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The Technocratic Image and the Theory of Technocracy

JOHN G. GUNNELL

In recent years there has been growing concern about technocracy as a “problem,” both in modern industrial societies and in developing or Third World countries. However, students have confronted a difficulty in studying technocracy: the analysis of the phenomenon, the definition of the problem, and the prescription of remedies have been both informed and constrained by variations of an image that has a long history in Western thought. There has been not so much a shortage of empirical information as an absence of adequate conceptual connections between the technocratic image and political facts. In general, technocracy has been taken to mean the government (or control) of society by scientists, technicians, or engineers—or at least the exercise of political authority by virtue of technical competence and expertise in the application of knowledge. But the technocratic image has been Janus-faced. Technocracy has often been associated with a utopian social vision, yet it has also been regarded as a political pathology. Since World War II, there has been an increasing tendency to approach the analysis of technocracy from the latter perspective, and it is this view of it as a problem which is the principal concern of this essay.

The first section briefly traces the general contours of the technocratic image. The second section offers a typology and critical analysis of recent theories of technocracy, and the third examines the classic political ideal that seems, at least tacitly, to inform most critiques of technocracy. The final section presents two distinct but related theses. First, the philosophy that underlay the founding of the American republic embodied the belief that it was possible to create, through political artifice, an institutional surrogate for the classic ideal. The Founding Fathers expressed a faith in the possibilities of a *political* technology and the complementarity of technology and popular gov-

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ernment which has remained a persistent feature of American social thought and social science. Second, although the model of pluralist/constitutionalist politics reflected in the American system has often been viewed as a solution to, or safeguard against, technocratic tendencies, the actual operation of the system may be conducive to the emergence of the very problems associated with technocracy. If so, this situation cannot be explained by traditional theories of technocracy.

I

The term "technocracy," though originated in the United States in 1919 by an engineer named William Smith, first became common when it was adopted by a movement that developed in the early 1930s as a response to the Great Depression. That movement, which for a time gained considerable notoriety and a substantial following, began with a group of technicians and engineers dedicated to social reform whose concepts were modeled on the technological republic in Edward Bellamy's late-19th-century utopian novel *Looking Backward*. They were also influenced by the economic theories of Thorstein Veblen and the principles of scientific management growing out of the work of Frederick W. Taylor, both of which suggested, much like the later work of James Burnham in *The Managerial Society*, that politicians and industrial entrepreneurs should, and would, give way to technical elites. Although the movement may have appeared somewhat bizarre, it reflected a characteristic American faith in the compatibility of technology and civic vitality. The aim was to abolish corrupt politics and an obsolete economic system and expand administrative and technical rationality.¹ "Technocracy" has been applied retrospectively to many of the technological utopias and dystopias that are so persistent a feature of Western literature and political theory.

From the beginning, there has been a fundamental tension between the concepts of *Homo faber* and *Homo politicus*. The Greeks believed that social life began with the Promethean gift of *Techné*, but the legacy of that gift was ambiguous. According to Plato it was the origin of politics in the sense that human beings were able to undertake their own governance. Yet it has often been suggested that Plato's notion of the application of political knowledge through the demiurgic art of the philosophical ruler or true statesman would eliminate politics as a distinct and autonomous mode of human activity. Plato and Aristotle both emphasized the primacy of political rule for determining the

¹For studies of the technocracy movement, see William E. Akin, *Technocracy and the American Dream* (Berkeley, 1977); and Henry Elsner, Jr., *The Technocrats: Prophets of Automation* (Syracuse, N.Y., 1967).

scope and application of all other arts and forms of knowledge within the polis, but Aristotle stressed the idea of the polis as a political association or public community of citizens deliberating about and managing the affairs of the city.

The idea of transforming the human condition by technological means, so foreign to the Greeks, may have appeared first in Tommaso Campanella's *City of the Sun* (1602) with its emphasis on technical education and the creation of leisure through the use of machines, but the book usually taken to be the paradigm of a scientific utopia is Francis Bacon's *New Atlantis* (1627). Bacon's vision was not free of ambiguity regarding the relationship between power and knowledge or between the state and science: he conceived of a new social order dedicated to the expansion of modern science and progress in human achievement through dominion over nature, but did not entirely clarify how these goals were to fit with political purpose and the rule of civil society. By the 18th century, the French *philosophes* were predicting inevitable progress in human knowledge and its rational application to the control and perfection of human affairs. Yet the Enlightenment ideal was not without its critics. Rousseau, for example, questioned the implications of progress in the arts and sciences, not only for human happiness but also for the integrity and authority of the political community.

Many of the characteristic features of the technocratic image may be found in the work of Henri de Saint-Simon (1760–1825) and his vision of an industrial society wherein an elite class of engineers, scientists, industrialists, and planners systematically apply technical knowledge to the solution of social problems and the creation of a rational social order. If Bacon's *New Atlantis* was the first example of a scientific utopia, Saint-Simon provided the first model of a pure technocracy. For Saint-Simon, the governance of society was to be an "administration of things" that would take from each according to capacity and provide for each according to performance. Political institutions would be replaced by a "parliament" of technical experts. A similar concept was advanced by Saint-Simon's follower Auguste Comte (1798–1857), who believed in an imminent historical progression toward a positivist era wherein scientific method would be extended to the control of society and classical political regimes would be superseded as social authority was vested in a class of administrators drawn from the pure and applied sciences.

Much of Western sociology has incorporated the idea that as society develops it moves inevitably, for better or worse, in the direction of instrumental rationality. The classic expression of this thesis can be found in the work of Max Weber (1864–1930), whose theory of bu-

reaucracy has proved an enduring model for analysis of the technocratic phenomenon.² For Weber, modernity involved a steady advance in the direction of rational-legal administration with an emphasis on procedural rules and *Zweckrationalität*. Bureaucracy was the most efficient and advanced form of administration, but it also tended to transform itself into an autonomous form of policymaking which encroached on the function of the politician. Weber believed that bureaucracy was not well suited to perform this function and that, while professing ideological neutrality, it often reflected the conservative views of the upper classes from which the bureaucrats were usually recruited. According to Weber, while the politician was forced to win support in a competitive public forum, the bureaucrat was accountable only in terms of standards of skill and efficiency. The problem in modern society was to restrict the bureaucrat to his proper role and prevent the subversion of democratic political will. Bureaucracy, for Weber, did not merely represent government administration but the rationalizing tendency in all associations characteristic of modern life, including law and economics. His concept of the march of technical rationality in the world, the rise of a bureaucratic elite, and the relationship between bureaucracy and ideology exemplified all the principal elements of the technocratic image.

