-half the size of Rhode Island. The high volcanic islands and low-lying coral atolls are believed to have been settled around 1,000 B.C. (the Marshalls were settled much later — perhaps 600 years ago) by a mixture of Caucasian-Mongoloid peoples originating from Indonesia and Melanesia. The 125,000 Micronesians speak nine major languages which, while sharing a common root in the Austronesian linguistic family, are mutually unintelligible.

Foreign contact in the Marshalls (population: 30,000) was first felt when German whalers, blackbirders, and missionaries made regular visits beginning in the mid-1800’s. The traditional spiritual beliefs were supplanted by Christianity and the islanders were coerced from a fishing and subsistence way of life into that of a cash economy with the production for sale of copra-dried coconut meat.

The Japanese followed the Germans in the early 20th century and viewed the islands as future settlements to relieve swelling population pressures at home. When the invading US forces landed in 1944, they wrestled the islands from the heavily entrenched Japanese, and the area became a US administered “strategic trust” in 1947 under the sanction of a trust agreement with the U.N. Security Council.

Bikini’s Experience

Desirous of furthering its post-War nuclear monopoly, the US selected Bikini and Enewetak as the sites for atomic tests, begun with the Manhattan Project and the bombings at Hiroshima and Nagasaki. The atolls fitted the criteria for atomic test sites because they were under US control and offered excellent facilities in an isolated part of the world far from the US mainland and other large populated regions.

The one hundred and sixty-six Bikinians were the first to leave their ancestral islands, with the reassurance that they could return after the nuclear tests. Commodore Ben Wyatt, the Navy administrator in the Marshalls, flew by seaplane to Bikini in 1946 after a Sunday church service and “compared the Bikin-

An interdisciplinary forum for utopian and futures-oriented scholarship and commentary.

**Alternative Futures**

Focuses on these major areas:

- utopian literature and thought;
- communitarianism and social experiment;
- utopian/dystopian science fiction; and
- nontechnical futures studies.

Detach and mail to: Alternative Futures, 102 Rackham Building, The University of Michigan, Ann Arbor, MI 48109.

Please enter my subscription to Alternative Futures. I’ve enclosed:

- $12.50 individual, 1-year
- $22.50 individual, 2-year
- $35.00 institutional, 1-year
- $62.50 institutional, 2-year

Name__________________________

Organization__________________________

Address__________________________

City__________________________State__________________________Zip__________

Country (if other than U.S. or Canada)__________________________

Make checks payable to Alternative Futures. Outside U.S. & Canada, please add $2.50.
ians with the children of Israel whom the Lord saved from their enemy and led into the Promised Land." 11 Wyatt described the power of the atomic bomb to the Bikinians and explained that American scientists "are trying to learn how to use it for the good of mankind and to end all world wars." 2 The Bikinians, after seeing the US crush the powerful, long-term Japanese administrators in their islands, reluctantly consented and were taken to the uninhabited atoll of Rongerik. Far from being the "Promised Land," Rongerik was less than one-quarter the size of Bikini; within that year the people began to suffer from malnutrition because of the inability of the local foods to sustain a permanent population. Across the way, "Operation Crossroads" commenced on Bikini with the explosion of two atomic bombs in a military and scientific exercise employing 42,000 personnel, 250 ships and 150 aircraft.

Operation Sandstone

In 1947 President Truman approved "Operation Sandstone," a series of tests intended to develop a new hybrid of nuclear weapons. Enewetak, being much larger than Bikini, was chosen for Sandstone, and like their neighbours before them, the Enewetak islanders were asked to sacrifice their atoll for the testing of a new generation of nuclear weapons. In December 1947, the Enewetak people were taken to Ujelang, an isolated and rat-infested uninhabited atoll less than a quarter the size of Enewetak. The rats were so numerous and troublesome that the Enewetak people frequently had to sleep inside wooden boxes in order to discourage the pests.

