Post-Industrialism and Normative Technocracy

Allen Shabino

Oberlin College

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Post-Industrialism and Normative Technocracy

by

Al Shabino

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Chapter One

Post-Industrial Society: An Overview

I

During the past twenty-five years or so, an emerging body of literature has been devoted to what are interpreted as being fundamental changes in the nature of the advanced industrial societies. In general, what is argued is that the structural characteristics which supposedly typified "industrial" society have undergone such radical transformation that conventional modes of description have been rendered obsolete. As Todd La Porte has remarked: "Something akin to the transformation from an agrarian to an industrial society ...is said to be occurring within today's advanced industrial states."¹ What we are inexorably moving towards is usually referred to as "post-industrial" society, although numerous other labels, such as "post-modern", "technetronic" and "post-capitalist", have been employed to describe it (more often than not reflecting differences in emphasis rather than in substance).

In this section, my objective is to provide a general overview of the concept of a post-industrial society. I am painfully aware of the fact that this involves not taking into
account the oftentimes extreme differences among individual theories, in particular those which relate to the manner in which a specific characteristic of post-industrial society develops. However, at this point it is necessary that one get a feeling for what is common to the literature as a whole. I hope to ultimately demonstrate that "post-industrialism" in fact appears as the modern representative of a distinct tradition of political thought. Specifically, I will argue that theories of post-industrial society implicitly entail what I refer to as a "technocratic" conception of the bases of legitimate political authority. But in order to do this one needs to have at least a general understanding of the nature of post-industrial society as envisioned by its theorists.

Before proceeding, I should admit to the reader that my use of the term "post-industrialism" is somewhat arbitrary. A vast array of writers have at one time or another commented upon the structural changes which have recently characterized modern industrial societies. What I take to be unique about the post-industrialists is their tendency to view these changes in terms of a historical progression. Theorists of post-industrial either proclaim that the advanced societies have already entered a "new era", or more or less self-consciously predict that such will be the case if present trends continue. Writers such as Daniel Bell, Zbigniew Brzezinski, and John Kenneth Galbraith obviously fall into this mold, and it is their analyses to which I will primarily be responding.
However, for purposes of convenience and illustration I will be largely drawing upon Daniel Bell's analysis in his book, *The Coming of Post-Industrial Society*. I think this is a helpful approach for two reasons. First, at least with respect to the structural characteristics of post-industrial society, Bell's account is fairly representative of much of the other literature; the other theorists draw upon much of the same data to support very similar conclusions. Secondly, Bell is much more conscious of the problems associated with historical prediction than are the other theorists, which means that his analysis is considerably more equivocal. It often proves necessary to respond specifically to Bell's analysis in order to generalize my claims. Hopefully, this approach will not result in any severe injustices to the views of the other theorists.

II

As we have seen, theories of post-industrial society generally assert that modern industrial societies are evolving beyond a peculiarly "industrial" stage of development; it is held that in some fundamental sense these societies are entering an entirely new historical epoch. However, the crucial historical variable for the post-industrialists is not the relations of production, as Marx had argued. The structural characteristics of post-industrial society develop independently from productive relations; almost any type of regime—capitalist, socialist or communist—is compatible with
a "post-industrial" condition. The reason for this is that post-industrialism, as the label suggests, specifically refers to a higher state of technical and economic development. Consequently, technological change alone is thought to account for the salient characteristics of post-industrial society. To be sure, Marx himself saw the forces of production as providing the imetus for historical change. But for Marx the forces of production are historically significant only insofar as they lead to changes in the relations of production. For theorists of post-industrial society on the other hand, levels of technological virtuosity and sophistication themselves determine historical "stages". This of course explains why the post-industrialists are so often associated with theories of social and political "convergence".

In any case, for the most part what the post-industrialists do is to indicate how technological advance has led or will lead to fundamental alterations in the characteristic features of industrial society. Much of the discussion centers around the political, social and ethical implications of new exotic technologies such as computers, instant communications techniques, bio-medical developments and the like. Considerable emphasis is placed upon such technology-induced phenomena as, for example, the heightened pace of social change, the increasingly immediate, though impressionistic, nature of experience, and the privatization and de-humanization that are inevitably said to accompany all of this.
We are then told of the necessity to somehow manage or adapt to all of this. Alvin Toffler's *Future Shock* is perhaps the best example of this type of analysis.\(^2\) I would argue, however, that focusing upon the impact of specific technologies really serves to obscure what is actually central to most theories of post-industrial society, although this is decidedly not the case with respect to the imperative for adaptation and management which I will return to later.

It seems to me that one can isolate two interdependent conceptions which in varying degrees characterize most theories of post-industrial society. First of all, it is commonly argued that the transition to post-industrial marks the emergence of a new technical-managerial elite which replaces the old capitalist plutocracy. Often associated with this is the assertion that meritocratic recruitment patterns will assume paramount importance in the post-industrial society. Both of these claims are based largely upon an analysis of the impact of technological advance upon the occupational structure of the advanced industrial societies, particularly the United States. It becomes abundantly clear upon examining the literature that the most fundamental impact doesn't lie in the razzle-dazzle of "future shock", or in the arrival of a McLuhanesque "global village", although the intrinsic significance of these phenomena is not to be denied. The most far-reaching effect of technological advance is much less exotic. It lies in the phenomenal increases in industrial productivity which have taken place over the last century.\(^3\)
In and of itself this is relatively unimportant, since the post-industrialists are interested in isolating some really fundamental change, and increasing technological virtuosity per se cannot be said to constitute such a change. However, technological advance has resulted in profound changes in the relative distribution of workers within various sectors of the labor force, which are themselves said to be indicative of a change in the class structure of modern industrial societies. It is this phenomenon which really attracts the attention of the post-industrialists.

Many theorists, including the post-industrialists, have found it convenient to divide modern economies into three sections which, interestingly enough, are associated with the perceived stages of economic growth: The primary, secondary and the so-called "tertiary" or service sector, "comprising trade finance, insurance and real estate; personal, professional, business and repair services; and general government." What has happened is that increasing productivity in both the primary and secondary sectors (which are concerned, respectively, with the provision of raw materials and manufacturing) has freed a significant portion of the labor force formerly associated with those sectors, thus facilitating its absorption into the tertiary sector.

To say that these occupational trends have been well-documented is indeed an understatement. Bell in fact devotes two very tedious chapters to this. But the importance of
these developments likewise cannot be understood in isolation, since one cannot draw any obvious conclusions about the class structure of the advanced societies merely from the rise of the service sector. After all, a good many of these jobs—low-level clerks, typists, stenographers and the like—require little or no specialized expertise, and as such lend no support to the notion that this trend is somehow politically significant. What Bell and the others are really interested in is the equally rapid growth of scientific and technical personnel within the expanding white-collar sector, since it is this group which is said to become dominant both socially and politically in a post-industrial society. It is perhaps most accurate to say, then, that the rise of the service sector is really taken to be symbolic of the emergence of new bases of class structuration. In any case, the important thing to realize at this point is that theories of post-industrial society are, at bottom, class analyses.