Karl Mannheim, as opposed to Weber, was optimistic by the 1930s about the possibility of social control and planning through an applied science of politics that would transcend "ideology and utopia."³ While Mannheim maintained that all knowledge and political values reflected particular social and cultural interests and perspectives, he also believed that the 20th-century society promised, or had already produced, a form of social knowledge that was not tied to particularistic concerns. He further claimed that an intellectual and political synthesis, a fusion of knowledge and power, could be achieved through the instrumentality of an increasingly classless intelligentsia. Specialized knowledge could be applied to democratic social planning in an age in which those aspects of life amenable to rationalization were growing and politics was giving way to administration.

Such ideas were subsequently reflected in the diverse arguments that came to be associated with the "end of ideology" thesis during the 1950s.⁴ Common to these arguments was the belief that modern in-

²See, e.g., selections in H. Gerth and C. Wright Mills, eds., *From Max Weber: Essays in Sociology* (Oxford, 1946).

³See, e.g., selections in Kurt H. Wolff, ed., *From Karl Mannheim* (New York, 1971).

⁴See, e.g., Daniel Bell, *The End of Ideology* (Glencoe, Ill., 1960); Edward Shils, "The End of Ideology?" *Encounter* 5 (November 1955): 52-58; Seymour M. Lipset, *Political*

dustrial society, by its potential to solve fundamental social problems, had eliminated the conditions that gave rise to extreme ideologies of right and left and even made interest politics itself obsolete. What was required was the application of administrative, intellectual, and mechanical technology to the pragmatic resolution of particular social issues. In many respects, Mannheim's argument and claims about the end of ideology both tended to be socially conservative, even though they reflected Marx's belief that the development of the material forces of production (technology) would solve the problem of scarcity and consequently eliminate political conflict. The events of the late 1960s tended to undermine this thesis, and yet the notion persists that there is, or should be, a "decline of politics and ideology in a knowledgeable society."⁵ As late as 1978, the historian Daniel Boorstin celebrated the American "experimental spirit" and maintained that "technology dilutes and dissolves ideology" as well as inevitably triumphing over "tribalism, nationalism, the crusading spirit in religion, bigotry, censorship, racism, persecution, immigration and emigration restrictions, tariffs, and chauvinism."⁶

The technocratic image, then, has been ambivalent. For every *Looking Backward* there has been a *Caesar's Column* to warn of the dangers of a technological world. The social destruction produced by technology in Mark Twain's *Connecticut Yankee* is given a counterpoint in the vision of the technological community represented in Howells's *Traveler from Altruria*. B. F. Skinner's *Walden Two* is suggestive of a continuing faith in social technology, but the trend has been toward the dark visions of Karel Čapek, Eugene Zamiatin, George Orwell, and Kurt Vonnegut where technology leads not only to social domination but to dehumanization. Bacon's island gives way to the islands of Aldous Huxley and Austin Wright where the quality of life depends on the control, if not the elimination, of technological exten-

Man (Garden City, N.J., 1960), pp. 403 ff.; Joseph La Palombara, "Decline of Ideology: A Dissent and an Interpretation," *American Political Science Review* 60 (March 1966): 5-16.

⁵Robert E. Lane, "The Decline of Politics in a Knowledgeable Society," *American Sociological Review* 31 (October 1966): 649-62.

⁶Daniel J. Boorstin, *The Republic of Technology* (New York, 1978), pp. 6, 59. For an expression of the characteristic attitude regarding the application of social science to public policy, see Heinz Eulau, *Technology and Civility* (Stanford, Calif., 1977), pp. 78, 90. For a discussion of this point, see John G. Gunnell, "Social Scientific Knowledge and Policy Decisions: A Critique of the Intellectualist Model," in *Problems of Theory in Policy Analysis*, ed. Phillip M. Gregg (Lexington, Mass., 1976). For a critique of the application of public policy techniques for the improvement of governmental policymaking, see Jeffrey D. Straussman, *The Limits of Technocratic Politics* (Edison, N.J., 1978); and Robert A. Scott and Arnold R. Shore, *Why Sociology Does Not Apply* (New York, 1979).

sions of human being.⁷ Whether viewed pessimistically or optimistically, there is little dissent from the assumption that politics is increasingly subject to the influence of technological change. And for the most part the technocratic image is now associated with a political pathology.

II

The precise nature of the impact of technology on politics is sometimes ambiguous, but it seems to involve three distinct—though not mutually exclusive—theories, dimensions, or levels of analysis:

1. In circumstances in which political decisions necessarily involve specialized knowledge and the exercise of technical skills, political power tends to gravitate toward technological *elites*.

2. Technology has become autonomous, hence politics has become a function of systemic *structural* determinants over which it has little or no control.

3. Technology (and science) constitute a new legitimating *ideology* that subtly masks certain forms of social domination.

In each level of analysis, there is a concern about the depreciation of the political realm, the subversion of traditional bases of authority, and the ascendancy of instrumental over political rationality. More specific concern usually centers on the problem of the circumvention or atrophy of democratic or representative political institutions.

The *elite* theory of technocracy has been the dominant one. Especially since President Eisenhower issued his warning about the rise of the “military-industrial complex” and “the danger that public policy could itself become the captive of a scientific-technological elite,” there has been a proliferation of literature attempting either to document or to disprove the presence of such danger.⁸ Certain con-

⁷Edward Bellamy, *Looking Backward 2000–1887* (1894; reprint ed., Cambridge, 1967); Ignatius Donnelly, *Caesar's Column: A Story of the Twentieth Century* (1890; reprint ed., Cambridge, 1960); B. F. Skinner, *Walden Two* (New York, 1948); Eugene Zamiatin, *We* (New York, 1972); Karel Čapek, *RUR* (1923; reprint ed., New York, 1961); George Orwell, *Nineteen Eighty-Four* (New York, 1967); Aldous Huxley, *Brave New World* (1932; reprint ed., New York, 1969); Kurt Vonnegut, Jr., *Player Piano* (New York, 1972); Aldous Huxley, *Island* (New York, 1962); Austin T. Wright, *Islandia* (New York, 1971).

