

1 Nuclear Power and Its Critics

“Pennsylvania is everywhere.” So chanted European environmentalists after the Three Mile Island accident of April 1979 as they demonstrated to stop their own nuclear power programs. Civilian nuclear power has become one of the most controversial issues in western Europe. The antinuclear movement has engaged a broad array of different groups with a wide range of social and political concerns. Their persistent opposition to nuclear power reflects more than just the fear of risk. The European movement has focused on the social and political properties of this technology—its effect on the forms of authority and power, the concepts of freedom and order, the distribution of political and economic resources, the very fabric of political life.¹ For the promoters of the technology control of the atom represents a solution to the energy problem and an assurance of future well-being. However, for those who oppose this major technology nuclear power implies a kind of society with intolerable economic and political relationships. Indeed the nuclear establishment and its administrative apparatus have come to represent the social tensions and political contradictions of a technological age.

In western Europe the major expansion of nuclear power began in the early 1970s and sharply rose after the OPEC price increases of 1973. As nuclear power became an important priority, it also generated a significant protest movement. Nuclear critics have attacked national nuclear policies and obstructed their implementation at specific power plant construction sites.

In part public concerns about nuclear power follow from a set of technical problems unique to this technology: the low-level radiation released during normal operation of a power plant, the unlikely but catastrophic possibility of a large-scale accident, the routine environmental effects of heated effluents, the problems of radioactive waste disposal, and the potential military use of the plutonium produced as a by-product of reactor operation. But these practical questions of risk form only one dimension of the nuclear debate.

Nuclear power also conveys powerful apocalyptic images of extinction. It evokes a fear made vivid by the image of Hiroshima and Nagasaki—a fear not susceptible to measurement by comparing risks and benefits.

Beyond this background of fear nuclear power symbolizes the major problems of advanced industrial society: the effect of technological change on traditional values, the gradual industrialization of rural areas, the concentration of economic activities, the centralization of decision-making power, and the pervasive intrusion of government bureaucracies. For many critics of nuclear power the development of this technology is an important example of such problems; they talk less of nuclear energy than of a nuclear society. The passion underlying the debate, the ability to mobilize a broad array of different groups to oppose government nuclear programs follows from the association of this advanced technology with such ubiquitous social and political concerns. Indeed, while much of the debate continues to dwell on technical issues of safety, the challenge to nuclear power has assumed the character of a moral crusade.

We analyze the opposition to nuclear power in France and Germany as a social movement that embodies this broad range of issues. Integrating the movement is a widely shared concern about the political and administrative relationships and the collusion of economic and political power associated with the technology. We see the widespread and persistent protests against nuclear policy as a struggle for change in the organization of power and influence; the issue is not only one of safety but of political rights and obligations. It takes place in the context of other extraparliamentary and emancipatory movements—ecologists, feminists, regional autonomists—that have emerged simultaneously during the 1960s and early 1970s with their persistent challenges to the prevailing political and social order.

Our comparison concentrates on the two leading nuclear producers of western Europe, France and Germany. France developed her civilian nuclear power program in the late 1950s based on an independent gas-graphite technology. To expand the nuclear program, the government decided in 1969 to shift to the Westinghouse light-water reactor model and produce 8,000 Mw of nuclear energy by 1976. Then after the oil crisis of 1973 the government announced a dramatic increase in planned nuclear capacity, projecting thirteen new plants to be completed by 1980 and no less than fifty reactors in twenty locations by 1985.

These major decisions produced no substantive debate in either the parliament or the parties. Nuclear power, considered an implementation of general energy and military policy, was never discussed as a distinct political issue. Even the major expansion of 1974 was announced as a *fait accompli*, leaving no opportunity for meaningful parliamentary debate.

Instead nuclear power became the focus of intense extraparliamentary opposition, stimulating an extraordinary proliferation of citizens' groups and political action committees and provoking large-scale, dramatic demonstrations. In 1971 French plans to locate the first light-water reactor power plant in Bugey brought out 15,000 demonstrators. This was but the first of a series of mass protests organized at nearly every projected nuclear site until the massive demonstration at the Super Phoenix breeder reactor in Creys-Malville in 1977 culminated in violence.

The German nuclear strategy evolved toward the end of the 1950s. A latecomer in the nuclear competition, Germany favored immediate construction of Westinghouse light-water reactors and long-term development of high-temperature and fast-breeder technologies. The growth of the nuclear sector began slowly, but pressure from the major electricity-consuming industries and the nuclear supplier firms converged with the increasing price of oil to push the nuclear option during the 1970s. In 1973 the fourth government atom program provided for major expansion, guaranteeing substantial government support to the nuclear industry in the hope of a five-fold increase in nuclear-generated electricity by 1985. As in France these decisions engaged a tight social network of government, scientific, and industrial interests. Despite the economic and political importance of the decisions (Germany spent 17.5 billion DM for nuclear R & D between 1956 and 1976), legislators passively endorsed the administrative proposals.

Public opposition, however, has been extremely active in Germany since 1972. Environmentalists first raised objections about the nuclear program planned for the French and German banks of the Rhine. A successful court action stopped the construction of the Wyhl plant in 1975, encouraging the organization of antinuclear groups all over the country. In 1976 and 1977 actions in Brokdorf, Grohnde, and Kalkar mobilized many thousands of demonstrators. These actions involved violent confrontations with the police but also provoked court decisions that have essentially immobilized the nuclear power program.

The details of the conflicts in France and Germany reflect power relationships and critical points of tension in the two societies. Hidden strains, contradictions, and disaffections are exposed, as conflict forces people to take sides. In the course of conflict protagonists express their beliefs, attitudes, and visions of a good society. The structure of controversy, the social class alignments, and polarizations reveal diverse agendas, priorities, and concerns. The dynamics of conflict highlight political contradictions, as

critics seek channels to influence policies and governments try to reinforce their authority and legitimacy.