The question of course now arises as to precisely how technological advance has brought about a redistribution of political power. So the theory goes, once a certain level of economic growth has been reached, any further increases in productivity (really in any types of efficiency) are ultimately dependent upon the conscious and systematic application of codified "theoretical" knowledge. Oftentimes this refers specifically to modern organizational and decision-making techniques such as systems analysis, cost-benefit analysis, program budgeting and operations research. Taken in its
broadest sense, however, the notion that theoretical knowledge has become crucial for the continued progress of the industrial societies refers to the increasing dependence of that progress upon "pure" scientific research. John Kenneth Galbraith spells out the nature of this dependence in his book, The New Industrial State. He points out that during the early stages of industrial development it was not unusual for the capitalist entrepreneur to effect significant advances in industrial and organizational technique simply by employing his own creative imagination. This is no longer possible. Because of the staggering technical complexity of even the most rudimentary industrial undertakings, they must be subdivided into tasks which are amenable to the application of practical scientific knowledge. Building a supersonic airplane, to cite Galbraith's example, required the development of metals which met seemingly incompatible specifications of weight and durability. But this of course means that the success of the overall task was at least in part dependent upon the activities of the research chemist. Thus, although Galbraith doesn't use the term "theoretical" knowledge, he very definitely sees the activities of the corporation as being ultimately dependent upon esoteric scientific techniques.

As far as I can tell, the only reason Bell uses the term "theoretical" as opposed to "scientific" is that he does not want to appear to be limiting himself to the natural and physical sciences. In any case, the significance of all of this is the same for both theorists.
What happens is that the rising importance of abstract technical and scientific knowhow is inevitably accompanied by the rising importance of those who possess it. Technological advance renders the experts or "technocrats" functionally indispensable, and as a result they become the dominant group not only politically, but socially as well. Bell tells us that...

...the making of decisions, because of the intricately linked nature of their consequences, will have an increasingly technical character. The husbarding of talent and the spread of intellectual institutions will become a prime concern of the society; not only the best talents but the entire complex of prestige and status will be rooted in the intellectual and scientific communities.  

The crucial point to realize here is that theorists of post-industrial society generally share the view that as a result of the multiplying complexities of social and economic organization, all forms of decision-making become increasingly dependent upon specialized scientific or technical expertise. Consequently, this burgeoning class of highly trained experts eventually supplants the industrialists, business leaders, and particularly the politicians as the group primarily responsible for making important policy decisions at all levels. As I see it, this is probably the most important characteristic of theories of post-industrial society. In all cases, the fact that technical knowledge has itself become an indispensable commodity means that the value of traditional sources of political power declines substantially. Galbraith
describes how the reliance upon specialized expertise works to effectively neutralize the role of ownership within the corporation. What Bell does is to evaluate the consequences of this phenomenon for society as a whole. No longer is political power a function of ownership of the means of production. "Class", as Bell remarks, "denotes not a specific group of persons, but a system that has institutionalized the ground rules for acquiring, holding and transferring differential power and its attendant privileges." In a post-industrial society, these ground rules are technical skill as the basis of power and position, with education as the necessary route of access to skill. This explains why Bell is able to argue that "the university becomes the arbiter of class position" in post-industrial society.

As was mentioned earlier, very closely related to the "new class" thesis is the notion that post-industrial society becomes increasingly characterized by meritocratic recruitment patterns. If indeed technological advance, and the organizational and social complexity associated with it, bring about a reliance upon specialized technical expertise, then it becomes incumbent upon the advanced societies to ensure that "the best and the brightest" are located in elite positions. We have seen that "progress" in a post-industrial society (defined in terms of measurable increases in any types of efficiency, output, production, etc.) is ultimately dependent upon advances within highly specialized and esoteric
realms of inquiry. Again, this refers not merely to the natural and behavioral sciences, but also to the social sciences and such modern organizational and administrative techniques as systems analysis and operations research. At any rate, to the extent that these techniques have become rationalized and codified, it becomes possible to determine what specific talents and abilities are necessary to master them. This being the case, it only makes sense to actively seek out those persons who possess the objective "qualifications" as measured by some sort of standardized test, and to escalate them into functional positions commensurate with their abilities. Zbigniew Brzezinski states the case quite baldly.

...the key to successful adaptation to new conditions is in the effective selection, distribution and utilization of social talent. If industrial society is said to have developed through a struggle for the survival of the fittest, the technocratic society—in order to prosper—requires the effective mobilization of the ablest. Objective and systematic criteria for the selection of those with the greatest gifts will have to be developed, and the maximum opportunity for their training and advancement provided.

In like manner, Bell asserts that the post-industrial society is "in its initial logic" a meritocracy, because otherwise it could not fulfill the requirements of the new social division of labor which characterizes it.

By now it probably goes without saying that theories of post-industrial society very much represent a critique of the Marxian conception of historical development, particularly with respect to its assumptions about class structuration in
the advanced industrial societies. But in developing such a critique, the post-industrialists are ultimately led to formulate an alternative conception. This has far-reaching consequences for the way in which post-industrialism should be interpreted, as we will soon discover.
Chapter Two

Post-Industrialism as Normative Technocracy

I

What I have tried to do up to now is perhaps best characterized as the formulation of an "ideal-typical" post-industrial society through the selective isolation of what I take to be its essential characteristics. Consequently, the model I have outlined here could be used as a standard by which one could roughly judge the degree to which modern industrial societies approach or depart from a post-industrial condition. This is indeed an important question, and it is one to which I will return later in this essay. In this section, however, I am primarily concerned with demonstrating that theories of post-industrial society in fact represent more than the "value neutral" inquiries of disinterested social scientists. Specifically, it seems to me that the post-industrialists are very much interested in defending the technocratic elitism which, as we have seen, is central to their theories. This is not to say that they are advocates of some kind of technocratic dictatorship. Far from it. But I would argue that they see the hegemony of a scientific-technical elite as the only rational adaptation to technological advance, and that
they express no significant regrets concerning the diminishing role of politics which must inevitably accompany such a change.

A charge of this nature is extremely difficult to prove, especially given the fact that some of the post-industrialists—this is particularly true of Bell—go out of their way to deny that the salient characteristics of post-industrialism are in any sense "inevitable", let alone necessarily desirable. The post-industrialists are extremely conscious of the fact that their methods and categories of analysis very closely resemble those which characterize much nineteenth-century social theory, particularly Marxism. They want to avoid seeming to engage in any type of long-term historical prediction based upon the isolation of one social variable, which is deemed to be in some sense "central", and hence capable of accounting for all other social phenomena. This sentiment is echoed by Bell in The Coming of Post-Industrial Society:

I am dealing here with tendencies, and have sought to explore the meaning and consequences of those tendencies if the changes in social structure that I describe were to work themselves to their logical limits. But there is no guarantee that they will. Social tensions and social conflicts may modify a society considerably; wars and recriminations can destroy it; the tendencies may provoke a set of reactions which inhibit change. Thus I am writing an "as if" fiction, a logical construction of what could be...