⁸*New York Times* (January 22, 1961). For a representative selection of this literature on science, technology, and politics not cited elsewhere in these notes, see J. S. Dupre and S. A. Lakoff, *Science and the Nation: Policy and Politics* (Englewood Cliffs, N.J., 1962); Robert Gilpin, *American Scientists and Nuclear Policy* (Princeton, N.J., 1962); Robert Gilpin and Christopher Wright, eds., *Scientists and National Policy Making* (New York, 1964); H. L. Nieburg, *In the Name of Science* (Chicago, 1966); S. A. Lakoff, ed., *Knowledge and Power* (New York, 1966); D. S. Greenberg, *The Politics of Pure Science* (New York, 1967); S. Fredrick Seymour, ed., *Washington Colloquium on Science and Society*, 1st ser. (Baltimore, 1967); E. B. Skolnikoff, *Science, Technology and American Foreign Policy* (Cambridge, 1967); H. Brooks, *The Government of Science* (Cambridge, 1968); E. Shils, ed.,

comitants of governmental support of scientific research and technological development in the United States, and governmental dependence on science and industry, particularly in the area of defense, certainly suggest a danger of this sort. In developing countries, where so much of modernization depends on the transfer and application of advanced technology, the appearance of a similar danger might seem likely. C. P. Snow, who dramatically pursued the problem of the influence of experts on political decisions, argued that "one of the most bizarre features of any advanced industrial society in our time is that the cardinal choices have to be made by a handful of men" in a world of "closed politics" and "secret scientific choices" where there is "no appeal to a larger assembly . . . in the sense of a group of opinion, or electorate."⁹ Outside of fiction, it has seldom been suggested that there is an actual conspiracy by a scientific power elite, or danger of a political "takeover" by scientists. Nevertheless, many share Ralph Lapp's belief that "scientists in key advisory positions wield enormous power" and that the rendering of decisions by a few technically skilled individuals not subject to public scrutiny could produce a situation in which "the ordinary checks and balances of a democracy might fail."¹⁰

As early as 1949, Georges Gurvitch spoke of the dangers of "techno-bureaucracy," and this theme has been thoroughly pursued by Jean Meynaud in his attempt "to analyze the spread into political

Criteria for National Goals (Cambridge, 1968); Joseph Haberer, *Politics and the Community of Science* (New York, 1969); Paul J. Piccard, ed., *Science and Policy Issues* (Itasca, Ill., 1969); W. S. Sayre and B. L. R. Smith, *Government, Technology, and Social Problems* (New York, 1969); Irene Taviss and Judith Burbank, eds., *Technology and the Polity* (Cambridge, 1969); James C. Charlesworth and Alfred J. Eggers, Jr., *Harmonizing Technological Developments and Social Policy in America* (Philadelphia, 1970); Jack Douglas, ed., *Freedom and Tyranny: Social Problems in a Technological Society* (New York, 1970), and *The Technological Threat* (Englewood Cliffs, N.J., 1971); Nigel Calder, *Technopolis* (New York, 1971); J. R. Ravetz, *Scientific Knowledge and Its Social Problems* (Oxford, 1971); D. Schooler, Jr., *Science, Scientists, and Public Policy* (New York, 1971); J. Primack and F. von Huppel, *Advice and Dissent: Scientists in the Public Arena* (New York, 1974); Albert H. Teich, ed., *Scientists and Public Affairs* (Cambridge, 1974); John D. Montgomery, *Technology and Civil Life* (Cambridge, 1974); Robert F. Baker, Richard M. Michaels, and Everett S. Preston, *Public Policy Development: Linking the Technical and Political Processes* (New York, 1975); Philip L. Bereano, ed., *Technology as a Social and Political Phenomenon* (New York, 1976); W. Henry Lambright, *Governing Science and Technology* (New York, 1976); Victor Basuik, *Technology, World Politics and American Policy* (New York, 1977); G. Boyle et al., *The Politics of Technology* (New York, 1977); Joseph Haberer, ed., *Science and Technology Policy: Perspectives and Developments* (Lexington, Mass., 1977); Ina Spiequel-Rosing and Derek de Solla Price, eds., *Science, Technology and Society* (Beverly Hills, Calif. 1977).

⁹C. P. Snow, *Science and Government* (Cambridge, 1961), pp. 1, 56.

¹⁰Ralph E. Lapp, *The New Priesthood* (New York, 1965), pp. 2-3.

life of the complex demands and workings of technological civilization.”¹¹ The question that Meynaud raises is whether the technocratic attitude is undermining representative constitutional government and precipitating “the gradual eroding of real power away from the normal machinery of politics.” He argues that technocracy has “de-throned” the politician or at least that the technocrat has “acquired a decisive influence.”¹² While Meynaud sees government by technocrats as “still a long way off,” he regards “the process of transfer” as something that is “under way.”¹³ His solution is to make the technical function “answerable for its actions to a democratic power” and to ensure that it is “placed under the supervision of a higher authority” consisting of “elected representatives.”¹⁴ The way this is to be effected and sustained, however, is not as clear as the general prescription.

In the United States, there has been a persistent faith in the intrinsic mechanisms of constitutionalist/pluralist politics, and probably the most influential analysis of the issue in these terms has been Don Price’s *The Scientific Estate*. Price sees science and technology as creating a new dimension of politics, one that poses distinct questions about the status of representative government. It often seems as if political institutions are too cumbersome to deal with the problems arising from the growth of scientific knowledge and the proliferation of technology. The effect has been to transform our constitutional order by “moving the public and private sectors closer together” as the technological and scientific enterprises, as well as business and industry, have become tied to national policymaking.¹⁵ Price additionally suggests that “the scientific revolution is upsetting our system of checks and balances” in that it has “weakened the moral authority of religious institutions by critical skepticism” and “made the universities themselves dependent on government.”¹⁶ Most significantly, there has come into existence a scientific estate which “challenges the old notion that in matters of public policy the scientist must be controlled by the purposes defined by politicians.”¹⁷

Yet Price believes that this threat of a corporate society is being deflected by American pluralism and the structure of the con-

¹¹Jean Meynaud, *Technocracy* (New York, 1969), p. 13. See also Robert Gilpin, *France in the Age of the Scientific State* (Princeton, N.J., 1968); and Alain Touraine, *The Post Industrial Society* (New York, 1971).

¹²Meynaud, p. 13.

¹³*Ibid.*, pp. 31, 32, 296.

¹⁴*Ibid.*, p. 299.

¹⁵Don K. Price, *The Scientific Estate* (Cambridge, Mass., 1965), p. 15.

¹⁶*Ibid.*, pp. 16–17.

¹⁷*Ibid.*, p. 19.

stitutional system. While the persistent American faith in the unity of science and democracy must be reevaluated, it has not been misplaced. American society is already meeting the challenge by developing a new equilibrium which complements the system of checks and balances in the formal constitution. Even though it is not really possible in modern society “to preserve the idea that the electorate, or its representatives, should make policy decisions by public discussion of the key issues, including their scientific aspects,”¹⁸ there is a system at work which connects power and knowledge or politics and science. Professions such as engineering, medicine, and law act as a bridge between scientific knowledge and political action by adding a social “purpose” to pure science; gaps in professional expertise are filled in by the administrators of concrete organizations. Finally, on this “spectrum from truth to power” there is the politician, who makes decisions on the basis of value judgments and interests which do not admit to technical rationality.

