Confronting the nuclear power structure in India

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In 1974, after my return from the United States, I joined the most prestigious national university in New Delhi, named after India's first Prime Minister: Jawaharlal Nehru University (JNU). I joined as associate professor with a promise to be elevated in due course to full professor, and was also made chairperson of the recently established Centre for Studies in Science Policy at the School of Social Sciences, JNU.

Those were the years when India was ruled by dynastic Prime Minister Mrs. Indira Gandhi. She was autocratic and corrupt and a shrewd manipulator of money forces and industrial and government machinery to her personal advantage. She wanted India's major scientific and academic institutions and governmental agencies to work towards her dynastic aspirations and, therefore, the new university established in the early 1970s on the US academic pattern was named after her illustrious father, Jawaharlal Nehru. For obtaining research grants or for advancement of your institution, you were supposed to praise the dynasty. It was, therefore, no coincidence that almost all top scientists in India panegyrized the Nehru family.

Within a few months of my joining JNU, Mrs. Gandhi was found guilty of corrupt practices by the Supreme Court. Instead of resigning, she imposed what was called the Emergency. Thousands of citizens and opposition leaders were imprisoned, democratic freedoms were removed, press censorship was imposed, and free associations, meetings, discussions, demonstrations and unions were banned. It was in that historic moment of national crisis that I decided to dissent in academic circles, and offered a critical voice against corruption and misuse of science for narrow political ends. I challenged the system in academic councils, scientific meetings, seminars and through my writings. I organised street marches against nuclear power when only a few knew about radiation hazards. I took up the task of educating members of parliament, petitioned the heads of governments against nuclear weapons and actively opposed India's secret nuclear programme.

Though I challenged the political powerbrokers and their operative influence in scientific and technological decision making, I did not join any political party. Nor did I establish my own political group. All through my years of struggle in India (and earlier in the US) I sought no political advantage, and basically I remain anti-establishment. Fundamentally, I followed my academic discipline and tried to implement my findings in socio-political policy decisions.

Perhaps that was my mistake or perhaps it was my strength. I have no way to measure my success. What mistakes, tactical or otherwise, I made are for the reader to judge. I shall here attempt to narrate my story of confronting the combined forces of political corruption and secret scientific sub-government of atomic energy in India — including the retribution I received.

The politics of nuclear power

In 1975-76, I began studying the sociology of science purely as an academic undertaking. Unaware of the seriousness of problems related to science policy in general and atomic energy policy in particular, I, as chairperson of the Centre for Studies in Science Policy at JNU, organised seminar lectures on energy policy. Among those invited to give a series of lectures was Professor B. D. Nag Chaudhuri, a brilliant nuclear scientist and former director of Saha Institute of Nuclear Physics. Nag Chaudhuri had been the Scientific Adviser to the Prime Minister and headed the Defence Research Organisations. I was to learn later that he was one of the six advisers of Mrs. Gandhi when she decided to explode a nuclear bomb at Pokharan in the Rajasthan desert on May 18, 1974. But now he was my Vice-Chancellor and had shown keen interest in my research. In fact, he was instrumental in appointing me to the chair of Science Policy Studies.

During his lectures on energy policy, Nag Chaudhuri was evasive on issues of nuclear energy. But he encouraged me to investigate and suggested that little work had been done in India on this critically important subject. There existed no critical writings on the subject and most academics, politicians and the media were not aware of critical assessments of nuclear technology in the west. A powerful and insular group controlled the nuclear establishment, comfortably protected by the Atomic Energy Act 1962, which provided them with all-pervasive legal authority to refuse the public access to any information. The Act forbade any disclosure of information which relates to "an existing or proposed plant used or proposed to be used for the purpose of producing, developing or using atomic energy." The Act further read that "No person shall disclose, or obtain or attempt to obtain any information" about nuclear energy activities which was thus restricted under the Act

Because of such repressive provisions and in view of the strategic importance of the programme, no one in my country had ventured to look into the affairs of the nuclear energy department. The patriotic and populist political culture backed by the dynastic regime of Mrs. Gandhi had reinforced denial of public access to critical scientific information.

During the internal Emergency imposed by Mrs. Gandhi from 1975 to 1977, I joined underground activities.¹ During those dark days of political repression, underground activism brought me closer to some of the political bigwigs who later became ministers in the Janata (People's) Government during a brief spell of 1977-79. In 1978, I came in close contact with Dr. Atma Ram, once the President of Indian National Science Academy and former Director-General of the Council of Scientific and Industrial Research. In the Janata Government, Atma Ram was the Scientific Advisor to Prime Minister Moraraji Desai. He invited me to examine the nuclear establishment critically and report my findings to the new government. Prime Minister Desai and Atma Ram both were known to be Gandhian and anti-nuclear in their philosophical inclinations.