Use of the prefix "post" thus reflects what I think amounts to a basic ambivalence on the part of these theorists. It reflects a definite sense of having somehow "transcended" a
historical epoch, but also the realization that one cannot define with any precision just what the next "stage" really is, because to do so would imply that we have no choice but to adapt to its "objective" requirements. The post-industrialists try desperately to avoid seeming to fall into this predicament. When such an attempt is made, as is the case largely with Bell, one is confronted with an almost incomprehensible morass of contradictions. But when it is not made, the technocratic bias implicit in most theories of post-industrial society is exposed for all to see.

II

One is undoubtedly well-aware of the fact that technocratic elitism—the notion that truly legitimate political authority derives from the possession of scientific or technical knowledge—is not an exclusively modern idea, and certainly is not by any means unique to theories of post-industrial society. Indeed, to the extent that these theories do in fact entail such a conception, they belong to a distinct tradition of political thought in this respect. Therefore, what I would like to do at this point is give a detailed account of the general nature, purposes and implications of explicitly technocratic theories, drawing upon Francis Bacon, Henri de Saint-Simon and Thorstein Veblen. We will then be in a much better position to determine the degree to which contemporary theories of post-industrial society involve technocratic legitimations.

It is revealing to note that much of what has been
referred to as "classical" technocracy is distinctly utopian, if it is not actually presented in the form of a utopia. The first modern vision of a technocratic order, Francis Bacon's *New Atlantis*, is perhaps the best example of this.² This very tentative and inconclusive work describes the visit of a crew of English sailors to the hitherto uncharted island-kingdom of Bensalem. What they find is a society which is organized around the imperative for scientific research and technological application as described in *Novum Organum*:

"The End of Our Foundation is the knowledge of Causes, the secret motions of things; and the enlarging of the bounds of the Human Empire, to the effecting of all things possible."³ For this purpose, stations for scientific research and technological implementation have been set up throughout the kingdom. Each one is manned by highly trained specialists, and is devoted to the analysis of any possible aspect of nature which might eventually yield practical results. The kingdom was founded hundreds of years earlier by a man, King Solomon, "who was wholly bent to make his kingdom end people happy." The fruits of his system are manifest in "a vast knowledge of the earth, air, water, animals, fish and vegetation along with the useful development of great machines, foods, and marvelous devices of every description."⁴

The significance of Bacon's utopia, as with all technocratic writings, lies in the nature of the relationship between the scientific-technical sphere and politics. And in
the New Atlantis the political sphere, which seems to involve nothing more than routine administration and, curiously enough, religious ritual, is clearly subordinate. Salomon's House, the elaborate scientific academy just mentioned, and its ruling elite clearly have been given free rein to govern in Bensalem. Governing is based exclusively upon the knowledge and performance of the scientists and technicians. However, Langdon Winner has pointed out that precisely how we are to interpret this situation is by no means obvious; the New Atlantis might either be a positive or a negative utopia. For example, Bacon does not make it clear exactly why the people of Bensalem should be happy with their lot, apart from the fact that they are well provided for. Also, the aura of secrecy and mystery which surrounds the island, and the vague references made to political corruption raise some questions as to how we are supposed to view Bensalem. Nevertheless, the New Atlantis does exhibit characteristically technocratic conceptions of political power and authority, even though doubts might persist as to Bacon's intentions.

First of all, political power is no longer based upon such things as wealth, personal charisma, social status and the like. In an age in which the technological possibilities of scientific knowledge are within reach, and hence where the people who understand and control the technologies become increasingly indispensable to the functioning of
society, these sources of political power become mere anachronisms. In technocratic writings such overtly "political" factors, to the extent that they still function, are viewed as fetters upon the inexorable and ultimately benign development of science and technological systems. Political power, as Winner has remarked, "is ultimately the power of nature itself." Power accrues to those who, through the application of the scientific method, or through the manipulation of the technologies which it produces, are able to create tangible benefits for mankind. Since traditional sources of political power are unable to do this, they must inevitably be swept away in the wake of the sheer potency of technological systems. Such a conception of course also rests true political authority, as opposed to political power, upon entirely new bases. Authority is no longer based upon a prior commitment to some metaphysical doctrine, or upon some intangible personal characteristic. Rather, authority is based squarely upon one's ability to produce visible results.

This is a distinctly Baconian notion, insofar as what is ultimately being asserted is the authority of the scientific method. Traditional sources of authority are inadequate because they simply haven't worked for the betterment of mankind. Their hegemony has led to nothing but endless and inherently unresolvable bickering. It is not really possible here to engage in a lengthy discourse on Bacon's conception of the scientific method. What is important to
notice at this point, however, is that Bacon felt that science as an activity was justified only insofar as it led to the development of techniques which objectively (i.e. materially) benefit society. To be sure, Bacon held that the scientific method allows one to discover a "reality" which exists independently from the observer. But the structure of reality itself, to the extent that the scientific method facilitates its possible reconstruction, gives one a theoretically limitless power to act in the world. Bacon does not hesitate to admit that it is this characteristic which really legitimizes the authority of the scientific method, of course at the expense of more traditional forms of authority. Technocratic theories almost invariably rest upon these Baconian premises.

Political authority, then, is really a function of technical virtuosity, which is itself dependent upon the accumulation of scientific knowledge. Notice, however, that since science is justified by its unique capacity to produce results, both the so-called "pure" scientists and the technicians will be legitimated as rulers in technocratic theories. In any case, the universal prerequisite for acquiring political power and authority is functional indispensability. And according to the technocratic principle of legitimacy just described, it would make very little sense to make an artificial distinction between scientists and technicians with respect to their relative indispensability. Bacon himself describes a division of labor within Solomon's House
between those who engage in basic research and those who decide how the results of this research can or should be put to use.