Price maintains that these four functions—scientific, professional, administrative, and political—find institutional expression in “estates,” which form “an ordered system of authority and responsibility—in short, a constitutional system.” This does not supplant the normal political process but works within it and compensates for deficiencies created when the old pluralism became obsolete. Moreover, it is not simply the structural features of the system which make it viable but “what people think and believe.” Hence Price argues that the system is ultimately sustained by “our consensus that science and politics in a free system, while freely interacting through the professions and administration, have to be maintained as mutually independent estates, each able to check and criticize the other.”¹⁹

This faith in the mechanisms of pluralist society is reflected in Daniel Bell’s characterization of “post-industrialism.” Bell emphasizes the extent to which “post-industrial society is shaped by an intellectual technology” consisting of “information and knowledge” possessed by an emerging meritocracy of technical and professional classes.²⁰ For Bell, “decisions are a matter of power, and the crucial questions in any society, are: *Who* holds the power? and *how* is power held?” In modern industrial societies, “technical skill” is the basis of “access to power,” and thus the scientists and technologists acquire status.²¹ Yet Bell does not see a threat of dominance by a scientific elite. He argues that scientists will align themselves with diverse interest groups and that

¹⁸Ibid., p. 121.

¹⁹Ibid., p. 205.

²⁰Daniel Bell, *The Coming of Post-industrial Society* (New York, 1976), p. xiii.

²¹Ibid., p. 358.

“no matter how technical social processes may be, the crucial turning points in a society occur in a political form. It is not the technocrat who ultimately holds power, but the politician.”²²

One reason why the professionals do not constitute “a new political class which would bid for power”²³ is that no single overriding interest binds them together; indeed, there are major ideological concerns which divide them. More important yet is the fact that although they constitute a stratified class within society, “the society is organized, vertically, by *situses*, which are the actual loci of occupational activities and interests.”²⁴ It is the occupation to which people belong and their organizational allegiances, not their status group, which ultimately determine their perceptions of self-interest. Because it is the “*situses*” and not “*statuses*” which are the “major political-interest units in society” vying for dominance in the political realm, the political system rather than the economic system will remain “the control system of the society.”²⁵

John Kenneth Galbraith’s image of modern industrial society and the rise of technical elites is not significantly different from Bell’s image, or Price’s. Although Galbraith does not see an elite of scientists and technicians assuming political power, he does believe that in the new industrial states of the West control has shifted to what he terms the “Technostructure.” This is the “association of men of diverse technical knowledge, experience or other talent which modern industrial technology and planning require.”²⁶ Galbraith argues that in this kind of social system, power no longer resides in individuals—either managers or entrepreneurs—but in organizations. In modern industry, decisions draw upon information possessed by various people with specialized scientific and technical knowledge. Technological “imperatives” and the need for planning and coordination in a complex society demand that decisions be the product of groups, and thus power passes to organizations.

The “technostructure” that Galbraith speaks of “embraces all who bring specialized knowledge, talent, or experience to group decision making.”²⁷ The political consequence of the emergence of the technostructure is that the “industrial system . . . is inextricably associated with the state.” There is no clear line between the public and private, the power and goals of the industrial system and the state are

²²Ibid., p. 360.

²³Ibid., pp. 374–75.

²⁴Ibid., p. 376.

²⁵Ibid., p. 377.

²⁶John Kenneth Galbraith, *The New Industrial State* (Boston, 1967), p. 59.

²⁷Ibid., p. 71.

mutually interdependent, and “the technostructure of the large corporation tends to become an extension of those parts of the federal bureaucracy . . . on which it most depends.”²⁸ Galbraith has an answer to the problems posed by the technostructure, but it is not very compelling or far-reaching. He recommends a “systematic questioning of the beliefs imposed by the industrial system” and a preservation of “political pluralism.”²⁹

Hardly anyone would disagree with J.-J. Salomon’s assertion that the “political role of scientists” in modern society has created a “new relationship between knowledge and power” and that “in the decision-making process there are no longer any distinct frontiers between the sphere of the politician and the sphere of the scientist; in some instances the frontier is so fine that the power of decision in fact lies with the scientist on political questions and with the politician on scientific questions.”³⁰ What Salomon refers to as the new theater of “technonature” does not exactly seem to be rule by scientists and technicians, but it is a situation in which a scientific and technical elite uses political power for its ends and political power uses science for *its* ends. Nor would many disagree with Z. K. Brzezinski’s concept of a “technetronic” age and society, that is, one culturally and psychologically shaped by technology.³¹ But while some, such as Robert Boguslaw, offer modulated warnings about the appearance of a class of “New Utopians,” others, such as Victor Ferkiss, deprecate the claims of the futurists who predict that “technology will bring politics to an end” and lead to an era of mass society, rule by scientific elites, and a totalitarian state.³²

Ferkiss finds little basis for such projections and insists that scientists are merely one power group in a pluralistic political order—and “far from the strongest.” He argues that “the professional politician is still on top, and the notion of a scientific elite is a myth.”³³ Sanford Lakoff reaches a similar conclusion. Like Price, he maintains that despite the obvious problems raised by the relation between knowledge and power in modern society, science and democracy are—or at least in principle should be—basically complementary. Modern democracy demands the contribution of the scientist, and scientists must

²⁸Ibid., p. 374.

²⁹Ibid., p. 370.

³⁰Jean-Jacques Salomon, *Science and Politics* (London, 1973), p. xvii.

³¹Z. K. Brzezinski, *Between Two Ages: America’s Role in the Technetronic Era* (New York, 1970).

³²Robert Boguslaw, *The New Utopians* (Englewood Cliffs, N.J., 1965); Victor Ferkiss, *Technological Man* (New York, 1969), p. 157.

³³Ferkiss, pp. 175–76.

assume a sense of public responsibility. Lakoff believes that “the main reason there is still a lingering fear of technocracy is simply that democratic theory has not yet caught up with democratic practice.”³⁴

It is difficult to assess these arguments. Both the descriptions and the recommendations tend to remain conceptually bound within the elitist/pluralist dichotomy and the categories of a perennial debate in political theory about the relationship of power to knowledge. In each case, there is concern about the breakdown between public and private, a traditional symptom of corruption to political theorists, but precisely what that relationship should be, or has been in the past, is somewhat nebulous. While the arguments embody certain assumptions about the proper sphere and function of politics, a clear conception of the political realm and its distinguishing attributes does not emerge. Despite varying degrees of explicitness about the problems of technological encroachment on political decisions, there is no very definite sense of alternatives. Either the analysts discover that, below the surface, the countervailing forces of pluralism are at work to maintain an equilibrium or they warn that it is necessary to keep a watchful attitude and be aware of the possible danger that political control may slip away to the experts.

The emphasis on elites often tends to obscure other dimensions of the relationship between technology and politics—dimensions represented in the literature of philosophy that emphasizes such themes as the “planetary domination of technique,” as well as more popular work dealing with “future shock” and the manner in which the structure of technology molds the consciousness and behavior of society in the contemporary age.³⁵ This brings us back to the second of our levels of analysis, the *structural* theory, which suggests that, although there may be instances of public decision making by technical elites, the problem is not simply the lack of control over technocrats but rather an inability to control technology itself. As Langdon Winner has pointed out, this “does not mean that the power and position of technically trained persons in political life ceases to be a problem” but only that the notion of “a cohesive group based on the knowledge it holds *rising* to power and authority” is “a good example of a case in which ‘a picture held us captive.’”³⁶

³⁴Sanford A. Lakoff, “Knowledge, Power, and Democratic Theory,” *Annals of the American Academy of Political and Social Science* 394 (March 1971): 10. See also Daniel S. Greenberg, “The Myth of the Scientific Elite,” *Public Interest* 1 (Fall 1965): 51–62.

