

NUKES NEXT DOOR

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In 1962, the Con Edison Company made a decision to build a nuclear power plant in downtown Queens, only three miles from the center of New York City. The plan was supported by New York Governor Nelson Rockefeller, who argued that it would be helpful in reducing atmospheric pollution. The proposal triggered a furious dispute on the safety of nuclear power generation, and the number of anti-nuclear demonstrators increased steadily. By the following year, the plan was abandoned.

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Almost twenty years later, in 1981, a book was published in Japan called *Nuclear Plants in Tokyo!* The cover showed the giant cooling towers of the Three Mile Island nuclear plant, black against a red sky. The book was subtitled, *At the End of Desire*.

The book argued as follows.

Although the slightly more than half of the Japanese who live in urban areas consume most of the electric power and favor the building of more nuclear power plants, not one of those plants has been built in a big city. Tokyo should have several nuclear power plants for the following five reasons. First, of the thermal energy produced in nuclear power plants through the complicated fission process, only twenty to thirty percent is actually being used today, while the rest is being uselessly dissipated into the atmosphere and the sea. If this wasted energy were channeled throughout the city in the form of steam through a network of pipes, the result would be far greater efficiency in terms of energy utilization, which, after all, is the whole purpose of Atoms for Peace. To this end, nuclear power plants should be built in the most densely populated areas of the country, for example in Shinjuku Central Park in downtown Tokyo. Mothers would be able to bathe their babies in hot water directly supplied by the plants.

Second, these urban plants would require no long conventional power cables, which not only cost a great deal but also destroy beautiful sights in the rural areas. Third, the plants would be safer with quality urban labor . . . Fourth, disputes over nuclear power would automatically end, since the plants

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would be built by supporters next to their own houses. Fifth, the plants would fit well into the lifestyle of big cities, since both are restless machines . . .

Needless to say, the spent fuel should also be reprocessed in Tokyo and the radioactive waste should be buried in Tokyo. Let's build more and more nuclear plants, as many as we desire, but for our conscience let's build them in Tokyo.

We citizens have never chosen nuclear power nor believed in its safety. However, if it is necessary for us in our present situation, it is useless to dispute about whether it is dangerous or safe. The only conclusions we can draw are either to call a complete halt to the operation of all nuclear plants and nuclear development in the interest of our continuing survival, or else to construct urban nuclear plants and indulge our desires as fully as possible before the downfall. Theoretically, there are no other choices.

The book offered a realistic plan, including a cost estimate that demonstrated the huge savings in income that Tokyo could expect from the expected four- to five-fold increase in energy-use efficiency, and drawings of seven small reactors located in proposed sites in the crowded areas of the city.

"Now we will be able to enjoy them because we will be relieved from the pricks of conscience," the book argued. "If these reactors are 100% safe, there is no problem. If they are 100% dangerous then in these narrow islands the risk is inescapable, when you consider what would be the result of a major accident whether it occurred in a remote rural area or at a nearby site in Tokyo. Instead of going on with the endless conventional disputes about their safety, of which we are all sorely tired, the effective thing to do is to build them on sites where we, the main consumers of electricity, can see for ourselves whether or not they are dangerous."

What happened after the publication of *Nuclear Plants in Tokyo?*

Curiously, it was the nuclear advocates, and not the anti-nuclear activists, who became confused. The popular Asahi Shimbun and other newspapers dealt with it sensationally at first. Then more than a hundred articles concerning it appeared in newspapers, journals, and magazines. In these articles nuclear power, which had up to then been treated by most editors as a technological question and written about mainly by technical writers, was redefined as a social question and written about by political writers and social critics. For example, it was the subject of the cover story for the sixth anniversary special edition of the Japanese version of *Playboy*. The article was entitled "Tokyo Syndrome," and the cover picture (which was used on an advertising poster that was displayed all over the country) was a realistically executed photo-montage which placed the five cooling towers of the Three Mile Island No. 2 reactor in the middle of the cluster of high-rise buildings near Shinjuku Central Park. One of the five towers was glowing red.

A reader asked why it was made red.

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"A new form of major accident is occurring," answered the man who prepared the photo-montage.