During 1978-79, a few months were available to me to peep into the secret chambers of nuclear sub-government. But soon after, due to Mrs. Gandhi's machinations, the Janata government fell, and I received a curt note from a Joint Secretary of the government debarring my visits to nuclear facilities. I was also asked to seek clearance before I made public any information gathered during my visits to nuclear establishment. It was then, when I challenged the order, that I was shown the provisions of the Atomic Energy Act 1962 which bar any disclosure about the nuclear programme. Around that time, the US Energy Research and Development Administration downgraded its forecast of 1,200 nuclear plants of 1,000 MWe capacity each to about 400 plants by the year 2000, and Sweden adopted a new policy of phasing out its 12 reactors by 2010.

I prepared a comprehensive critical analysis of nuclear power, including a cost-benefit analysis. In a two-part article published by The Times of India I challenged, for the first time in India, the official claims to "clean, safe and cheap source of energy."² In the conclusion I stated that the arguments against nuclear technology were too well-established to be rejected as "anti-science." Little debate was permitted by the government on the question of advantages and disadvantages and undue publicity and the glamour attached to the "big bang" grossly distorted our national perception of nuclear reality. Otherwise, "every million earmarked now for the nuclear programme will simply drag us into a quagmire of many more millions within a few years. It is imperative that we consider the economic,

industrial and ecological implications of our nuclear policy seriously and give the due importance to renewable energy sources." I concluded, "There is a great danger of our energy policy becoming the captive of the nuclear technological elite. Our national energy planning and our military and defence interests would be better served by developing solar technology."

In the Indian context, this was the first ever critical evaluation of nuclear power in relation to solar energy, and these articles became basis for active campaigning for renewable sources of energy. Until then, the Indian government had made no move to spend anything on research and development in solar energy.

Alarm bells start ringing

By early 1981, Mrs. Gandhi was back in power and her anti-people and undemocratic style of governance was evident in a study released by the Press Council of India in July 1981. It stated that two of the wings of the government, namely the legislature and the judiciary, functioned in the open but "the executive does its business in its secret chambers to which the people have hardly any access." In the name of "national security" and "public interest" any information could be denied to the people. The condition relating to the nuclear energy department was even worse due to its sensitive nature.

In addition, I noticed secret and close linkages between big industrial establishments and the ruling political elite, particularly the prime minister's family members and the financial business interests in the country. In my investigation I was venturing into a sensitive area. But being a naive academician, I believed that by exposing the secret deals and unscientific nature of nuclear enterprises I would be able to reform the system. Instead, as I systematically advanced in my investigative exposures of nuclear industrial-cum-political operations, I invited the attention of the secret agencies of the state. Besides articles and interviews appearing in the newspapers, I was preparing the first book-length study of the

nuclear programme in India in spite of all the official restrictions.

In December 1980 I visited England and met Rt. Hon. Tony Benn, who had been the Energy Secretary from 1974 to 1979 and who was known for his critical view on nuclear energy. During long discussions with Benn I learned about the secret functioning of nuclear establishments and received some important tips for comparative analysis of nuclear establishments in India and abroad.

To make a critical study of any government policy is not an easy task, especially when one investigates activities relating to strategic importance. The state acts as if it has something to hide from its own people, and I confirmed with Benn that most policies are and executed without conceived the knowledge of the citizens. More often than not, even legislators do not know the official secrets. In India the citizens have no legal rights to information and the situation is still worse as there exists no group such as a "Union of Concerned Scientists" or "Society for Social Responsibility in Science."

I soon realised my personal responsibility: I was equipped to undertake a critical study of nuclear power and was in possession of information about the working of the Indian nuclear programme. In an atmosphere of the official secrecy, even if my investigations were inconclusive, I felt it my patriotic duty to offer a critical examination of the nuclear establishment for public scrutiny. I believed that so long as the nuclear policy decisions of government were not subjected to the independent scrutiny, proper understanding of its objectives would not be realised, and responsibility and accountability would not be properly attributed. In the total absence of critical information and evaluation. no for reforms recommendations could be offered.

In early 1981, while finalising my book for publication, I sought a meeting with India's top nuclear scientist, the father of India's Abomb, Dr. Raja Ramanna. On an earlier occasion, he had received me inside his official headquarters at the Bhabha Atomic Research Centre and accorded due courtesies, as I was then sent there by Prime Minister Desai. In reply to my request for another meeting, Ramanna replied:

Dear Prof. Dhirendra Sharma,

Please refer to your letter dated March 16, 1981. As I have seen several of your articles, especially the one that appeared in the Manchester Guardian some time ago, it is clear that we have very divergent views on the development of atomic energy in this country. I also feel that these your articles have damaged the country's reputation abroad. In view of this, I feel that there is no point in having a discussion on this matter. With regards,

Yours sincerely,

(R. Ramanna) Date: 23 March 1981.