It is also important to realize that technocratic theories always assume the persistence of social and political inequality. The fact that political authority is based upon the acceptance of a method (as opposed to some metaphysical doctrine or world-view) does not lead to broader bases of political enfranchisement. Indeed, as Winner has shown, technocratic theories form a subcategory of elite theory. The difference between technocratic elites and other types of elites whose rule is legitimated by some "political" principle (e.g., religion, natural law, contract, etc.) is of course that technocratic elites really do "know" something. The essential distinction between elite and mass nonetheless remains. As one might expect, the notion that popular participation of any kind should play a significant role in governing is conspicuously absent from technocratic theories. To the extent that a society is dependent upon the operation of complex technological systems, it is clear that the knowledge held by the average citizen or even by his elected representatives is really unnecessary to keep the system running. Even in ostensibly democratic regimes, the politician becomes functionally irrelevant. A quite elaborate political "superstructure" might still exist, as in Bensalem, but in all cases the underlying technocratic "foundation" will be obvious.
This leads one to ask whether technocratic theorists are interested in really legitimizing rule by expert, or whether they want to demonstrate that it is simply a historical fact. In a certain sense, this is largely an irrelevant distinction. It is precisely because theorists of technocracy see scientists and technicians as really being in control that they further maintain that this is a politically desirable state of affairs. The technicians do not acquire power through subterfuge, bribery or political infighting. Neither is personal influence, age, ideology or any other such characteristic of any use to them. The technocratic theorist argues that if technical elites have effective power in the society, then it must be because their talents are peculiarly relevant to politics. Even more to the point, these theorists see technical rationality or science as the antithesis of politics as such. Oftentimes a contrast is made between the "corrupt" or "unchaste" realm of politics, and the sublime purity of science. On the one hand, one finds the self-interested or vainly ideological politician, and on the other the virtuous technician. The technocratic theorist does not have to "prove" that politics ought to be the exclusive domain of scientific and technical elites. All that is necessary is to show that the political realm is itself inherently corrupt, inefficient, and most importantly, irrelevant. Recent political history ought to tell us that this is by no means the most difficult enterprise. Indeed, one need only observe the fruitless disputation among self-serving...
ideologists for confirmation. The "authority" of technocratic elites, then, is "proven" to a large extent by negative example. How can the politician, priest or philosopher be said to have authority if in fact their truly useful actions ultimately depend upon the real knowledge of the expert? The technocratic response is, needless to say, that they cannot. "Political" (i.e., non-scientific) authority is an illusion from the start.

The invidious comparison of science and politics is nowhere more apparent than in the writings of two of the most recent theorists of technocracy, Henri de Saint-Simon and Thorstein Veblen. Saint-Simon's work represents a response to the most severe political upheaval of the modern era, the French Revolution. For Saint-Simon, the political disorder that it engendered created a grand opportunity for the wholesale restructuring of French society. And the principles upon which this could be based were to be found in science and industry. Saint-Simon felt that these forces contained within them a "logic" which ought to govern social arrangements. This logic involved a distinctly technocratic conception of political power and authority. Society as it was then organized was "upside down", according to Saint-Simon. Why? Because the classes which were least responsible for the maintenance of the industrial civilization which was emerging out of the Revolution in fact governed. Here again we encounter the principle of function as the new societal legitimization. Saint-Simon maintained that an entirely new
social hierarchy was required, based upon relative contribution. Those persons directly involved with the essential scientific, economic and industrial processes around which society is to be organized will naturally govern. For Saint-Simon, these were the scientists, engineers, industrialists and, curiously enough, the artists.

Saint-Simon's critique of the French Revolution, therefore, was based upon his perception that the various factions involved were concerned only with advancing their petty ideologies; their motives were excessively political. He felt that his scheme was legitimate because it was the only one capable of overcoming the conflict that is inherently associated with politics. Saint-Simon did not feel himself impelled to "justify", for example, the technocratic elitism, lack of participation and manifest inequality which he freely admitted were logical requirements of his system. After all, the masses would be perfectly willing to accept these features if they exist as part of a system which is capable of achieving unprecedented material abundance. All types of conflict will be overcome in a society organized around its truly essential purpose--the rational exploitation of nature in accordance with scientific principles. It is because the conflict of political ends is seen as preventing this goal from being realized that a radical distinction between politics and the logic of scientific organization is made. Indeed, in technocratic theories generally, "politics" is in effect defined as that which prevents the ordering of
society according to the standards of technical rationality. It simply never occurs to these theorists that their schemes require independent legitimation, since they will inevitably prove themselves if only the shackles of politics can be removed.

Of course, what is to be included under the rubric "politics" varies among individual theorists. The ideas of Thorstein Veblen illustrate this point very clearly. Saint-Simon was so profoundly impressed by the sheer power and organizational capacity of the industrial techniques emerging in his day, that it just didn't seem possible that the individuals responsible for all of this were following anything other than the "objective" laws of technical rationality. The capitalist entrepreneurs were to be included in Saint-Simon's governing elite because from his perspective, the private interests of the entrepreneur neatly coincided with the general interest of the entire community. (which by definition entails the extension of technical rationality to society as a whole). Veblen, however, was well-aware that this is not always the case. While the entrepreneur was instrumental in developing the industrial system, he no longer performs any truly essential function with respect to it. Rather, it is the quiet engineer who is now indispensable for the day to day operation of the system. But for Veblen it is not merely that the "captains of industry" perform no function logically required by the system, since their continued presence actually interferes with its efficient (i.e. non-political) operation.
To the extent that the capitalist entrepreneur is motivated by his greed, at the expense of a commitment to technical rationality, his efforts can only serve to reduce output and efficiency. Veblen went so far as to label the activity of the business aristocracy "sabotage", although this was ostensibly a value-neutral term. Their essentially political motives prevent the realization of goals which are really intrinsic to the industrial system itself.

But although Veblen was interested in ridding the industrial system of those persons which Saint-Simon felt were most essential to it, this really represents nothing more than a house-cleaning. Veblen's quarrel with Saint-Simon really serves to illuminate their fundamental agreement. For both Veblen and Saint-Simon, "politics" is that which obscures what would otherwise be self-evident principles of social organization; politics is universally viewed as the antithesis of the community interest, which as we have seen is defined as the rational ordering of society according to scientific principles. We are now in a better position to understand why "functional indispensability" is simply taken for granted as the real basis of legitimate political authority in technocratic theories. Those who are most responsible for the maintenance and development of the system are by definition the least susceptible to political motivations. The principle of function, then, is in a sense an "ethical" legitimation of political authority. Technocratic theorists
would undoubtedly never admit to having such a view, but the very logic of their position occasionally brings it to the surface in their writings. Veblen's remarks are a case in point:

In this two-cleft, or bi-cameral, administration of industry, the technicians may be said to represent the community at large in its industrial capacity, or in other words the industrial system as a going concern; whereas the business men speak for the commercial interest of the absentee owners, as a body which holds the industrial community in usufruct.

This image of the technicians as somehow collectively responsible for the public welfare I think partly explains why technocratic theorists have often employed the metaphor of the priesthood when attempting to describe the special authority of these people.

III

The question which now beckons us is whether or not it is possible to determine a sense in which contemporary theories of post-industrial society can be said to entail a technocratic conception of political legitimacy and authority. Based upon what has been said in the previous sections, the answer would seem to be an emphatic yes. As we have seen, the post-industrialists argue that as a result of technological advance, all forms of decision-making become increasingly dependent upon specialized "theoretical" knowledge. In fact, decision-making processes themselves have become progressively rationalized, and to this extent now often involve the manipulation of arcane mathematical symbol systems and
techniques. We have also noted the rise to political prominence of a class of highly educated scientists, technicians and managers as a result of all of this. Post-industrial society, then, does indeed exhibit several characteristically "technocratic" structural features. One is confronted with an image of a society organized in accordance with the requirements of technical rationality, and in which legitimate political authority is largely monopolized by the expert.