The move to Ujelang was complicated by the fact that Enewetak was made up of two distinct island groups — the dri-Enewetak and the dri-Enjebi — who inhabited the two large respective islands in the atoll complex. The dri-Enewetak in the southern portion of the atoll had been traditionally separated from their counterparts in the northern part of the atoll and each group had its own set of traditional sub-chiefs. The entire social fabric of Enewetak, intimately linked with ancestral and usufruct rights to scarce land, as in the rest of the Marshalls, was thrown into chaos when the two groups were forced to live together on the one small main island at Ujelang. Like the Bikinians, the people of Enewetak believed they could return home soon and viewed the move as a temporary one. Ironically, at this same time the US was signing the U.N. trust agreement which pledged the US to "protect the inhabitants against the loss of their lands and resources," and also to "protect the health of the inhabitants."

Meanwhile, the starving Bikini islanders at Rongerik were once again moved — as in the game of "musical chairs" — to Kili Island far to the south. Kili, being a single island without a fringing reef or lagoon, was a formidable challenge for the Bikinians. Like other Marshallese, the Bikini people relied upon their centuries-old fishing skills in protected lagoons for their protein supply. With the full force of the Pacific crashing in all around them at Kili, the Bikinians were ill-adapted for their new hardships and became the first welfare population in the Marshalls to rely solely upon imports of US Department of Agriculture food.

Fall-Out from the Tests

In 1952 the first hydrogen bomb was exploded during "Operation Ivy" at Enewetak. Code-named "Mike," the 10.4-megaton bomb yield (750 times more powerful than the Hiroshima blast) vaporized one island and sent a 100-foot tidal wave awash over Enjebi Island adjacent to the test site. Two years later, "Bravo," the second and largest hydrogen bomb ever exploded by the US, produced a 15-megaton yield which sent a radioactive cloud twenty-two miles into the stratosphere high above Bikini. The populated atolls of Rongelap and Utirik were caught in the dangerous fallout carried by "unexpected wind shifts": 3 after 27 years the pernicious long-term effects of radiation disease — including cancer and genetic damage — have not yet reached a peak. In all, the US exploded twenty-three weapons at Bikini and forty-three at Enewetak at a cost of $20 billion between 1946 and 1958, when the US agreed to halt atmospheric testing prior to the 1962 Limited Test Ban Treaty.

The Return of the Natives

In fulfillment of an earlier promise, President Johnson declared in 1968 that Bikini could be returned to its former residents at the conclusion of a radiological cleanup and rehabilitation programme. During the next several
years radioactive topsoil was bulldozed at Bikini and 87,000 coconut seedlings were planted after the former vegetation — what was left of it — had been cleared away. The Atomic Energy Commission (AEC) determined in 1969 that Bikini was safe for habitation, but admitted that they could not possibly return the atoll to its former state. Instead, the AEC attempted to reduce radiation to an “acceptable” level, and the newly-constructed village houses were built with thick cement floors to help minimize exposure from residual radiation still lingering on Bikini. In addition, the AEC did a study of Marshallese dietary patterns and concluded that per capita coconut intake was nine grams daily. Coconuts were known to concentrate high levels of radionuclides (e.g. strontium-90 and cesium-137), and accordingly, the AEC prescribed a restrictive diet consisting of no more than nine grams of coconut daily. Along with other dietary restrictions, the proposed Bikini diet was to be supplemented in large part with imported USDA foods. Eager to return home after their long exile, many Bikinians accepted the terms of their resettlement and moved back to their ancestral atoll.

On Ujelang, the ex-Eniwetok islanders learned of the Bikini return and began pressing for a similar cleanup of their former atoll. With the help of Micronesian Legal Services (MLS) — a US Government-funded law group — the Eniwetakeese pressured Congress to conduct a preliminary radiological assessment for a prospective return. When MLS lawyers in 1974 sought the advice of Edward Martell, a noted radiation scientist involved with the 1950’s weapons tests at Eniwetok, he warned of the dangers involved with resettlement. With regard to the proposed cleanup at Eniwetok, Martell said:

“The resettlement of such sites is extremely likely to have tragic consequences, particularly for the younger members of the inhabitants. Progressively worse consequences are to be expected for each successive generation in the affected group.”

Disregarding the advice of Martell, MLS lawyers pushed for the cleanup and the Eniwetok project went forward.