Professional nuclear advocates tried to suppress the plan for Tokyo Nuclear Plants, as it was arousing the attention of people who up to then had been largely unconscious of the risks of nuclear energy. In order to discredit it, scientists were obliged to point out the shortcomings of the plan. However, the more they criticized it, the more they were obliged to disclose the shortcomings of the already existing nuclear plants, the drawings of which had been used as the basis for the proposed Tokyo plants.

Three weeks after publication, in an interpellation session in the Diet, a member of the House of Councilors showed the book to the responsible Government energy official and asked, "What do you think of this?"

"That is difficult to answer," the official answered. "Frankly, I'm sick and tired of hearing about it. But anyway, if its safety can be thoroughly confirmed, and if the citizens agree, it might be feasible."

Nuclear advocates tried to divert attention from the problem of danger by putting emphasis on the impossibility of getting the agreement of the residents of Tokyo, as well as on the existing laws which restrict construction of nuclear plants to sparsely populated areas. But this escape route was easily cut off in a simple, often repeated dialogue.

"Please tell me the *reason* the residents will not agree. Please tell me the *reason* the laws restrict plant sites to sparsely populated areas."

" "

"Is it because the plants are dangerous?"

"No, absolutely no, but"

"Then what?"

" "

The nuclear advocates shifted their tactics, and began arguing that the ground under Tokyo is too soft for the construction of nuclear reactors. It would be necessary, they argued, to dig down more than a hundred meters to find a solid rock bed. In fact, one of the reactors presently under construction in Japan required excavation down to forty meters for the same reason, and technology now exists for boring down to over a hundred meters for the construction of other types of buildings. Moreover, if they are to seriously perform risk analysis of the ground, then the operation of all existing reactors would have to be stopped immediately, since they are standing either on soft ground or on active faults. The old legend that the Japanese Islands rest on the back of a giant catfish buried in the mud, which occasionally wiggles into a new position, indicates a well-known truth. Japan is a land of earthquakes and volcanoes, and there is no sufficiently solid ground anywhere.

Because of this, scientists and engineers have had to use a novel method in preparing safety reports on the solidity of the ground beneath areas that have already been chosen as nuclear plant sites. Solidity is calculated by averaging the value of the strongest samples with that of the weakest, which is rather like calculating the breaking point of a chain by averaging the strength of the links. In still more blatant cases, data has been collected from ground other than the

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actual site.

"When I was sampling the soil, I was told to set aside samples that showed high strength," testified a worker to the Diet. "They used these samples as substitutes when weak samples were taken. Yes, so we called this the 'savings deposit' system."

"We took our samples from fresh layers," an engineer for an electric company recently admitted. His words mean that old and weak layers were neglected. Two dozen nuclear reactors are in full operation on this kind of ground. Japan has a total capacity of generating approximately seventeen million kilowatts of electricity by nuclear power, which places it third in the world at present. This means that our country produces radioactive waste equal to seventeen thousand Hiroshima bombs each year. In particular, the Tokyo Electric Power Company, the biggest enterprise in Japan, achieved the greatest capacity of nuclear power generation of any company in the world last year. Moreover, ten reactors are under construction, and another ten are planned for the near future. In all, there will be forty-four reactors within the next ten years. Forty-four reactors in this narrow country! Do they want to commit suicide? This situation may seem a sort of living-body experiment through which other countries can come to know how nuclear disaster will happen. Then why not go ahead and build the plants in the cities, as the book proposes, and indulge the advocates' desires to the full before the end comes? Since all of these forty-four plants are located in rural areas too remote from the cities to be seen, the urban public believes that even if there is a major accident it will not pose a serious danger to the cities.

On the other hand, how did rural people respond to the plan? Initially many were confused, both supporters who were looking forward to the big indemnities and the highways, public halls and other facilities that would come with the construction of nuclear plants in their areas, and opponents who feared that the proposal represented a real government intention to build nuclear plants throughout the country.

Six months after publication of the book, the author and his compatriots began a drive to collect signatures on a petition supporting the plan. They asked passers-by to endorse either nuclear plants for Tokyo, or a complete halt to nuclear development.