³⁵Martin Heidegger, *Discourse on Thinking* (New York, 1966), *What Is Called Thinking?* (New York, 1968), *The Question concerning Technology and Other Essays* (New York, 1977); Alvin Toffler, *Future Shock* (New York, 1970).

³⁶Langdon Winner, *Autonomous Technology* (Cambridge, Mass., 1977), p. 150.

We shall return to Winner presently, but first must consider the philosopher who has provided the most expansive and forceful statement of the structural argument, Jacques Ellul. Ellul contends, like the elite theorists, that the dominance of "technique" in modern society has tended to "subvert democracy" and "create a new aristocracy."³⁷ Politics has become an "illusion," for "the true choice today with regard to political problems depends on the technicians who have prepared a solution and the technicians charged with implementing the decision."³⁸ The state has become omnipotent, but it is simply an instrument of technicians; the power "displacement toward the executive branch is only a stage in the progressive elimination of political action itself." The problem has developed so far that no answers are to be found in "constitutionalist rules, good institutions, or socioeconomic changes."³⁹ There is "no longer room for ideological debate," for the political realm has not only "shrunk" but "has come to be considered secondary and frustrating."⁴⁰ The elements and ideals of political life such as citizen participation and representative government are now myths; the problem exists in the context in which political order operates and not in the political order itself.

For Ellul, the growth of technocracy is merely a symptom of a set of circumstances which "necessarily subordinates political decisions to technical evaluations" and where the means define the end.⁴¹ Differences in political form become inconsequential as "socio-economic development generated by technological motives enforced by technological means, moving in the direction of a technological continuity" reveals itself as the meaning of contemporary history.⁴² What he stresses is the "autonomy of technique" and its role as the "prime mover" both in economics and politics.⁴³ *La technique* has taken over not just *la politique* but humanity itself. *La technique* determines its own course.

For Ellul, the only answer to this situation is to "depolitize and repolitize." Since technique has now become fused with the state, it is necessary to escape the state and then regain democratic control of the apparatus. The first step is to have "citizens organized independently of the state" so that "private life" can be rehabilitated in order to create a "tension" and "conflict" that will maintain freedom.

³⁷Jacques Ellul, *The Technological Society* (New York, 1967), p. 274.

³⁸Jacques Ellul, *The Political Illusion* (New York, 1967), p. 37.

³⁹*Ibid.*, pp. 40, 202.

⁴⁰*Ibid.*, pp. 46–47.

⁴¹*Ibid.*, p. 38.

⁴²*Ibid.*, p. 46.

⁴³Ellul, *The Technological Society*, p. 133.

Ellul is really suggesting pluralism in, and between, government and society. What is required, he believes, is “the emergence of social, political, intellectual, or artistic bodies, associations, interest groups, or economic or Christian groups totally independent of the state, yet capable of opposing it, able to reject its pressures as well as its controls, and even its gifts.”⁴⁴

Whether or not one accepts Ellul’s apocalyptic vision and his argument about the apotheosis of technique, his approach raises the issue of whether the impact of technology on the structure of society has not significantly determined both the options and the decisions in politics as well as the selection and behavior of the decision makers. Winner, who has most carefully and fully pursued this theme of “autonomous technology,” sees the significant question not as who governs but as “*what* governs?” That same question has been raised in some of the most significant works on technology and civilization written in this century—works by Georg Juenger, Karl Jaspers, Lewis Mumford, Siegfried Giedion, Ellul, and others who are concerned about domination by technological processes in modern civilization.⁴⁵ In his discussion of “technological politics,” Winner emphasizes what he terms “reverse adaption,” the process whereby “technical systems become severed from the ends originally set for them, and, in effect, reprogram themselves and their environment to suit the special conditions of their operation. The artificial slave gradually subverts the rule of its master.” This is a situation which involves “the adjustment of human ends to match the character of the available means.”⁴⁶

Winner argues that rather than focus on the problem of technological elites, it is necessary to consider “the whole of technology’s capacity to transform, order, and adapt animate and inanimate objects to accord with the purely technical structures and processes.”⁴⁷ The point is that technology and the conditions created by technology supplant political action or severely limit its possibilities. At a certain point, the givens of technology define the range of choices and shape the purposes that can be pursued and the needs and goals that are defined. The imperatives are built into the system, and the complexity of the artificial world of technological politics results in a “loss of agency” and the decline of a significant public realm.⁴⁸

⁴⁴Ellul, *The Political Illusion*, pp. 202, 210, 222, 234.

⁴⁵Winner, p. 173; George Juenger, *The Failure of Technology* (Chicago, 1956); Karl Jaspers, *Man in the Modern Age* (Garden City, N.Y., 1957); Lewis Mumford, *The Myth of the Machine: Technics and Human Development* (New York, 1967); Siegfried Giedion, *Mechanization Takes Command* (New York, 1969).

⁴⁶Winner, pp. 227, 229.

⁴⁷*Ibid.*, p. 237.

⁴⁸*Ibid.*, p. 278.

There is no doubt that technologies, once embraced, tend to limit and even determine decisions, and that this contributes to the "politics of expertise."⁴⁹ Nevertheless, world-historical arguments such as El-lul's, with its reification and spiritualization of concepts such as technique, are difficult to demonstrate and to relate to specific events in an explanatory manner. It is important to note that decisions to employ technological instruments are often irreversible and that there are structural conditions that give rise to technocracy, but the more extravagant versions of the structural theory are more metaphysical than empirical.

One thing the structural theory does point up, however, is the impact of technology on social consciousness, and this brings us to a third notion of technocracy, or at least a third mode of analyzing the problem. This neo-Marxist critical theory treats technology itself as a form of *ideology* and has been most closely linked with the individuals associated with the Frankfurt School such as Max Horkheimer, Herbert Marcuse, and Jürgen Habermas. While similar in many respects both to arguments that stress the danger of technical elites and to those that emphasize the theme of autonomous technology, it suggests that such developments are basically epiphenomenal.