The Rehabilitation Programme

When Congress appropriated the initial $20 million in 1976, the Defense Nuclear Agency (DNA) of the Defense Department was given the authority to coordinate the cleanup between various US agencies. The Department of Energy (DOE), which succeeded the defunct AEC, had the task of monitoring radiation levels throughout the operation, and the Department of the Interior (DOI) supervised village construction for the rehabilitation part of the programme.

A 1974 AEC radiological survey revealed that two distinct types of soil contamination were present at Eniwetok, “transuranics” and “suburanics.” Transuranics are elements above uranium in the atomic table and typically have very long half-lives, such as 24,000 years for plutonium. Suburanics below uranium, such as strontium with a half-life of 28 years, are shorter lived. Plutonium and americium, the two principal transuranics at Eniwetok, were concentrated in the top few centimeters of soil. Because

The crater from the ‘Cactus’ atomic bomb, exploded on Runit Island, 110,000 cubic yards of radioactive topsoil were dumped in the crater which has now been sealed off. The crater has been declared ‘off-limits’ for the next 24,000 years.
of their water solubility, the two main suburanics of cesium-137 and strontium-90 were found at much deeper depths at Enewetak. For this reason DNA focused on the transuranics with the understanding that the suburanics would decay to an "acceptable" level within a relatively short period. The DNA sought to remove radioactive topsoil from the southern islands only; only as an afterthought did they attempt to clean up the northern islands.

Runit Island, in the center of the atoll, was chosen as the site to entomb the topsoil. Into the "Cactus" atomic bomb crater, 110,000 cubic yards of radioactive topsoil were mixed with cement into a "slurry" and then covered with a concrete seal. Runit, with its colossal 300-foot dome, was then declared off-limits for 24,000 years.

**Human Experimentation?**

Back on Bikini, DOE medical surveys continued to monitor radiation levels of the returning islanders. Traces of radionuclides were detected in the population, and in 1976 a scientist from Lawrence Livermore Laboratory in California stated that Bikini "...is possibly the best available source of data for evaluating the transfer of plutonium across the gut wall after being incorporated into biological systems."

By 1978 it was learned that the Bikinians — who were formerly unexposed — had ingested the largest amount of radiation of any human group in the world. The earlier AEC study of Marshallines dietary patterns which assumed a per capita coconut consumption of nine grams daily had grossly underestimated the actual Marshallines diet of between five to ten coconuts daily. Caught in an embarrassing situation, the DOI (which administers all of the Trust Territory) quickly evacuated the people and the 144 Bikinians returned to Kili, which they now referred to as the "prison". Their patience exhausted, the Bikini people have now filed a $400 million lawsuit against the US for land damages; according to a recent independent radiological assessment the islanders will be unable to return home until the year 2040.

**The 'Experts' have their say**

Meanwhile, MLS lawyers, representing the Enewetakese, commissioned radiation experts to conduct a risk assessment of Enewetak and Enjebi Island prior to the islanders' return last year. Drs. Michael Bender and A. Bertrand Brill — both of whom are employed by DOE-funded Brookhaven National Laboratory — concluded that the risks facing the islanders were "comparable to those experienced by many other populations elsewhere." This conclusion was reached on the condition that the returning islanders adhere to a restrictive diet with 60 per cent imported foods as well as other artificial living patterns.

Radiation experts outside of the US Government have sharply criticized the Bender-Brill study. In reviewing the study, Dr. Rosalie Bertell — a noted biostatistician and consultant for the New York State and Wisconsin Medical Associations — said:

"The authors 'reduced' the radiation dose of the inhabitants of Enjebi by averaging in the population less exposed. This is like telling the family of a fat member of the family his or her risk of lung cancer is lowered if the other members of the family are included and an 'average' risk given. It is a scientifically ridiculous approach to public health."

To make matters worse, a 1979 US General Accounting Office report on Enewetak expressed grave concern about the cleanup. The GAO report — which was suspiciously withheld from the Government of the Marshall Islands during post-trusteeship talks with the US — questioned the objectivity of having the Defense Department and the Department of Energy assess its own radiological data from Enewetak. Recommending that Enjebi Island should not be resettled, the GAO report stressed the need for a truly independent radiological survey of Enewetak against the claims by the DOE and the DOE that an independent survey would be redundant.