Ramanna was also then the Scientific Adviser to the Minister of Defence and later became the Chairman of Atomic Energy Commission.

I was to learn later that Ramanna, the Edward Teller of India, was by nature intolerant of criticism and more than once had suggested to the Prime Minister to "stop Sharma," if necessary, by arresting me under the secrecy provisions of the Atomic Energy Act. The campaign or conspiracy to shut me up had begun under the instigation of Ramanna in 1981.

But my investigative research continued. I was getting my chapters typed in pieces and in three copies: one copy I kept in my office at the university, another one I hid in my residence, and the third one posted to my son in England for safe keeping. But I was still naive and did not visualise how far my adversaries could go ...

Until then, I maintained my academic posture and my criticism was directed against nuclear power policy. I was asking critical questions. If the government claimed 10,000 MW of nuclear electricity would be produced by 1990, the nation must be told its cost and whether the country had the industrial and financial resources to support such a programme. I estimated that India would require 32,000 tonnes of heavy water for initial inputs in its reactors and about 2,000 tonnes of heavy water annually to run 44 CANDU reactors each of 230 MW capacity, plus about 50,000 trained personnel to run these atomic power stations. All this would cost the enormous sum of about 25,000 million rupees at the 1983 rate. In early 1980s, I declared that the country did not have the industrial or financial resources to produce 10,000 MW power even by the year 2000.

By 1993, India's installed nuclear power capacity was just about 1500 MW, and the country is nowhere near the nuclear establishment's proclaimed targets of the 1980s. In fact, the official estimates now have been lowered to about 5000 MW by the year 2000. But it was not this criticism which disturbed the authorities. It was, in fact, my exposures of corruption, mismanagement and the issues relating to secret deals and financial arrangements that invited the wrath of the authorities.

The government argued that nuclear weapons were bad, but that nuclear power can be used beneficially. But I saw the reality: atoms for peace and atoms for war were Siamese twins which cannot be separated. If supply of electricity was the aim, I questioned the government, why not give just 10 percent of funds to research and development for renewable energy? And as I carried the campaign against the whole nuclear strategy, the nervousness of the establishment became more and more apparent.

India's official spokesperson for its Defence Policy (sic) and then director of Institute for Defence Studies and Analyses, Dr. K. Subrahmanyam, launched a campaign for India to obtain nuclear weapons to deter threats to the country's security.³

Once again I alone challenged this call for the bomb which was rooted in jingoism and lacked any science policy and/or defence policy perspectives. I claimed that simply shouting that the enemy is holding the Abomb against us is not a serious "policy" statement. In formulating a national defence policy, one must examine national and international implications and industrial and financial ramifications. Making the bomb is a technological mission and does not constitute a national defence policy goal which should be safety, security and stability with social and industrial advancement of the country. I retorted that "to make a few bangs is easier than to run industrial and economic institutions efficiently. It is even more difficult to provide the millions with the daily basic needs. But the bomb hysteria would divert our attention from the fundamental issues of building up a just and equitable society."

But the editor of the *Times* refused to publish my article or even a rebuttal letter. I now recognised the urgency to combat this bomb-cry which was apparently raised by the pro-bomb lobby with the approval of Mrs. Gandhi. In order to boost her popularity she imitated Mrs. Thatcher and encouraged jingoism. I saw the necessity to make an organized counter campaign to stop the bomb hysteria.

In order to alert citizens against the nuclear bomb and nuclear power, I organized the Committee for a Sane Nuclear Policy (COSNUP) in June 1981. This was the first anti-nuclear organisation in India. Under the banner of COSNUP I prepared a statement signed by 24 prominent citizens including the late Madam Vijayalakshmi Pandit, former Secretary-General of the United Nations and the sister of Jawaharlal Nehru, Ms. Navantara Sehagal, a noted novelist and the first cousin of Mrs. Gandhi, and a few eminent jurists, renowned writers and journalists. In the statement released by COSNUP on June 28, 1981, we expressed "deep concern over the reemergence of nuclear bomb lobby in India," and urged the government not to take a rash decision in favour of the nuclear bomb because diplomatic channels are open to the country. We advised the government to perceive the problem of security from the wider South Asian perspective. After a lapse of three months, the editor of The Times of India relented and published my rebuttal to K. Subrahmanavan's pro-bomb article as a lengthy letter.⁴

As I emerged as India's most vocal antinuclear campaigner, COSNUP became a movement. I toured various cities and towns, wrote anti-nuclear articles, gave seminar lectures and organised marches. But my problem was not so much to explain radiation hazards to educated citizens who mostly understood English. The vast majority of Indians live in villages and 60-70 percent of them are illiterate. My co-activists were university students, mostly urban, and all of us had acquired a critical approach to nuclear power technology by reading material in English. The problem was how to explain radiation safety in local idioms to the villagers.