But this does not provide us with sufficient grounds for asserting that post-industrialism actually represents an updated version of technocratic political theory. Technocracy, as I understand it, is fundamentally an attempt to establish entirely new bases of political legitimacy. In other words, technocratic theorists are interested in demonstrating that experts somehow ought to govern. It is by no means obvious that theorists of post-industrial society make such a claim. Bell, who is perhaps the most cautious of the post-industrial theorists, makes a point of stressing that he is not in any way attempting to "legitimize" the rule of technocrats. He frequently asserts that "political" conflicts will not be eliminated as a result of the increasingly technical nature of decision-making. Bell takes what is an essentially Weberian position, in that he argues that while scientific expertise can "inform" political action, it alone cannot stand as the basis for choosing between fundamentally incompatible value positions. In maintaining such a view, Bell must conclude that scientists and technicians possess no uniquely
political authority. However, I will argue that the logic of Bell's argument leads to precisely the opposite conclusion. To see why this is the case, we must examine the nature of his position more closely.

IV

We have seen that theorists of post-industrial society are very concerned with at least seeming to avoid making any type of long-term historical predictions. They want to make a clear distinction between their own brand of theorizing and the predominately historicist social theories of the nineteenth century. There are a couple of very good reasons for doing this, the first of course being the fact that any attempt to "predict" the course of history is by its very nature exceedingly tenuous, and involves considerable risk and uncertainty. It goes without saying that the empirical shortcomings of Marxist history, particularly with respect to its assessment of class structuration in the advanced societies and the revolutionary potential of the proletariat, stand as a constant reminder of this for the post-industrialists. More important, however, is the fact that social theorizing in which historical prediction plays a dominant role usually has profound normative implications. Although historicist theories are not concerned with advancing some absolute metaphysical doctrine or world-view, the real significance of comprehending historical "laws" is that such an understanding usually serves as the basis for a critique of the status quo. If one accepts that the development of a
particular arrangement of social institutions is in any sense inevitable, then by definition truly rational action can only be that which is adaptive with respect to the predicted development. Therefore, to the extent that the post-industrialists can be said to advance an historicist argument, the "value-neutrality" of that argument is at least seriously called into question. I will argue that the concept of post-industrial society does indeed rest upon fundamentally historicist methodological assumptions.

"Historicism", as Karl Popper has maintained, is "an approach to the social sciences which assumes that prediction is their principal aim, and which assumes that this aim is attainable by discovering the 'laws' or 'trends' that underlie the evolution of history."

But the very possibility of arriving at such laws depends upon further assumptions about the nature of social organization and social development. First of all, it must be held that the various aspects of social life are interrelated to such a degree that we may legitimately refer to a social system. Secondly, one must assume that within that system there exists an activity which is somehow "fundamental", in that it is a precondition of the other aspects of the system and that it is immune from their influence. This activity is in a sense the "ganglion" or nerve center of the system, and it is held to be the central source of change. All changes in "derivative" social activities can thus never be assessed independently from what is
regarded as "fundamental". Consequently, forecasting changes in this central activity allows one to predict the nature of the future social order more generally.

These assumptions are of course at the bottom of Marx's distinction between the "foundation" and the "superstructure". But very similar assumptions also underlie the concept of post-industrial society. As we noted in an earlier section, theories of post-industrial society are essentially class analyses. To a large extent the post-industrialists are interested in demonstrating why Marx's predictions concerning the nature of class structuration in the advanced societies have not been confirmed. In other words, the concept of post-industrial society (and for that matter Clark Kerr's notion of "industrial" society) is used as the basis for a critique of the Marxian conception of unilinear historical development. But in order to do this, the post-industrialists are led to formulate a rival conception, only in this case what is regarded as "fundamental" is not the relations of production, but technical and economic development. Bell as much as admits this when he remarks that his purpose is "to restore some of the informing power of older modes of social analysis." 

That this is in fact the case is given further support by the post-industrialists' almost unilateral endorsement of the so-called "convergence" thesis. Basically what is involved here is the notion that technological development carries with it certain "imperatives" which impose structural
requirements upon the social environment in which this development occurs. To the extent that the advanced societies adapt to these requirements, they will increasingly come to resemble one another in important respects. Winner describes the nature of such arguments in this way:

The technological imperative contains a logic that accounts for much of the way change occurs in modern society. The logic is not that of syllogistic inference. Rather, it is the pragmatic rationale of necessary action. If you desire X and if you have chosen the appropriate means to X, then you must supply all of the conditions for the means to operate. To put it differently, one must provide not only the means but also the entire set of means to the means. At any rate, technological change requires adjustments in almost every dimension of social life—customs, traditions, ideologies, political and religious institutions—if it is to be successful. But the significance of this is that any such conception ultimately depends upon a distinction between social phenomena which are regarded as "fundamental" and those which are regarded as merely "derivative". Technological advance is invariably seen as the key variable, primarily because it seems to follow a course independent of the vicissitudes of other social phenomena. These are by and large historicist assumptions.

But as we have seen, Bell explicitly denies that economic activity inflexibly "determines" the characteristics of other social activity. What allows him to say this is a very neat distinction that he makes between the polity, the culture and the social structure. Bell claims that the
distinguishing features of post-industrial society—the rise of a technical-managerial class, the centrality of "theoretical" knowledge and meritocracy—are characteristics only of the social structure. These characteristics will do no more than "pose problems" for the other aspects of society, the resolution of which is indeterminate.

This is nothing but pure obscurantism. First of all, Bell frankly admits that within what is referred to as the "social structure", technological change is the determining factor. More important, however, is the fact that Bell never justifies on theoretical grounds why the lines between the three spheres should be drawn precisely where they are. This would seem to be a logical prerequisite for arguing, as Bell does, that one cannot predict the impact of changes in one social realm upon the activity of another social realm. It seems quite apparent that the "culture" and the "polity" are merely residual categories into which Bell very conveniently lumps all phenomena which are not accounted for by technological advance within the social structure. In other words, the distinction Bell makes here is essentially arbitrary. Bell himself implicitly recognizes this:

Conceptual prisms are logical orders imposed by the analyst on the factual order. But since the factual order is so multifarious and complex, many different logical orders—each with its own axial principle—can be imposed on the same time or social frame, depending on the questions one has in mind.

At any rate, making this distinction Bell reaps a double
benefit. First, he protects himself from the accusation of having posited a unitary social system, and hence from a charge of historicism. But he is also able to account for a multitude of social characteristics with respect to technological advance.