Horkheimer stressed the extent to which technological or instrumental rationality had involved the subordination of human reason to modern industry and how science had been transformed into a servant of bourgeois society and "a means of creating social values."⁵⁰ Marcuse emphasized this latter point, claiming that what individuals such as Weber saw as rationalization in modern society was in fact a mode of political domination and repression that served certain class interests and was tied to a particular historical and social situation. Technical reason was itself an ideology which masked a system of control over society and legitimized political power and the imposition of "surplus repression."⁵¹ Habermas considers the problem of the "relation of technology and democracy," or how technology, or the "scientifically rationalized control of objectified processes," can be contained "within the range of the consensus of acting and transacting citizens."⁵²

Habermas believes that even though the proper means/end relationship between technology and politics has been reversed and the politician has become a "mere agent of a scientific intelligentsia," the historical necessity of the "technocratic model" is an illusion which

⁴⁹See Guy Benveniste, *The Politics of Expertise* (Berkeley, 1972).

⁵⁰Max Horkheimer, *Critical Theory* (New York, 1972), p. 3.

⁵¹Herbert Marcuse, *Negations: Essays in Critical Theory* (Boston, 1969), *One-dimensional Man* (Boston, 1964), *Eros and Civilization* (Boston, 1955).

⁵²Jürgen Habermas, *Toward a Rational Society* (Boston, 1970), p. 57.

reflects “pre-existing, unreflected social interests and prescientific decisions.”⁵³ The assumption that technology cannot be controlled by a democratic public will is as incorrect as the more optimistic notion that it is in fact under control. In contrast to the technocratic model, Habermas advances what he terms a “pragmatic” model which requires that social decision making involve “mediation by the public as a political institution” in which communication regarding social interests and values takes place.⁵⁴ There is always a relationship between politics and science through the medium of “public opinion” and the “historical self-understanding of a social group” even though it does not always rise to consciousness, but this mediation can only be effective where public communication about practical issues between citizens is institutionalized and free from repression. “A scientized society could constitute itself as a rational one only to the extent that science and technology are mediated with the conduct of life through the minds of its citizens.”⁵⁵ In modern industrial society, however, the “depoliticization” of the mass of the population is a component of a system of domination that tends to exclude practical questions from public discussion.

Habermas claims that scientific and technological knowledge and the corresponding structures in society are manifestations of “work” or “purposive-rational action” which is a fundamental element of the human condition and social organization that arises from a universal “cognitive interest in technical control over objectified processes.” However, such knowledge is complemented, and should be governed, by a political or public community which is the expression of a basic “practical” cognitive interest in communication and the development of consensual norms and which in turn is devoted to furthering the fundamental human interest in social emancipation.⁵⁶

Habermas argues that modern science developed in a context where the focus was on technical control and that science and technology had become interdependent by the late 19th century. This mode of control is now being utilized in contemporary society where there is an increase in state intervention to compensate for contradictions in advanced capitalism and to secure the stability of the system. Political power is legitimized by the claim that the state is

⁵³Ibid., pp. 59–60, 63.

⁵⁴Ibid., p. 68.

⁵⁵Ibid., pp. 74, 80.

⁵⁶Jürgen Habermas, *Knowledge and Human Interest* (Boston, 1971), p. 309. For a further discussion of Habermas’s theory of interest and knowledge, see the introduction to *Theory and Practice* (Boston, 1973). Also see Jürgen Habermas, *The Legitimation Crisis* (Boston, 1975).

merely involved in the “*solution of technical problems.*”⁵⁷ In this situation, there is no discussion of social ends in a public forum, no public decision making. Science and technology are productive forces in the system, and since the system depends on economic growth, social interest coincides with the maintenance of the system. The technocratic model thus becomes the basis of an ideology which governs social self-understanding and the perception of society and which, if unchecked, leads in the direction of autonomous technology and the absorption of all society into the purposive-rational subsystems. Habermas’s recommendation is to work for the creation of a democratic public realm and to begin politicizing the masses through the media and the educational system. Here, he believes, is where the legitimating consciousness of technocratic society must be undermined.

III

Habermas’s cosmic explanations of technocracy are as difficult to relate to actual political circumstances as Ellul’s, but the concern is remarkably consistent with more modest analyses that focus on the devolution of decision-making power to technical specialists. The fear in every case revolves around the loss of political or public control. But even though all three dimensions of the technocratic image are predicated upon some ideal typification of the political, rarely is its substance or the rationale for its autonomy and dominance articulated in any detail. The decline of politics and the public realm is a principal theme of modern political theorists such as Hannah Arendt,⁵⁸ and, to some extent, the critique of technocracy must be understood as a species of that literature. Yet what is characterized as the subversion of the political is often merely a nostalgia for an image that has little significant concrete expression. Too often the criticism of technocracy—both in developed and underdeveloped countries—in the name of democracy and representative government rings hollow. Even in instances where neither the institutions nor social structures that would support them exist, the political image and the technocratic image are reified and discussed as if they were historical entities.

The ideal of the political which is invoked or tacitly assumed in most critiques of technocracy can be found, among other places, in Aristotle’s notion of the polity, in various 17th- and 18th-century theories of republican government, in Rousseau’s description of the social

⁵⁷Habermas, *Toward a Rational Society*, p. 103.

⁵⁸See, e.g., Hannah Arendt, *The Human Condition* (Chicago, 1958).

contract and general will, in Hegel's vision of the state, in Marx's concept of socialist society, in various versions of classical democratic theory, and in the work of contemporary political philosophers such as Arendt and Habermas. It is an image of a generalized community which stands above particular social and economic institutions and associations and directs them toward a public interest which is something more than a mere compromise between competing private interests. It implies the primary allegiance of each citizen to the public community and a dedication to the notion that associations and private interests are instrumental to the creation and preservation of the public interest. It is in this public realm that the higher faculties of human being—the capacity for rational discourse and interaction with others in the pursuit of a common good and ethical life—are expressed. Truly representative government must provide a medium through which citizens can effectively participate rather than merely ratifying the actions of elites. If there were in fact such a public community and such a realm of public action, then the notion of public interest would not be merely a fiction or a euphemism, but a confirmation of a value by a community that engages in collective deliberation to determine social goals and make social choices. This would be a politically rational society in which all things that are matters of common concern and potentially matters of collective decision—including the development and implementation of technology—actually became objects of decision. Participation in this decision-making process would be seen as an end in itself and not as a function of the pursuit of private interest.

With some such ideal in mind, the notion of preventing the ascendancy of technocracy makes sense, but this ideal assumes the existence of a public community of which government is the agent. Often this is simply not the case. There is a growing literature on the "assessment" and "control" of technology as well as on "alternative technology," "intermediate technology," and "participatory technology." Without a distinct, legitimized, and authoritative public realm and public community, however, it is difficult to see how pertinent policies could be articulated and implemented. It is one thing to encourage reflective criticism of technology and informed choices among available technologies. But to the extent that this would involve more than a critique by academics and intellectuals, it implies the existence of a public realm that is more than a forum for competing private interests.