There were also problems of transport services, and lack of communication where no telephone facilities existed. We had made a propaganda video against nukes but due to lack of electricity any modern gadgetry had little usefulness in rural India. Activists from cities had also to experience the privation of washing facilities where there was no running water nor any public toilets. In the 1960s I had participated in anti-Vietnam War demonstrations at Lincoln Memorial in Washington, D.C. It was not the same to organise a demonstration in India's villages. But I found doing it just as rewarding an experience. For the first time, a highly qualified and westernised science policy critic was witnessing the Indian village realities. It was an enriching experience which strengthened my resolve that most high-tech systems, particularly nuclear power. were not appropriate for India and other Third World nations, where 70 to 80 percent of the population live in rural areas and lack even elementary modern amenities. Without proper roads and communication systems, how would you evacuate a few million citizens in the event of a nuclear accident?

Moreover, to have an attentive village audience was another problem. They were accustomed to listen to bargaining over wheat and sugarcane, or discussion about irrigation of their fields or even the electioneering of political parties. But no one had come to them to discuss scientific arguments or to give technological information about safety problems in a CANDU reactor. I found it difficult to explain scientific terms in the local village dialects. Radiation is invisible and odourless, so how could I explain that it remains hazardous for 25,000 years? The villagers could not believe that I was telling the truth. How come no one else, no political leader, no prime minister or political party, told us about this danger of nuclear power? Why is it only Professor Sharma? "Because I am a professor," I persisted.

But the problem was different with the educated scientific community: most of them knew what radiation was and what the problems are in nuclear power. They consider it prudent not to oppose the government policy as the state commands enormous powers of patronage and punishment. In India, almost 95 percent of scientific institutions and research grants come from the government. Hence there existed no scientific autonomy, particularly in higher research and educational institutions. Appointments to all top posts, including university heads and heads of research and development organisations, were made on approval of the Prime Minister. When I approached the scientists at the Tata Institute of Fundamental Research, the foremost institution in India, I was rebuffed: "no one here is qualified to comment on the question of safety in nuclear reactors." Internationally renowned astrophysicist Dr. Jayant Narlikar told me that he was seeking a grant of 10 million rupees to establish his Institute of Astrophysics and so could not be bothered with nuclear policy controversies especially since it was likely to offend the Prime Minister.

My anti-nuclear campaign was picking up momentum but so also were efforts to "stop Sharma." The main character in my confrontation with nuclear power in India was the lion of the Indian Atomic Energy establishment, Dr. Raja Ramanna, the father of India's Pokharan explosion and the chairman of the Atomic Energy Commission, 1982-87. For years he headed secret research as Director of the Bhabha Atomic Research Centre (Bombay). Although he had asked more than once for my arrest under the secrecy provisions of the Atomic Energy Act 1962, a more efficient and benign procedure was adopted.

At that time, in 1981, Raja Ramanna was the Scientific Adviser to the Minister of Defence, Government of India. A review committee was appointed to "formulate a working programme" for the Centre for Studies in Science Policy, JNU. Ramanna himself headed the committee. I could foretell the outcome. After a few casual meetings with a few faculty members of JNU, on February 7, 1981, Ramanna gave his verdict that the Science Policy Centre should be closed down. He wrote:

A Nine Men committee was constituted by the Executive Council of the Jawaharlal Nehru University to advise the Vice-Chancellor on the need for a Centre for Studies on Science Policy and its activities. After considerable discussions, the Committee made the following recommendations:

1. That as a field of research there definitely exists subject which can be termed "Science Policy." In this field, studies could be undertaken on a number of topics, e.g., law of Seas, Science Education, Energy Option etc. It may also include foundational areas like Philosophy of Science, Sociology of Science, History of Science and Technology and Psychology of Science. For this purpose, it does not seem quite necessary that Centre for Studies in Science Policy should exist, but the research worker should be able to move freely, in various related departments where they can discuss the issues with experts in the concerned overlapping fields of knowledge.

Ramanna disregarded my request for a meeting with the committee and refused to look at my course material and research publications. But his official report stated that I was abroad on the day called for discussion, and recommended that I should be transferred to "any other center willing to accept him" or sent out of the university, if necessary!

I strongly opposed the Ramanna Report in the Academic Council and in the Boards of Advanced Studies and warned my colleagues that if they accepted the report, it would set a precedent, and the government in future could close down any other centre whose faculty might express critical opinion on government policies. JNU Academic Council formally thanked Raja Ramanna for painstaking efforts but the report was shelved. Yet, for all practical purposes the Science Policy Centre was placed in deep freeze. The Centre was not permitted to admit new students or supervise any doctoral candidate.