When I spoke with Lt. Col. Jerry Solinger of DNA about the entombed crater at Runit, he stated that a study by the National Academy of Sciences to assess possible leakage of the crater was not yet available. Solinger did concede that "There is communication between the crater and the lagoon," and explained that "leakage would be negligible compared with the radioactivity already in the lagoon from the 43 tests at Enewetak."

John DeYoung — an anthropologist by training — from the Interior Department told me recently that "It is unrealistic to expect artificial living conditions, i.e. the restricted diet and living patterns, to be adhered to for 30 years." DeYoung confirmed the report that of approximately 550 people who had returned to Enewetak last year, about 90 have gone back to Ujelang. "The coconut trees are only three feet high and there is no place to get out of the hot sun," DeYoung said.

According to DeYoung, former Interior Secretary Cecil Andrus rejected Micronesian Legal Services' request for Enjebi to be resettled. Andrus prudently reasoned that "the risks of resettlement outweighed the benefits."

It has been learned recently that a House of Representatives Appropriations sub-committee has rejected the bid to allocate funds to re-build the village at Enjebi Island against the lobbying efforts of Micronesian Legal Services. Albeit for the wrong reasons, this is the only positive thing to come out of the new Administration's budget cuts as far as I can see.

The question for the people of Enewetak is whether they should re-inhabit former nuclear test sites where they will be constantly exposed to low-level radiation. The islanders' wish to return home after a forced exile of 33 years is certainly a large factor in the debate; what is not so certain is whether the islanders themselves truly understand the inherent dangers — both to their health and to the health of future generations — involved with their return. The DOE and DOD seem bent on using the Enewetak islanders to downplay the long-term effects of low-level radiation, and the Enewetak resettlement presents a microcosmic view of the larger debate about "acceptable" levels of radiation for human populations.
The Poison will not go away
While on a research fieldtrip recently in the Marshalls, I spoke with John Anjain who was magistrate of Rongelap when the radioactive cloud from “Bravo” passed over his atoll in 1954. John, whose son Lekoj died of leukemia several years after the fallout and who himself has had his thyroid gland removed due to the latent effects of radiation, told me:

“I am afraid to go back to Rongelap because the ‘poison’ will not go away, like in Enewetak and Bikini, and the number of thyroid operations will only increase in the future. The people of Enewetak are making a big mistake by going back there and the US should not permit it.”

Like the evil tricks played by Etao, the US has just financed a $105 million radiological experiment at Enewetak, where we can expect many cases of cancer, genetic damage, and further cultural destruction in the years to come.

References
2 Ibid., page 12.
3 See the 1973 Congress of Micronesia Report Report on Rongelap and Ulitrek. This is available from the Publication Office, Trust Territory of the Pacific Islands, Saipan, Commonwealth of the Marianas Islands, 99950. Cost is $2.50.
4 See the legal brief filed by Jonathan Weisgall to the United Nations on behalf of the Bikini Council. This U.N. document is entitled Communication from Mr. Weisgall, On Behalf of the People of Bikini, Concerning the Trust Territory of the Pacific Islands, March 30, 1981. U.N.

ANNUAL SCHUMACHER LECTURES 1981.
Bristol University Union
7th November, 2 p.m.

The Annual Schumacher Lectures are presented by the Schumacher Society to perpetuate the memory of E.F. Schumacher (Small is Beautiful, A Guide for the Perplexed etc.) and to develop critical thinking about his ideas.

This year’s lectures will be held on November 7th, 1981 at the Bristol University Union, Queens Road, Bristol from 2.00 p.m. to 6.00 p.m.

Under the theme of “Peace is Possible”, Russell Means, Colin Wilson and Bernard Benson will speak as follows:

RUSSELL MEANS on the Indians of America and the threat to their survival.

COLIN WILSON (“The Outsider” etc.) on Inner Peace: is there a spiritual answer to our social crisis?

BERNARD BENSON (author of the internationally acclaimed “Peace Book”) on world peace — the need to disarm now if there is to be a future.

-------------------------------------------

Previous speakers at Schumacher Lectures have ranged from Ivan Illich to Shirley Williams.
Tickets £3.00, students and claimants £2.00 from the Schumacher Society, Ford House, Hardland, Bidford, Devon. Phone: 023 74 239.