Bell's theoretical intentions are very clear. He wants to identify the key to overall structural change, and his effort depends entirely upon acceptance of the idea of a social system and the crucial variable. Besides, even if one were to accept Bell's distinction between the three social spheres, with respect to the features of post-industrial society which have been dealt with in this essay, precious little remains undetermined since they are already included under "social structure". Isolating the "culture" is really just Bell's way of accounting for the "antinomian" art forms and behavior patterns which he sees as acting in opposition to the axial principle of the social structure--technical rationality and meritocracy. As for the polity, the thrust of Bell's argument indicates that it is in fact strongly influenced by the social structure. The most salient characteristic of the polity in post-industrial society, centralization of authority, is a direct result of the organizational complexity and the increasingly technical nature of decision-making which are associated with technological advance. We mustn't be misled by Bell's convoluted argument. He too shares the assumptions just outlined, and as such must subscribe to some version of the convergence thesis.
If my argument is correct, then post-industrialism must be seen as a doctrine which insists upon the wholesale adaptation to the exigencies of technological change and complexity. And if the structural characteristics of post-industrial society are said to represent effective adaptations to such change, then there is clearly a sense in which the post-industrialists attempt to "legitimize" them. This is particularly true with respect to the increasing importance of scientific and technical expertise. Bell and company are very much interested in demonstrating that a successful transition to post-industrialism depends quite heavily upon the relocation of political power and authority in the hands of technically qualified experts. Some post-industrialists, such as Donald Michael in his book The Unprepared Society, are quite explicit on this point. His argument is very illustrative because it is more overtly polemical than Bell's. The Unprepared Society largely consists of a series of examples about the management problems posed by a society increasingly characterized by exotic technologies, technical decision-making procedures and organizational complexity. Michael's assessment of all of this is typically post-industrialist. The advanced societies should not collectively evaluate the desirability of these changes. No, to do that would only represent an immature, reactionary luddism. Instead, technological advance should be viewed as a challenge to our ability to adapt to its requirements. And the
pervasive uncertainty associated with technological advance
most of all requires that scientific and technical knowhow
become the principal sources of political authority.

At this point we encounter another similarity between
technocratic and post-industrialist theories. The post-in-
dustrialists are painfully aware that the political hegemony
of the expert can only come through the effective neutraliza-
tion of "political" decision-making criteria. While they
are not prepared to argue that technical rationality contains
within it an inherent "logic" for the ordering of society,
the post-industrialists nevertheless share with the techno-
crats a profound fear of the consequences of allowing deci-
sions to be based upon action-orienting world-views, faiths
and ideologies. To the extent that existing political mech-
anism and procedures are the product of metaphysical legit-
imations (e.g., natural law), they almost surely can never
react with adequate efficiency to the technological vexations
of a post-industrial society. The anti-democratic implica-
tions of this view are too obvious for the post-industrial-
ists to ignore. With rare insight, Brzezinski remarks that...

...the rapid pace of change will put a premium on
anticipating events and planning for them. Power
will gravitate into the hands of those who control
the information, and can correlate it most rapidly.
Our existing post-crisis management institutions
will probably be supplanted by pre-crisis manage-
ment institutions, the task of which will be to iden-
tify in advance likely social crises and to devel-
lop programmes to cope with them. This could en-
courage tendencies during the next several decades
towards a technocratic dictatorship, leaving less
and less room for political procedures as we now
know them.
Now it is clear that Brzezinski and the others do not in any sense advocate a technocratic "overthrow" of liberal-democracy. Quite the contrary: One of the pervasive themes in post-industrialist theory, and especially in convergence theory, is that one way or another "politics" will continue to play an important role in the future society (remember that from the standpoint of technocracy, "politics" means the persistence of any non-technical judgmental criteria). This argument has a couple of variations. For Michael and Brzezinski, the continuation of politics manifests itself in the need for "humanistic" technocrats. Both of these theorists express a fear that political leadership might just involve something more than being able to do a regression analysis or engage in operations research. Michael in fact devotes an entire chapter of his book to the need for educational reforms which will at once rid the expert of his narrow vision and sprinkle him with a little wisdom besides. 19 But all of this represents nothing more than slushy nostalgia; it just falls flat. If the post-industrialists were asked to determine what is in fact more "adaptive"—wisdom or expertise—there can be no doubt as to their eventual response. Brzezinski's remarks tell the whole story:

The new society will require enormous talents—as well as a measure of philosophical wisdom—to manage and integrate effectively the expected changes. Otherwise, the dynamic of change could chaotically dictate the patterns of social change. 20

The need for a type of knowledge beyond mere scientific and
technical knowhow is, it seems to me, an implicit recogni-
tion of the fact that technocratic legitimations are in some
way inadequate. But this appears as no more than an after-
thought.

Perhaps a more important variation is Bell's assertion
that in a post-industrial society, policy questions "cannot
be settled on the basis of technical criteria; necessarily
they involve value and political choices." Bell is of
course echoing Weber here. Scientific and technical knowledge
can help us determine the consequences of pursuing a spe-
cific end, or the relative efficiency of various means to that
end, but it can never in and of itself prescribe ends.

Bell is quite aware of the fact that technological and econ-
omic complexity have brought about a situation where society
can no longer afford to allow major decisions to be made
through the haphazard workings of the marketplace; complex
interconnection significantly amplifies the repercussions of
individual action, which means that the potentially danger-
ous consequences of such action will be much wider in scope,
and hence much less tolerable. Therefore, Bell argues, de-
cision-making will increasingly become a matter of conscious
social choice, and it will take place largely at the politi-
cal center. From this Bell concludes that "politics" will
in fact be more important in post-industrial society.

But what is Bell really up to here, anyway? He correctly
recognizes that since not all value conflicts can be decided
exclusively on the basis of technical criteria, there will
always be a need for theory. However, Bell uses this purely logical fact to escape the accusation that he is an apologist for "crude technocracy", realizing full well that the general thrust of his argument is that increasingly technicized decision-making processes severely limit the scope of political action. After all, the mere fact that questions of value will always be involved in making choices does not by any means imply that the general public will be able to participate in making those choices. What Bell is essentially saying is that the hegemony of an elite corps of technicians and scientists is in fact a prerequisite for maintaining any role at all for political theory. Bell's technocratic bias is scarcely concealed:

The shaping of conscious policy, be it in foreign policy, defense, or economics, calls to the fore the men with the skills necessary to outline the constraints ahead, to work out in detail the management and policy procedures, and to assess the consequences of choices.22

Somehow, even Bell's acknowledgement of the need for theory doesn't make much sense in the context of his overall argument. A political theory usually involves a conception of what is to count as legitimate political authority. But it is obvious that the authority of the scientific and technical intelligentsia will never be challenged by "theory", regardless of how logically necessary it may be. The fact of the matter is that Bell, like the other post-industrialists, sees the transcendence of the old capitalist plutocracy by the
scientific and technical intelligentsia as a necessary adaptation to technological advance.

This is further substantiated by the fact that the post-industrialists do not even attempt to disguise their support of the merit principle. As we noted in the first chapter, "meritocracy" denotes a social order which is committed to the escalation of all citizens into functional roles which are commensurate with their natural abilities. Meritocracy has traditionally been regarded as the logical outcome of a situation in which true equality of opportunity prevails, and consequently has been defended primarily on these grounds. The idea is that functional roles, and the differential rewards and privileges associated with them, ought not to be distributed on the basis of arbitrary and fortuitous personal characteristics over which the individual has no control. Rather, a social order is regarded as just only when these things are based upon characteristics which are in some sense "natural". In a pure meritocracy, such as the one described by Michael Young in his fantasy, The Rise of the Meritocracy, natural characteristics are usually understood to be genetic. But it is obvious that genetically based traits are as arbitrary and hence undeserved as anything else, so the notion that a meritocracy can be described as "just" quickly evaporates. Indeed, as John Schaar has pointed out, equality of opportunity (and hence the merit principle) is inherently unintelligible as an independent principle of justice. The concept of distributing functional roles and their attendant
privileges on the basis of merit makes no sense unless we have already defined ahead of time what abilities are to be regarded as valuable.