Around this time, the late Dr. Y. Nayudamma became JNU Vice-Chancellor. He was himself concerned about science policy issues and was personally known to me. In fact, he had written the foreword to my volume Science and Social Imperatives (1976). Those were the days of the Emergency, and he was then Director-General of the Council of Scientific and Industrial Research. Now, being my vice-chancellor, he invited me to restructure the Centre and in view of my senior colleague retiring within a few months, suggested that I should plan for taking over responsibilities of the Science Policy Centre again. Nayudamma was a scientist of integrity and held independent views. He was one who often disagreed with the Prime Minister. Mrs. Gandhi respected him for his courage and appointed him Vice-Chancellor for a term of five years. But as he worked to clean up the JNU administration, in less than two years he was forced to resign. The man who succeeded Nayudamma, Dr. P. N. Srivastava, though a scientist of some repute, was a climber at best.

Srivastava, while a professor of biology at the university, had written a research paper supportive of the official line that low-level ionizing radiation is not hazardous (and indeed in low doses is good for health) and that nuclear energy is safe. On the question of the appropriateness of nuclear power, I confronted him in a national debate before a group of scientists and anti-nuclear activists in the "science city" of India, Bangalore.

As the new Vice-Chancellor, Srivastava ran a totally secretive and repressive regime in the university. He was apparently in league with Mrs. Gandhi's power brokers as was evident from his later posting to a ministerial post in the Planning Commission. The Students Union in JNU was avowedly anti-Prime Minister and pro-Opposition Party. Srivastava banned student political activities and ruthlessly crushed all student agitation on campus. Hundreds of students were mercilessly beaten and arrested and a host of them were expelled from the campus, leaving their academic careers in ruins. The message was clear that the new Vice-Chancellor would act as the henchman of the Prime Minister.

The final blow to my academic career

The 1982-83 period was most productive for me from many aspects: the anti-nuclear campaign was at its height and my articles were appearing in national newspapers. My most controversial book, *India's Nuclear Estate*, was released in May 1983.⁵

Dr. Raja Ramanna's appointment as Chairman of Atomic Energy Commission was announced on August 6, 1983. In a scathing criticism of Ramanna's policy, I wrote: "since he has been affiliated with, and is known for his keen interest in, advanced nuclear and defence research, the new chairman is likely to push the country towards an open nuclear weapons policy. If he does this he will receive support from populist politicians and the powerful military-industrial complex in the country."⁶ I concluded by demanding more open and democratic decision making processes in the Department of Atomic Energy. I also pointed out the significance of the announcement of Dr Ramanna's appointment occurring on Hiroshima Day.

In November, I criticised the Atomic Energy Department for constructing an atomic power station in a high seismic zone, 100 miles from New Delhi at Narora, situated only 56 miles from the active Moradabad fault of the 1956 earthquake. Based on my study of official secret reports, I claimed that the Narora site was never cleared by the Site Selection Committee; it was a political decision of Mrs. Gandhi who offered the project to upset the popular base of her powerful political opponent Chaudhuri Charan Singh.⁷

At the end of November that year, Mrs. Gandhi hosted the Commonwealth Heads of

Government Meeting (CHOGM) in New Delhi. I took the occasion for launching another campaign: "let all the [British] Commonwealth countries collectively declare themselves nuclear-free territories." Under the banner of COSNUP, I organised a petition signed by some 200 eminent citizens including members of parliament, professors, lawyers, architects, editors and journalists, which appealed to the Commonwealth leaders to provide "moral courage and leadership" to the world by taking the first step towards collective nuclear disarmament. My petition urged CHOGM to assert that no Commonwealth state would enter into agreement with any other government for stationing nuclear weapons or for their possession or production. The COSNUP appeal decried global military expenditure which had then reached the alarming level of \$800 billion a year. The petition warned that radiation does not discriminate between friends and foes, and urged, "There is no necessity to add a single nuclear weapon to the stockpile and safety and security of the world cannot be brought closer by nuclear weapons. Therefore, we call upon CHOGM to affirm a Commonwealth Nuclear Weapons Policy, which collectively renounces the testing, production and use of nuclear weapons by the Commonwealth countries, bans installation and stationing of nuclear weapons from all Commonwealth territories and assures never to use or support the threat of deployment of nuclear weapons to resolve international conflicts."

Indian newspapers welcomed such an appeal and *Indian Express*, the most popular national daily, editorially supported COSNUP's appeal to CHOGM.⁸ I took the appeal to the Secretariat of CHOGM so that it could be included in the agenda. I sent my request to a few embassies but I was told that only a head of the government can insert an item in the agenda. Except for the Australian Minister for Disarmament, no one was willing to discuss my innovative approach to nuclear disarmament.