The interest aroused by this campaign reflected a growing uncertainty about nuclear power. Several months earlier an accident at a nuclear station in western Japan had resulted in radioactive contamination of the nearby sea. Authorities insisted that the accident was an "isolated incident," but the memory of Hiroshima and Nagasaki has left a deep and abiding suspicion of the atom. The petition campaign revealed the complex and contradictory thoughts of urban people about nuclear development.

Most of the passers-by stopped by the petitioners took an attitude of disinterest in the campaign. This was expected. The petitioner would smile and say, "This has nothing to do with you, has it? You're too busy to now to consider our plan, but what is it that you are so busy with? Your busy business must require a lot of electricity . . ."

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One passer-by got angry at these tenacious questions.

"Tokyo Nuclear Power Plant? What a thing to say!"

"Absurd?"

"Of course!" The man was wearing a stylish suit. "You listen to me. We Japanese all know nuclear plants are dangerous."

"How dangerous?"

"Accidents, you know!"

"Could those accidents kill us?"

"If there is an accident . . . so . . . somebody has to die. To kill one is better than to kill five. Tokyo is crowded. It would be crazy to build nuclear power plants in such a densely populated area."

"You say that you can accept killing one, but not killing five. But I think five consists of five ones. The truth is that you want to survive as a member of the "five" group, killing the people in the "one" group. But if you were living in some rural area, could you say the same thing?"

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Another passer-by asserted, "Rural life is supported by urban industries, while urban life is supported by rural industries. Each supports the other. Each has its own territory. We can't raise rice here in Tokyo, and in the same way we can't build nuclear plants in Tokyo."

"You know that before building a nuclear power plant they always hold a hearing. Why is a hearing necessary?"

"To avoid danger!"

Is there danger in nuclear plants?"

"Everybody knows that."

"Is any hearing held before raising rice?"

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At the beginning of the campaign, people regarded it as a mere parody. A folk singer appeared on the street to espouse the plan, singing, "Build nuclear plants in Tokyo / Build, build, build in Tokyo."

Soon, however, the group forced the mass media to take its idea seriously, contacting members of the Tokyo Metropolitan Assembly by sending them a questionnaire. The Questionnaire asked,

- 1) Do you support or oppose the idea of Tokyo Nuclear Power Plants?
- 2) Do you support or oppose nuclear power plants in areas other than Tokyo?
- 3) Do you have a plan to solve the energy problem?

The questionnaire was sent out just before the election, and the majority of the nuclear advocates among the Assembly members decided that the most politic thing to do was not to return it. The Liberal Democratic Party apparently directed its members not to answer. The Communist Party members, on the other hand, answered, but their answers were all identical, evidently having been dictated by Party headquarters. Other answers were mainly restatements of the member's position on nuclear energy which attempted to discredit the plan for Tokyo Nuclear Power Plants but failed in that attempt when an editor of the *Mainichi Shumbun* pointed out that their real intention was to avoid construction of nuclear plants in big cities. Careful analysis of the returns showed that not one

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Assembly member was able to say, "Nuclear power plants are safe." Clearly, the politicians had the same way of thinking as that of the passers-by described above, but could not state it publicly in their role as politicians. On the contrary, since not one of them supported the construction of nuclear power plants in Tokyo, despite the obvious advantages in efficiency and expense, the questionnaire demonstrated that all of them recognized that such plants are highly dangerous.

The campaign to build nuclear plants in Tokyo was made the subject of a special television program. In it, the director visited farmers and fishermen in rural areas where nuclear plants have been built, and asked them, "Most people in Tokyo, including the members of the Metropolitan Assembly, consider these plants to be very dangerous, and say that they should be built in rural areas: What do you think of that attitude?"

"A dangerous thing should be sent away to our area — did they really say that?" a farmer asked back. "We don't have enough people here now. That's because of what the government did. And now the government gives us nuclear plants because there aren't many people here. What are we? To kill one is better than to kill five — did they really say that? Aren't we human beings? What are we working for in the fields? What are these city people eating?"

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Hypocrisy about nuclear power is not limited to Tokyoites. A survey made in the United States in 1981 showed that only nine percent of the people would agree to the construction of a nuclear power plant if it is to be located less than one mile from their homes, while sixty percent would agree if it is more than a hundred miles away. Similar results were obtained in Japan by an NHK survey in the same year.