We have chosen to focus our study of extraparliamentary conflict on the French and German nuclear debate for several reasons. France and Germany are today the leading nations in western Europe and are comparable in terms of economic and social development. As advanced industrial societies with progressively converging socioprofessional structures, they share common economic, social, and technological problems, as well as political contradictions uniquely expressed in the nuclear debate. Both have important national nuclear industries that are major competitors on the European and world markets. While the financial backbone of these industries rests on domestic demands, a setback in nuclear expansion due to internal dissent can have broad international consequences. Thus we view the outcome of the nuclear debate in these two countries as one key to the probable future of nuclear energy in western Europe.

The antinuclear movement in France and Germany also provides a means to study in a comparative framework a number of increasingly important political questions, as governments face complex and controversial policy choices in technical areas.

To what extent does the technical nature of policy choices drive the political process? The imperatives of nuclear technology, its high capital costs, and the industrial-governmental relationships necessary to produce and control nuclear power appear to encourage similar administrative centralization regardless of the political context. But France and Germany have had very different historical experiences, reflected in their different political systems and unique cultural and administrative styles. Comparative analysis provides an opportunity to test the logic of a technological issue against the political and institutional constraints of two different cultures.

What are the structural conditions underlying the antinuclear movement? Patterns of economic growth and industrialization have changed the social structure and with it popular expectations about the nature of a good society, especially about the importance of political choice. At the same time the commitment to nuclear power and other large-scale technologies has imposed significant changes in certain political and administrative relationships. These changes are key targets for nuclear critics whose concerns are expressed in the themes and ideologies of the antinuclear movement.

How do critics express their reaction against a major technology to

which their government is fully committed? In both countries organized groups have challenged nuclear policy, its implementation, and the existing policy-making and regulatory procedures. But social movements do not develop in a political vacuum. Comparing the movements in two political systems reveals differences in the dynamics of conflict, as social class alignments and cultural characteristics shape citizens' expectations and demands on political procedures. How critics actually confront their government depends on legal and administrative arrangements, available participatory channels, and anticipated government reactions. Thus the emergence and development of the antinuclear movement, its constituency, its access to expertise, its forms of expression, and its relationship to existing political institutions can be expected to reflect the social and political context.

How do different governments come to terms with challenges to technological policies that involve major economic commitments? Nuclear technology has brought government into increasingly significant partnership with industrial interests, but this very collusion of economic and political power is also a major source of public mistrust. The nuclear opposition challenges not only a technology but also political legitimacy. Governments are constrained by their need to both maintain social order and convey an image of democratic decision making. Pressed between constraints imposed by alliance with industrial interests and demands for public involvement and local control from an ever-critical public, governments oscillate between declarations of democratic goodwill expressed in participatory mechanisms and repression of nuclear protest. The amplitude of this oscillation, however, differs in the two political contexts.

Finally, what is the significance of the persistent opposition to technology, in particular to nuclear power? Is it ephemeral and likely to pass with little long-term effect, a visceral reaction against modernizing tendencies? Or can it be considered a significant movement with a vision of a future social order and a promise of basic structural change?

In France it is often suggested that the opposition is simply a result of public ignorance and inadequate information. In Germany the movement is often attributed to anarchistic groups—to a radical fringe manipulating public fear for its own political ends. We approach the opposition to nuclear power as a far more complex phenomenon: as a social movement with a broad popular base and an ideology that challenges established political institutions. In both countries the antinuclear movement is sustained by sympathetic public attitudes from a heterogeneous class constit-

uency. It comprises a network of committed associations and scientific activists, and its themes convey a critique of the state that has captured the support of diverse groups. The population density in Europe, the scarcity of unpopulated land, and the relatively large number of nuclear power sites are compelling factors in shaping public attitudes.

Despite a flourishing literature on social movements, no consistent or standard concept has emerged. Most definitions are either too broad or too restricted to be analytically useful. According to the *Encyclopedia of the Social Sciences* the term social movement denotes “a wide variety of collective attempts to bring about a change in certain social institutions or to create an entirely new order.”² Such broad definitions encompass an enormous range of phenomena and often fail to distinguish social movements from protest movements or pressure groups. More restrictive definitions, focusing on specific organizations or ideologies, tend to miss the diversity and richness of social movements intrinsic to their importance and broad appeal.

In describing social movements European sociologists often maintain a theoretical perspective that limits the concept to movements that produce disruptive changes in the social structure and power relationships in a society.³ Our analysis of the antinuclear movement will suggest its political implications but cannot assess its long-term historical significance. Rather we base our analysis on the reflections of a German sociologist, O. Rammstedt, who has developed an evolutionary interpretation of social movements, defining them as a social process that unfolds in a situational context.⁴ Protest groups emerge as a result of structural changes in a society, and as a movement develops, its organization, ideologies, and tactics adapt to the environmental and political circumstances in which it evolves. In the course of broadening its constituency and developing its strategies, a social movement also becomes a source of further structural change, though often in directions that may be neither anticipated nor intended.

We approach this study with a distinct political bias—that governmental capacity to tolerate radical protest and social conflict is a criterion for public freedom. The concentration and collusion of economic and political power intrinsic to the nuclear sector, and the sense of economic and technological imperative that pervades the political climate of energy decisions, have at times brought administrative or even police repression of criticism. We find this unreasonable, for the importance of the antinuclear

movement lies less in its specific impact on public policy than in its ability to reveal that alternative evolutions may exist. To take such movements seriously is simply to maintain confidence in the human capacity to influence history and prevent disasters that often appear to be the immutable consequence of iron laws.