We have seen that scientific and technical expertise are highly valued by the post-industrialists, and their defense of meritocracy rests largely upon the fact that it is a useful tool for the identification of individuals who possess the natural ability to acquire these skills. In other words, meritocracy is itself defended as an indispensable mechanism for the effective adaptation to technological advance and the problems associated with it. One should refer once again to the passage by Brzezinski cited on page eleven, since he is quite candid on this point. It is certainly obvious that there are no "systematic criteria" available for the determination of intangible characteristics such as wisdom or experience. A commitment to meritocracy, then, necessarily entails a previous commitment to the development of skills which rely upon measurable talents. Meritocracy is the method of political recruitment which is most consistent with a political system in which legitimate authority is held to be a function of technical expertise. The logic of this position actually leads the post-industrialists to occasionally compare the authority which derives from scientific and technical expertise with more traditional forms, clearly exposing their technocratic bias. Notice Bell's use of the word "leadership" in the following passage:
there is no reason why the principle of meritocracy should not obtain in business and government as well (as in the university). One wants entrepreneurs and innovators who can expand the amount of productive wealth for society. One wants men in political office who can govern well. The quality of life in any society is determined, in considerable measure, by the quality of leadership. A society which does not have its best men at the head of its leading institutions is a sociological and moral absurdity.

In summary, I have attempted to indicate a sense in which post-industrialism can be said to entail a technocratic conception of legitimate political authority. While the post-industrialists do not argue that the hegemony of a scientific and technical elite is "logically" required by the scientific method or industrial technique, they do see it as a necessary adaptation to the exigencies of technological change. It is for this reason that it is legitimate to view the post-industrialists as contemporary spokesmen for normative technocracy. But this is true in even a more fundamental sense, as we will see in the next chapter.
Chapter Three

Normative Technocracy: An Analysis and Critique

I

By now it should be fairly clear that contemporary theories of post-industrial society entail what really amounts to a technocratic legitimation of political authority. In an age increasingly characterized by unmanageable organizational complexity, technological virtuosity, and abstruse decision-making techniques, governing must of necessity become primarily the realm of the expert. Any other arrangement would lead to nothing but chaos. Acceptance of some "objectively" valid doctrine or world-view, or even of an ideology which merely sanctions the open competition among subjective interests, can only undermine our capacity to adapt to the requirements of technological change. Our very survival, then, depends upon our recognizing that scientists and technicians ought to be accorded political authority. At any rate, this is what the post-industrialists would have us believe.

In this section I will attempt to formulate a critique of post-industrialism based upon an analysis of the normative implications of the technocratic mode of political
legitimation. It must be admitted here that even though post-industrialism can be seen as a modern representative of technocratic thought, a critique of technocracy in a paper ostensibly devoted to theories of post-industrialism is, in a sense, contrived. The reader may very well object to my having devoted so much space to the post-industrialists given the fact that my ultimate object of condemnation is normative technocracy.

I am prepared to offer only two responses to such an objection. First of all, it is often assumed that technocratic ideology (make no mistake about the fact that it is an ideology) died along with Howard Scott's crackpot organization, Technocracy, Inc. Normative technocracy strikes the modern reader as being extremely naive and simplistic. To my knowledge no serious political theorist in recent years has ever suggested that scientific-technical knowledge contains within it logical "principles" for the ordering of society. Even the post-industrialists don't go this far. Therefore, my emphasis upon the post-industrialists is intended to demonstrate that the implicit assumptions, goals and biases of technocratic ideology are still very much present. Secondly, my critique of technocracy involves not only examining the bases of technocratic legitimation, but also the political consequences of a situation in which such a mode of legitimation actually predominates. It seems to me that theories of post-industrialism, insofar as they are primarily empirical analyses, are themselves quite revealing as to what
these consequences might be.

II

The most striking feature of technocratic theory is its incredible smugness. As we noted in the preceding chapter, technocratic theorists such as Bacon and Saint-Simon felt no need to invoke some metaphysical principle to "legitimate" the authority of the scientist-expert. Again, the reason is that for these theorists traditional modes of legitimation lead to nothing but intellectual, and hence political, chaos. The "political" realm is implicitly understood to be that which obscures the otherwise self-evident principles of social organization, as embodied either in the scientific method or the "logic" of industrialism. Technocratic theorists, then, envisioned what really amounts to the historical transcendence of politics as such. The new technocratic order needs no independent legitimation, because it is the institutional embodiment of the public good. It by definition cannot be justified on moral grounds, because it is precisely such conceptions which prevent the new order from being realized.

From a strictly logical point of view, technocratic legitimations appear to be wholly untenable. It just doesn't seem possible to argue that all world-views, ideologies, religions and philosophies which make claims with respect to ultimate ends are nothing but "illusions", and yet maintain that technical rationality contains a logic which ought to govern social arrangements. This kind of argument, however,
makes much more sense if we take into consideration the characteristic biases and goals of technocratic thought.

It is absolutely crucial to remember that technocratic theorists view traditional moral or metaphysical conceptions of ultimate ends as having prevented mankind from understanding the truly "essential" purposes of any society. For example, a confirmed technocrat would regard as obscurantist any debate over the relative merits of political equality or inequality if it was assumed that either one must be shown to have intrinsic value. The "worth" of any particular social component can only be understood in light of its utility in bringing about a condition of material abundance, or in Hobbes' words, "commodious living". Technocratic theorists, especially Bacon and Saint-Simon, exhibit an astonishingly naive optimism in assuming that if only it were possible to strip away all of our uniquely "political" conceptions, the truly essential function of any social order—provision of the good life—would become universally obvious.

If one stops to think for a moment, an attitude such as this is not really all that difficult to sympathize with. After all, do we not express similar sentiments when we vent our wrath against the "petty politics" which, for example, results in farmers being paid not to produce, or for that matter whenever we perceive that basic human needs are being neglected for "political" reasons? What I'm trying to get at here is that all of us share a perception that material existence is somehow basic. There is undeniably a sense in
which providing an adequate material existence is logically "prior" to other aspects of social life. But what the technocratic theorists do is to raise this need almost to the level of an ethical imperative, although they certainly wouldn't describe it as such. This is not to say that technocracy is an ideology of crass hedonism, although I will later argue that this is the practical basis of any technocratic legitimation. The technocratic theorists simply felt that the material lot of all men could be substantially improved through the systematic application of the scientific method. If this were accomplished, the masses would immediately recognize the essential irrelevance of politics.