But now it is time for the author to introduce himself. I am the one who wrote *Nuclear Plants in Tokyo!* I am a member of an environmental group which is opposed to nuclear power. By rights, we should be exhorting the Japanese to fight against the construction of nuclear plants no matter what the location. In fact, this is what we had once been doing. But then we began petitioning and campaigning to have them built right in Tokyo itself, where we live. I want to describe briefly how we came to this change of position.

In the years when we first started to think about nuclear power, we read everything that was available on the subject, we studied and discussed it for hours and days, and finally we concluded that all reactors should be stopped at once. We made our appeals to the public in the full confidence that our position was the right one. These efforts were effective in many rural areas where nuclear plants were and still are planned. One of our efforts was to publish a book at our own expense entitled, *What Is Nuclear Power? — An Easy-To-Understand Explanation*. This book sold best in those rural areas. For example, it was used as a textbook in an area where a town manager who was a nuclear advocate was facing a recall election.

The townspeople, who were resisting the construction of a nuclear plant there, used the book to study the various aspects of the problem, and were able

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to successfully recall the town manager, though the fight over the plant is still going on. In another planned site, a fishermen's union bought one thousand copies to distribute to the local residents and so far have continued to resist construction effectively.

The time came, however, when we found ourselves isolated and ignored by the urban public, which has been the very source of nuclear advocates in our country. After some reflection, we found that we shared a weakness of many Japanese reform movements, and perhaps of reform movements in general: That is, a tendency to preach, to demand that the public adopt the opinions that we are certain are the correct ones. There may have been areas where this is effective, because the problem is urgent for the inhabitants, but in urban areas it is not. What is the reason? Most Japanese, including myself, are relatively satisfied with their lives, and at the same time are tired of ideological dispute. In spite of this, anti-nuclear activists, who are mostly ideologists, have tried to defeat nuclear advocates with ideological reasoning. Therefore, their efforts could be appreciated only by people who were already anti-nuclear. This means that those who most need knowledge about the danger have been able to ignore it. No proliferation of people who know the facts; no improvement in the situation. Our group's activities were also one of the links in this chain, in the sense that we were having no success in shifting the general tendency to support nuclear power, even though we could have some effect on local situations. This meant we had to permanently continue our hard task. We tried to seek another way which would change this general tendency from the bottom. Finally, we found a philosophy.

What we need now is not authoritative opinions, but a way of coming into contact with the facts through our own sensibility. To achieve this we need to refrain from offering conclusions which seek to coerce people by admitting of no alternatives. If no conclusions are given, people will have to conclude for themselves. At that time, if we have prepared more than one answer it helps people to understand the problem.

Apart from the campaign described above, our group regularly presents a movie show at which both a pro- and an anti-nuclear film are shown. If we are right, we believe the audience will support us. If we are wrong, that is, if nuclear power is actually safe, we will be criticized, but that is all right if there really are no accidents. The title of these shows is, "Which is the Liar?" If we are to believe in the public, it should not be necessary for us to explain to them why we think the position of the nuclear advocates ought to be criticized. As we expected, many people have come to see these films.

Now we do not fight. There is no enemy in front of us. Many movement people want to show the "V" sign, but why is it necessary? The goal of our activities is not to gain a victory, but simply to live in peace. Beginning from this point, we can find hope in the present situation, over which other nuclear activists sigh. The danger of nuclear power is not an ideological or moral position, it is a fact. Nuclear power endangers our lives. People who do not oppose nuclear power have not grasped that fact. When they do, they will be able to resist.

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Anti-nuclear demonstrations are not particularly effective in helping people to grasp the danger of nuclear power. To the supporters of nuclear power, the demonstrators seem to be enemies. What the demonstrations demonstrate is the existence of anti-nuclear activists. But what the unaware public needs to know is whether or not nuclear power is actually dangerous, not whether or not anti-nuclear activists exist.

In Japan there is a game called *shogi*. It is similar to chess, but there is an important difference. In chess, the pieces which have been taken are abandoned, while in *shogi* the player who takes them can re-use them by placing them arbitrarily on any square on the board. In the game between the supporters and opponents of nuclear power, the rule of *shogi* is appropriate, since the object is not to defeat the other side, but to live together peacefully. In accordance with that rule, when a nuclear advocate is "taken" by an anti-nuclear group, he or she becomes a fresh anti-nuclear activist. But the reverse is not true, since supporters of nuclear power are so by virtue of their failure to have grasped the fact of its danger.