The two most powerful individuals in the Government of India, Mrs. Gandhi and Dr. Ramanna, were reported to be upset on my latest anti-nuclear salvo which I thought would embarrass the Conservative Government of Mrs. Thatcher more than Mrs. Gandhi. The Vice-Chancellor of JNU, Srivastava, saw the opportunity to please the Prime Minister. Immediately after the CHOGM meeting, when the Executive Council of the University met on December 6, 1983, he got a resolution passed "to agree to transfer Dr. Sharma from the Centre for the Study of Science Policy, School of Social Sciences to the School of Languages with immediate effect." Who could oppose such a brilliant move to make the Prime Minister happy?

In my reply to the Vice-Chancellor I pointed out that only a few days earlier, when I had called on him to discuss some work of the Science Policy Centre, he had given me no indication about any possibility of my transfer. And only a few weeks before that, I was invited to plan the future development of the Centre and was assured that I would be promoted to full professor and take up the chair of the Centre. I asserted that if the decision was due to "any academic compulsion, the matter could have been discussed with me, as I alone to be affected by the decision. I am the seniormost faculty in the Centre and the order of transfer at this stage is evidently to stop my chances of promotion" in the field of science policy.

I pointed out that there is no provision in the Rules of the University which allows an arbitrary transfer of a faculty member, after having confirmed him/her in a centre for more than ten years. One sympathetic official of the university passed on to me photocopy of the Rules relating to transfer within the university which read "The transfer of faculty members from one Centre to another may be made with the written concurrence of both the Centres as well as of the faculty member concerned."9 But all my appeals and petitions to the Vice-Chancellor, Registrar. the Minister of Education and the JNU Teachers Association remained unacknowledged.¹⁰

Evidence of an anti-Sharma conspiracy

In December 1983 I was transferred and the Centre was closed. But the government in a

reply to the Parliament promised that the Centre would be reopened within a year. A decade later the Centre still remains closed. For more than a decade now, science policy, as an academic discipline in India, has been dead. During my tenure, I had developed M.Phil. and Ph.D. programmes and there were research fellowships for Ph.D. eight candidates. Perhaps I was incompetent to run a Science Policy Centre. But what I learned about the official approach to my confrontationist attacks on powerful individuals was alarming.

After my transfer from the Centre, rumour was spread that I was a foreign agent, specifically "a CIA agent." Because of this character assassination and whispering campaign, within and without the university, for all practical purposes I became persona non grata. In the university no faculty would speak to me and activist students stayed clear of me. There was nothing I could do effectively in isolation. During these days, once I walked into a government scientific department to visit an old friend of my family. He did not speak to me, and after some time when I questioned his behaviour, he blurted out that "we have been told that you were a CIA agent." I left hurriedly in disgust.

I personally knew a Nehru, a first cousin of Mrs. Gandhi, Mr. B. K. Nehru, Director of Nehru Memorial Funds and executive head of many other foundations relating to the dynasty. (He is different from his brother of the same initials. The other B. K. Nehru, more intelligent and forthright, was India's High Commissioner in the UK and was removed from Governorship of Jammu and Kashmir state for his critical stance vis-a-vis Mrs. Gandhi.)

Sometime in summer 1984, by chance I met the Nehru in a restaurant, and asked his help to present my case to the Minister of Education, who was his and Mrs. Gandhi's aunt. He said "there should be no problem" to arrange it. After a few days he asked me to see him in his office at Teen Murti House. His face was burning red and, without the usual pleasantries, he showered me with condemnation. I cannot quote him here verbatim because I did not tape him nor could I take notes. If only I had had a premonition of what I was going to receive. The Nehru said something like this:

We Nehrus have ruled this land for 100 years, since the first Nehru [Motilal, the father of Jawaharlal Nehru] became president of Indian National Congress in 1920s. We are the masters here whether you like it or not. Go to any city or town and you will see a park, road, school or hospital named after Nehru family. Turn any stone and you'll see Nehru engraved in every mountain ... Of course, you are a great scholar and you have right to hold your views. That is your democratic right. But who cares for your constitutional rights in this country? It is we Nehrus who grant you that right. But if we say No, NO, then that goes in this country. If you don't like it, you are free to go. Your family lives abroad, in Britain and in America. Why don't you too go away? I advise you to leave India, as you will do better there. In this country we shall not allow you to teach any science policy. If necessary we would close down the whole university ... if necessary.

The Nehru was fuming. After a few minutes' pause he became a bit composed, and slowly tried to explain the background of his frustration.