Apart from vagueness about the character of a rational political society as an alternative to technocracy, all three kinds of analysis that have been considered here are informed by strands of the traditional

technocratic image which to some extent function as a priori constructs. There is often an imposition of these schemata on widely diverse historical and political circumstances, even though their general explanatory validity is questionable. What is sought in each case is a comprehensive *causal* answer in the most primitive sense of that concept—an answer based on agency. This is most apparent in the elite theory, but it also is true of Ellul's anthropomorphic technique and Habermas's notion of underlying class interest. These theories may all reflect certain important aspects of the relationship between politics and technology, but they also project a somewhat frozen image that may miss the specific source of the difficulties in any particular historical case.

The concluding section examines the American political experience and offers two basic arguments. First, the founders of the American republic believed that it was possible to fashion an institutional surrogate for the classic political ideal. The vision of the founders was in fact a profound expression of the technocratic faith—a belief that an applied science of politics could devise and implement a rational political society. Second, although the system of pluralist/constitutionalist politics created by the founders is often treated as a solution to the problem of technocracy, under modern conditions many of the features associated with this political pathology may actually be inherent in that type of system.

IV

Daniel Boorstin has called the United States the “republic of technology” and has argued that this character has found its fullest expression in the development, beginning with the founders, of a “technology of politics.”⁵⁹ This idea has been a persistent theme in American political and social science. Addressing the American Political Science Association a few years ago, Austin Ranney suggested that we can find in “the creation of the American polity history's first great political experiment and massive effort at political engineering” and “the application of empirically derived general principles of individual and institutional behavior to fashion institutions intended to solve practical political problems.”⁶⁰ Constitution making in light of the “divine science of politics” was the aim of the founders, and Ranney quite correctly suggests that “it also launched a faith in political and social engineering that has persisted ever since as one of the main elements in American political culture and one of the prime forces in

⁵⁹Boorstin, *The Republic of Technology*, p. 49.

⁶⁰Austin Ranney, “The Divine Science,” *American Political Science Review* 70 (March 1976: 140–48, esp. 140.

American political behavior.”⁶¹ The idea that “if we can figure out and establish the right *institutions*, the right policies are bound to follow” was the main article of faith, and “it is . . . a faith to which most in our profession still cling.”⁶²

Many of the individuals who contributed to the creation of the Constitution believed that the technological potential of American society promised a means of producing political virtue. Benjamin Rush saw in new technology and industrial manufacturing a means of escaping the corrupting influence of the Old World. Tench Coxe argued that an industrial society would restore to the citizens the social virtues that sustained republican government and promised an educational system that would “convert men into republican machines.” Above all, this attitude regarding the symbiotic relationship between technology and politics was exemplified in the idea of the constitutional system as an institutional substitute for a republican polity.⁶³

Between the Revolution and the Constitutional Convention, it became more and more evident that there was not a homogeneous and politically virtuous people of the sort that had been assumed necessary for the establishment of republican government—that, indeed, the new nation was “remote from the happy empire of perfect wisdom and perfect virtue.”⁶⁴ Although the men who promulgated the Constitution were committed to a form of popular government and determined to place elaborate fetters on governmental institutions, they were primarily concerned with establishing a central governmental power transcending the authority of lesser governmental units and capable of checking excessive democratic tendencies. But there was no ideologically or physically identifiable political community which that government would represent. The founders set out to create not simply a national government but an institutional arrangement that would function as a surrogate for classical republican politics and the ideal political community it had presupposed. The Enlightenment faith in science and progress was to be extended to the realm of political *technē*.

The philosophy of *The Federalist* attempted to rationalize and make a principled defense of the new Constitution and also to overcome the remnants of classical republican theory in anti-Federalist thought,

⁶¹Ibid., p. 144.

⁶²Ibid., p. 147.

⁶³John F. Kasson, *Civilizing the Machine: Technology and Republican Values in America, 1776–1900* (New York, 1976), chap. 1.

⁶⁴Jacob E. Cooke, ed., *The Federalist* (New York, 1961), p. 35. See Gordon Wood, *The Creation of the American Republic, 1776–1787* (Chapel Hill, N.C., 1969); and Bernard Bailyn, *The Ideological Origins of the American Revolution* (Cambridge, Mass., 1967).

especially the notion that popular government must rest on a homogeneous political society and must be limited to a territory and population small enough to sustain democratic participation. Madison and Hamilton addressed the problem of creating political order in a society threatened by “factions and convulsions,” lacking any definable organic structure, and too extensive to sustain a political community.⁶⁵ The “people” were no longer conceived as an intelligible body with a collective will but as a mass of “individuals” coalescing in factions around a diversity of relatively fluid interests over which government was erected and which the totality of government represented.⁶⁶ In traditional republican theory and ideology, the constitutional structure had been viewed as a medium for the participation in governance by natural and distinct elements of society. Now, however, it was seen as a substitute for such participation and as an instrument for filtering elites and policies. The separation of powers, for example, was no longer an institution conceived as having any particular social counterpart. It was merely an internal mechanism for balancing and checking overlapping governmental structures and functions. The problem was one of making government “control the governed” and then, “by so contriving the interior structure of government,” making it “control itself.”⁶⁷

What Madison claimed was most novel about the new system was that, unlike earlier republics which had been characteristically unstable, it created a *form* of government that was “wholly popular” and yet simultaneously effected a “*total exclusion of the people in their collective capacity.*”⁶⁸ Here was a popular form of government in the sense that it was understood as based on the consent of the people and as a delegation from the people as individuals, and also in the sense that the constitution was ratified by the people who also elected officials to government. Still, the legislative branch was not considered a vehicle for the participation of the people through virtual representation but merely as one mode of government and, in fact, as an “impetuous vortex” to be balanced and contained by other branches of government as well as divided within itself.⁶⁹

The constitutional structure was viewed as a mechanism for aggregating and compromising various social interests in such a manner as to produce a functional equivalent of political community and collective political deliberation. It was not democratic, but it was sup-

⁶⁵*The Federalist*, p. 28.

⁶⁶*Ibid.*, p. 244.

⁶⁷*Ibid.*, pp. 347–49.

⁶⁸*Ibid.*, pp. 84, 428.

⁶⁹*Ibid.*, p. 333.

posed to achieve democratic values. In attempting to meet arguments based on classical republican ideals, Madison sought to demonstrate that the system would achieve those ideals functionally, and the application of the language of the ideals to the realities of pluralist/constitutionalist politics has confounded American political discourse and political consciousness ever since.

The system was designed to “break and control the violence of faction,” which was rooted in human nature and expressed in the “different and unequal faculties of acquiring property,” in such a way that no faction could gain a majority and no minority faction could gain control of the government and oppress other interests.⁷⁰ The system was predicated upon the assumptions that society was composed of diverse interests seeking their own advantage and that it was vain to hope “that enlightened statesmen will be able to adjust the clashing interests and render them all subservient to the public good.”⁷¹ To the founders, American society appeared as the epitome of the disease characteristically associated with the downfall of popular government, that is, faction born of private passion and the absence of political virtue or a commitment to a public community.⁷² In a social universe of “ambitious, vindictive and rapacious” individuals, what was required was an institutional means of achieving public interest. “The opposite and rival interests” that tore society apart might, if properly channeled by constitutional alchemy based on a “science of politics,” bind it together and correct the “defect of better motives” in citizens and politicians.