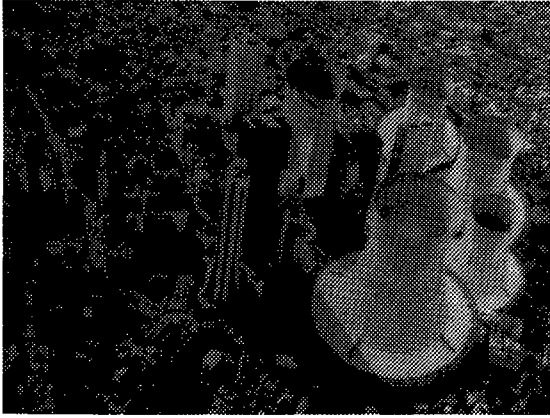
The debate over nuclear power has become a conventionalized dialogue between the experts representing government and industry on one side, and those representing the anti-nuclear movement on the other. In this sense, a true public hearing on the subject has never been held. In our petition campaign we ignored the government and the experts, and appealed directly to the public. The petition campaign gave us an opportunity to inform people about the facts, but more importantly, the structure of the petition — offering a choice between either nuclear plants for Tokyo or a complete halt to nuclear development — put people in a position in which they could not help but see that those facts mattered. This petition campaign may have been the first real hearing on nuclear power between citizen and citizen.

How do people, who have not been doing so, begin *thinking*? Usually not by being told that it is their duty. Before people can begin to inform themselves about the facts concerning nuclear power, they must have a feeling that those facts are important to them. The Tokyo Nuclear Plants campaign provided people with such a feeling. The feeling was fear.

During our campaign, many people asked us if what we were doing was not a parody. Others — mainly anti-nuclear activists — criticized what we were doing, saying that its overall result would be to lend support to further development of nuclear power. Standing in the crowd in the din and bustle of downtown Tokyo, I was one day seized with fear. "What will I be," I asked myself, "and what shall I do, if . . ." At the very moment I felt this fear, I could believe that our campaign was right. Nuclear plants frighten me. This must be true for the passers-by as well. When the real construction of nuclear plants begins, then their real resistance will appear. Therefore, with the ultimate goal of a non-nuclear world, we campaigned for the real construction of nuclear plants in Tokyo. It was by no means a parody.

Unfortunately it was in the egoism of my countrymen, rather than in their ethics, that I could believe.

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The fruit of *Nuclear Plants in Tokyo!* is not directly visible today, three years after its publication. However there is evidence that the seeds of doubt which it planted will continue to put up shoots in many areas. For example, I find many more persons in the mass media who have begun to think afresh about the problems of nuclear development after having passed through a "gate." "The gate was that book," they tell us. "It was a brand-new concept in spite of the fact that anyone could have seen it." Many of these people, who had been unconscious previously, are now speaking of their own fears in their own words to the public. The words seem to have been born not from the pricks of conscience originating from responsibility or duty. But I believe that these words will become a real power against nuclear development, as egoism is stronger than ethics in many people. Curiously, I believe at the same time that they have passed through a gate of ethics when they have noticed their egoism, because they must have noticed the egoism of the surrounding people simultaneously. The key to ethics exists in the recognition of the common substance of human beings, including egoism. Only after recognizing that common base of egoism can ethics seek a way to overcome it.

We recently began discussing the problems of nuclear power with the employees working in the Tokyo Electrical Power Company, who themselves initiated contact with us. This February we — the workers and our group — held a joint hearing. This may have been an epoch-making starting point, in that two formerly antagonistic groups are now in a position to carry out common actions, just as in the example of the *shogi* game.

Perhaps the book *Nuclear Power Plants in Tokyo!* at least partly contributed to change our situation from the bottom. We expect that the change at the bottom will in turn bring about changes on the surface as well.

My final goal is to force the government to hold a national election in which the people will have to vote for or against nuclear power, after they have come to understand the facts well enough to know what the choice implies.