You see, it is not a simple academic freedom issue here, as it is in America or in the UK. They [in the Ministry of Education and in the Department of Security] have a huge file on you and of your writings and reports of your speeches. You have one refrain that Mrs. Gandhi is anti-people and that the nuclear programme is designed for evil purposes. At best one twists the tail of a lion. But you have placed your head in his mouth and the lion had crushed your head, smashed you ... You have been challenging the power and the power has responded. You can do nothing to us ... As I left the Teen Murti House — former official residence of the late Prime Minister Jawaharlal Nehru — I noted that whole acres of the palatial estate of the Indian government have been taken over *free* for a personal Nehru Memorial Foundation. While thanking him for such a frank talk about the system of our democratic India, while leaving Teen Murti I heard myself saying "I'll not be ruled by the dynasty and leave India. I shall confront you with all my scientific knowledge and political wisdom."

Within the university circles I felt dejected, not because my Centre was closed and I was transferred but because I was labeled a CIA Agent. In the 1960s, I taught at Michigan State University in East Lansing, and then I actively opposed Vietnam War and joined in civil rights marches. In the US I was accused of being a red — a Maoist. Consequently, the Fulbright-Heys Research Fellowship awarded to me in 1969-70 was withdrawn by the US Department of Health and Education under the intervention by newly elected President Richard Nixon.¹¹ Now, in India, in my home country, I was supposed to be a CIA agent!

I decided to mobilise international support, particularly since in India no scientist or intellectual came forward to defend my academic freedom. I had known Noam Chomsky from my US activist days. I had also been in touch with Tony Benn in the UK. I also wrote to Professor Paul Sweezy, who had suffered under the McCarthyist repression in the US for his liberal economic theories. All of them and many others sent their protests to the university and Chomsky in a lengthy letter to the editor of *The Times of India* wrote:

I have known Dr. Sharma for almost 20 years. He was a courageous and effective participant in the American anti-war movement, and has since done important and highly-valued academic work in the area of science policy while continuing with his engagement in defence of civil and human rights in India and elsewhere in the world. His active opposition to the Indo-China war apparently cost him U.S. government research fellowship in the

year 1969-70. No stranger to controversy, Dr. Sharma has always conducted himself with great honour and integrity, both in his scholarly work and his activities in connection with problems of freedom and justice.

It is hardly necessary to stress that the very existence of a free university depends on vigilant defence of the right of scholars to draw the conclusions to which their research leads them without fear of punishment and discriminatory action by higher authorities. I trust that this decision [of his transfer] will be revoked and that Dr. Sharma will be afforded the opportunity to continue his important work unhampered.

Chomsky's letter was dated March 26, 1984. Mr. Girilal Jain was then the editor of *The Times*. He was known for his pro-Mrs. Gandhi policy. In a letter to me dated May 2, 1984, Mr. Girilal Jain curtly stated that he was "unable to publish Prof. Chomsky's letter."

Meanwhile, Tony Benn and concerned scholars, including editors Les Levidow and Robert Young of the London-based journal *Science as Culture*, sent protest letters to the editor. Eventually, on May 18, 1984, the editor reluctantly published the protests in the letters column of *The Times of India*.

How could these radical thinkers of the west be defending a CIA agent? Noam Chomsky's and Tony Benn's letters had a sobering effect upon self-styled radical intellectuals of India. The government intelligence services must have goofed up somewhere. But interestingly no JNU faculty member, no scientist, no political party or prominent leader in India came forward to defend my academic rights. The JNU Teachers Association lodged no protest at the violation of university rules of the transfer of a faculty member from one centre to another which required the written consent of the faculty member concerned.

There was, however, one exception: the former Foreign Minister in the Janata Government (1977-79), a senior parliamentarian, and the leader of the Opposition in Lok

Sabha (Lower House), Hon. Atal Behari Vajpayee, addressed a protest communication to the Chancellor, JNU, Dr. D. S. Kothari another known yes-man to Mrs. Gandhi. Mr. Vajpayee on October 8, 1984, referring to the rule of transfer, asked the pertinent question:

What were the reasons that led to the transfer of a teacher from the Centre, in which he was appointed and confirmed, about a decade after his appointment?

It appears from the circumstances of the case as reported in the Press that Dr. Sharma has been transferred because of his views — his critical examination of India's nuclear programme. If so, I am sure you will agree that this is a serious matter.

He referred to Noam Chomsky's letter about academic freedom and asserted that "dissent and debate, on public policies in particular, is an essential element of the democratic way of life. As a member of the Lok Sabha from Delhi, and as a member of the Court of the JNU, I feel particularly concerned about the case." He urged reconsideration of my transfer.

But for all practical purposes JNU's Science Policy Centre was closed and there was no institution of higher learning and research in the country which could offer me teaching and research facilities in science policy. But my anti-nuclear campaign continued with better media coverage in the country and I enjoyed greater international recognition.