The problem was to create a system in which “the excellencies of republican government may be retained and its imperfections lessened or avoided.”⁷³ Madison’s famous answer, enumerated in *The Federalist*, was to make the infection of faction acute, organize interests through institutional devices for limiting and reconciling them, produce equilibrium within and between government and society, and thereby, utilizing a nominal procedural majoritarianism, create an artificial public realm. The Constitution was conceived, to borrow Mandeville’s phrase, as a mechanism for transforming private vice into public benefit—a catalytic converter of licentiousness into common good.

In this scheme, the people were sovereign in the sense that they provided the “opinion” or consensus which authorized the Constitution and legitimized the power of constitutional elites, and on which

⁷⁰Ibid., pp. 57–58.

⁷¹Ibid., p. 60.

⁷²Ibid., p. 28.

⁷³Ibid., pp. 51, 349.

all government ultimately rested. But the “people” was an analytical fiction apart from the mass of particular wills expressed in group interests that were brought to bear on government and animated the governmental process.⁷⁴ In the American constitutional polity, it is actually the constitutional system as a set of institutions that is functionally sovereign, and it was designed as a substitute for a rational political community that stands above and directs private and social interest and government to a public purpose. Government and public become identical. In this case, the public interest is also an analytical fiction and means no more than either the common denominator of private interests that are fed into the system or the product that emerges.

The American Constitution was a response to a particular kind of political situation, and, though in many respects it was a viable solution, it created problems which it in turn was neither equipped nor designed to solve. In a relatively noncomplex society in which the ethic of classical liberalism prevailed and where only a few issues needed to be matters of common concern and public decision (and about which there was likely to be wide agreement), the constitutional substitute for a communal public realm was possible. But as the complexity of society grew, as technology advanced, more issues became objects of common concern because they touched society as a whole. Growing economic and social interdependence and the emergence of positive government and interventionist liberalism began to render the constitutional vision inadequate. In the United States as well as in most Western pluralist-constitutionalist polities, there is, and has been for some time, a crisis in public authority and legitimacy which has been contained only by resort to numerous ad hoc legal fictions, ameliorative policies, and institutional appendages.

The Madisonian theory assumed that in certain fundamental respects the constitutional structure must be separate from society. Measures had to be taken to prevent “interesting too strongly the public passions” in government or the government would be captured by particular social interests, and these interests were in turn to be protected from oppression by the government.⁷⁵ But the constitutional structure is procedural and nonsubstantive. Its values must either come from or be legitimized by groups in the private and social sector. What Madison termed the “constitutional equilibrium” operates in response to those interests, and public policy must always be manufactured from compromises between those interests.⁷⁶ Various

⁷⁴Ibid., p. 340.

⁷⁵Ibid.

⁷⁶Ibid., p. 341.

groups put pressure on government to introduce policies that are in their favor and to stop policies that are not; government in turn seeks the support of groups in order to gain authority and legitimacy.

The need to win the support of a coalition of interests in order to act, the demand that government justly represent all legitimate interests, and the increasing difficulty of meeting such needs and demands in areas of broad social concern—these lead to well-recognized problems of pluralist politics: the breakdown on many fronts of the distinction between public and private (or government and society); the loss of public authority in many spheres; the need for government to “sell” and “unsell” its policies in order to gain legitimacy; the semiconstitutional status of entrenched interest groups and the delegation of sovereignty to quasi-official bodies; the decline of the party system; the obstacles to new interests and groups gaining entrance into the political process; the difficulty of implementing policy with respect to any concern not associated with particular groups; the sidestepping of formal constitutional procedures in favor of government by bargaining between bureaucrats and interest-group elites; and the paradox of specific interest organizations being formed to lobby for issues conceived to be in the public interest.

Government continues to expand, but there is no increase in rational public control. The problem is simply that policy reflective of a general public will is not possible, and government cannot govern in areas such as energy which are matters of common concern but about which a congruence of group interest is unlikely.⁷⁷ In a system in which the government is an arena for, and umpire over, an institutional balancing of private interest with no distinct political community for which it acts as an agent, the breakdown of separate government and the fusion of public and private is inevitable. Government becomes little more than an extension of pluralist politics as interest groups seek power through government, and government seeks authority through interest groups.

In this situation, it will often appear that technical elites are ruling, that scientific and technological rationality determines governmental policy, and that such policy serves dominant economic and social interests—and all this is often precisely the case. *But neither the explanation nor the solution is available in traditional theories of technocracy.* The problem is not rooted primarily in the perverse interests of elites, or in the mystical domination of technique, or in the post-Marxian history of world capitalism. And the answer to the problem, in any

⁷⁷See Theodore Lowi, *The End of Liberalism* (New York, 1969); and Robert Paul Wolff, *The Poverty of Liberalism* (Boston, 1969).

practical sense, is not to be found in a transcendental vision of democracy and certainly not in mainstream pluralist-constitutionalist politics and strategies which have given rise to the problem in the first place.

Pluralist politics create a crisis in political legitimacy and a vacuum of political authority into which elites gravitate by virtue of the economic and social power they represent, the expertise and knowledge they possess, and the particular issues that happen to face government. In the paralysis and deadlock that often accompany the competition of pluralist bargaining within government and between government and society, elites wield power.

Many of the elites are simply pluralist elites or those representing the principal interest groups in society, but in many cases the vacuum of political authority is filled by the authority inherent in scientific rationality. In these circumstances, elites that are most essential in responding to the continuing environment of crisis in decision making will rise to the top—whether they are economic elites, military elites, or technological elites—and the corresponding rationality and the interests they happen to serve will dominate. It is the particular character of the political system and the nature of the political process that in part account for the emergence of technocracy in all three of its basic dimensions. In brief, constitutionalism and political pluralism may give rise to the technocratic phenomenon, despite the fact that they are often viewed as a solution or barrier to technocracy.

To recognize the deficiencies and limitations of pluralist/constitutionalist politics does not require a prescriptive utopian leap to an alternative image of political society. To resurrect the classic political ideal may be relevant for critical analysis and as an illustrative contrast/model, but it is a vision that stands little chance of actualization in modern society and which often directs attention away from concrete problems and the actual sources of those problems. It may well be that nothing more than an institutional surrogate for an authentic public realm is possible and that pluralist politics represent the future of society in the West as well as in the Third World. But it is necessary to recognize the manner in which many of the problems associated with technocracy can emerge in such a political system and to recognize the limitations inherent in political technology as far as solving those problems. Such recognition will at least make it possible to confront the issue of technocracy in a realistic and historically relevant manner.