Postscript

On June 6, 1992, when I retired from the university unceremoniously, it took me six months to get all my dues from the university and I do not remember how many times and how many administrators I had to visit personally in order to complete unnecessary formalities. But this was not harassment. Within six months of my retirement, the Science Policy Centre at JNU was reopened with new faculty appointments.

But in my efforts to build up a critical perspective towards scientific and technological policies in a country where it was blasphemy to criticise those in power and where it is not customary to be critical of the government science policy, I have some successes to record. Following the publication of my book *India's Nuclear Estate* in 1983, in which I criticised and made constructive suggestions for reforms, the following initiatives were taken by the Government of India:

1. In 1984, a small unit under the name "Atomic Energy Regulatory Board," with a few rooms and furniture inside the Department of Atomic Energy, was created. It is still only a Board, under the Atomic Energy Commission. And though it is not an independent commission, over the last few years it has better office facilities and about 50 personnel.

2. In 1984-85, the Government of India established an independent Department of Non-Conventional Sources of Energy to encourage research and development in renewable resources of energy. Until then, nuclear power was considered to be the sole contender for energy future and zero funds were made available for renewable energy sources.

3. In 1984, following the criticism I made in my book that India's Comptroller and Auditor-General did not look into the accounts of Atomic Energy Department, a special cell was formed by the Auditor-General of India to investigate and do some accounting of atomic energy, space and defence research and development departments. This has now become a regular feature and, even though not completely satisfying, a beginning has been made to look into the financial affairs of the atomic energy and other secret science and technology departments of strategic importance which used to be free of mandatory accounting of government departments by the Comptroller and Auditor-General of India.

At the end of my story of confrontation with the state power, I have the satisfaction that I did not bend or break throughout the period of my struggle. During all those critical years three things sustained me.

First was repeated confirmation that I was fighting for the right cause. Access to scientific literature, and my constant exchanges

with science policy critics abroad, proved great help. My campaigning against the dynastic government and for the anti-nuclear movement, as I perceived them, was part of global scientific-democratic movements of the twentieth century in which radical forces of scientific values offered revalidation of sociopolitical systems.

Second: temperamentally, I perform best when in confrontation with powerful authorities. And in this I was very much inspired by Bertrand Russell who laughed at the intellectual weaknesses of rulers and heads of government departments. Basically I was opposed to authoritarianism and believed that in the final analysis "Truth must win."

Third, I was sustained by my life-partner Nirmala, my wife, who, at every critical juncture, stood by me. She nursed my determination not to give in or compromise with unjust pressures or to succumb to the temptations of grants, position or promotions. During the Emergency, she provided shelter to my underground political activists who were hounded by the secret police of Mrs. Gandhi. She was always there when I needed assurance that the path of confrontation I had chosen was for a just cause.

If I had my time again, I would confront the challenges with even greater vigour.

Notes

1. See Dhirendra Sharma (ed.), *The Janata* (*People's*) Struggle: The Finest Hour of the Indian People, New Delhi: PSA Publication [M-120 Greater Kailash-I, New Delhi 110048, India] (1977), which includes underground documents, resistance literature, and correspondence relating to advent of the Janata (People's) Party, which challenged Mrs. Gandhi's dynastic government.

2. Dhirendra Sharma, "Time to Move away from Nuclear Power," *The Times of India* (21 and 22 August 1980).

3. K. Subrahmanyam, "A-Bomb the Only Answer," *The Times of India* (26 April 1981).

4. Dhirendra Sharma, "No Bomb, Please," *The Times of India* (5 July 1981).

5. Dhirendra Sharma, *India's Nuclear Estate*, New Delhi: Lancer International

(1983). See also Dhirendra Sharma (ed.), *The Indian Atom: Power and Proliferation: A Documentary History of Nuclear Policies, Development and the Critics: 1958-86,* New Delhi: Central News Agency (distributor) (1986); Dhirendra Sharma, "India's Lopsided Science," *Bulletin of the Atomic Scientists* (May 1991): 32-36.

6. Dhirendra Sharma, "Dawn of a New Atomic Era?" *The Hindustan Times* (1 September 1983).

7. Dhirendra Sharma, "Narora: Threat To Ganga," *The Hindustan Times* (12 November 1983).

8. Indian Express (23 November 1983).

9. Resolution No. 4. 1/EC/17. 9 (1979).

10. For an account of my transfer see Brian Martin, "Nuclear suppression," *Science and Public Policy*, vol. 13 (December 1986): 312-320.

11. For details see *The State Journal*, East Lansing, Michigan (3, 5, 6 and 10 June 1969) and the autobiography of the then president of Michigan State University, Walter Adams, *The Test*, New York: Macmillan (1971), pp. 152-158, "The outside agitators."