Intimately associated with this emphasis upon material abundance is a profound yearning for intellectual and political order. This is of course a frequent desire in Western political theory, but it is perhaps even more basic to technocratic theory. To see why this is the case, it is quite useful to contrast the technocratic outlook with that of Hobbes, who was certainly very much interested in establishing a stable political order. Hobbes, as did the technocrats, recognized that political order is dependent upon intellectual order. The basic problem for the sovereign, then, is to arrive at a set of conceptions upon which everyone could agree. If we can arrive at static definitions of our conceptions, then it will be logically impossible for persons to acquire notions which are at odds with those upon which the legitimacy of the state is based. To this end, Hobbes proposed the
adoption of a science of politics. Through use of the proper methods, it would become possible to neutralize the biases which prevent agreement upon definitions of political concepts. The Leviathan is essentially a collection of such definitions.

Hobbes of course tried to maintain that his definitions were objectively correct, but he admitted that the proof ultimately rested with their usefulness to the sovereign in creating an orderly state. In other words, if Hobbes were pressed on this point, he would have to admit that his scientific method results simply in an agreement upon one bias, the "objectivity" of which depends upon the sovereign enforcing it. In technocratic theory, on the other hand, order is not a political characteristic, and does not come about through any agreement upon political conceptions. Indeed, recognizing that order as such (or for that matter any other moral or political imperative) is of no intrinsic value is in fact a prerequisite for the existence of a truly stable social order! For the technocrats, social order is the natural and spontaneous outcome of a situation in which "politics" has been transcended. Order is not artificial; it is not something which we have to create, as it is for Hobbes. Hobbes felt that conflict had to be suppressed. In technocratic thought, the need for order is even more basic since it appears as the truly natural condition of mankind. Order is not fragile, precisely because it is not created by political means.
III

All of this, again, is largely intended to show that there are certain preferences or biases which are basic to technocratic theory. Taken as a whole, they might be said to constitute what I will refer to as the technocratic "impulse". But the technocratic theorists certainly did not view their predilection for material abundance and political order as nothing more than a simple prejudice. From their perspective, these are simply the defining characteristics of an objectively efficient technocratic order. For theorists such as Saint-Simon, stability and abundance would inevitably come about if only society would recognize that science and industry entail a "logic" which ought to govern social arrangements. It seems to me, however, that the technocratic theorists were so overawed with the seemingly limitless potential for material and organizational progress latent within these forces, that they assumed that by merely stripping away the political restraints upon them, mankind would spontaneously recognize the truly natural or essential mode of social organization. More importantly, they assumed that because a technocratic society would be judged on the basis of its efficiency, and not on political or moral criteria, it did not require a standard moral legitimation.

Technocratic theorists in effect posit an "end of history", a period in which ethical categories no longer have any meaning.

It is important at this point to distinguish between
two meanings of the term legitimacy. On the one hand, there is the modern social-scientific conception, under which legitimacy is seen as a condition of political acquiescence. Here, legitimacy is rooted in the public's acceptance of the existing political order. Traditionally, however, legitimacy has been regarded as describing a condition of moral entitlement. It is understood that a set of political elites in fact has the right to govern. I would argue that normative technocracy can be said to entail only the former conception. It may very well be the case that a society, collectively organized for the purpose of material advance in accordance with the highest standards of technical efficiency, would exhibit considerable political stability. After all, with the exception of the nineteen-sixties, post-war America has done pretty well for itself. But how, after all, can "legitimacy" in this sense be regarded as anything other than a form of collective bribery? While the public in a technocratic order would undoubtedly be willing to accept the rule of the scientists and the engineers, this fact alone is insufficient to justify the claim that their hegemony is truly legitimate in the traditional normative sense. In technocratic theory, then, the people must be bought off.

This raises some questions about the technocratic notion that political order somehow naturally and inevitably accompanies the development of a technocratic society. Of course, order results from the elimination of conflict, and the technocrats see this, in turn, as arising out of the
collective realization of mankind's "essential" purpose.

But the technocrats seem to be uneasily aware of the fact that the public's obedience is not really based upon any sense of reverence or respect for legitimate political authority. They also seem to recognize the underlying fragility of a system in which these sentiments are absent. If this were not the case, there would seem to be no reason for the inclusion of elaborate politico-religious facades in much technocratic theory. It seems clear, for example, that Saint-Simon's "New Christianity" really amounts to a substitute program for the purpose of cementing the people's loyalty to the system (i.e., for creating legitimacy in the social-scientific sense). But realize further that since such political facades are by definition non-essential, then the one possible basis the technocrats may have had for claiming that their schemes result in moral legitimacy quickly evaporates. To be sure, technocratic theorists attempt to dispense with moral categories entirely by positing a harmony of fact and value in a technocratic order. But if the underlying assumption of an essential social activity is not exactly a "moral" conception, it must be admitted that it at least functions as the technocrats' rationale for claiming that scientific elites somehow "ought" to govern, and that their authority is legitimate. This rationale is largely undermined by the technocrats' admission that something non-essential to the productive process as such is necessary in order to insure public acquiescence. Somehow
even the technocrats are aware that the term legitimacy falls flat when it is used to describe what is nothing more than collective social indulgence.

So what, then, is my criticism of the technocratic mode of legitimation? Is the problem that scientific knowledge is inherently incapable of showing us how social life "ought" to be arranged, and that as a result the technocrats simply fail to offer a traditional moral legitimation of political authority? Although I will try to demonstrate that this is indeed the case, my objection to normative technocracy goes somewhat deeper than this. A considerable amount of time has been spent here in examining what I take to be the implicit value assumptions of technocratic theory. It is only when we recognize these as values that the technocratic claim to have discovered objectively efficient principles of social organization makes sense. But what I find so disturbing about technocracy is that its ultimate reliance upon the authority of science as a principle of legitimation in fact leads to a situation in which the technocratic "impulse" will assert itself more readily.

It seems to me that technocratic thought cannot really be fully understood if it is only viewed as a political theory. It is very tempting to dismiss normative technocracy entirely once it has been demonstrated that science logically cannot expose "principles" of social organization. However, an increasing reliance upon the authority of science tends
to undermine all "metaphysical" doctrines as such. It is not merely that science alone cannot legitimate a specifically technocratic order. The increasing prestige and authority of science, because of the necessary separation of "fact" and "value" which is associated with it, systematically removes any possible basis for a truly moral legitimation of a social order. "Technocratic consciousness", according to Jurgen Habermas, "reflects not the sundering of an ethical situation but the repression of 'ethics' as such as a category of life." I will argue that given a world in which the reality of transcending objectives is denied, technocratic values will appear to be the only "rational" ones.

Before proceeding with this analysis, however, let's dispense with the technocratic notion that it actually is possible for science to prescribe values. This is simply inconsistent with the logical distinction between fact and value. Normative technocracy is wholly dependent upon the assumption that there is indeed an "optimal" pattern of social organization, and that science can tell us what this is. The fact that theorists such as Saint-Simon and Veblen disagreed as to what is to be regarded as "essential" to the system itself suggests that norms of efficiency alone cannot function as the basis for a social order. Ends, which are either defined by subjective interests or prescribed by a system of values, are logically "prior" to means. There can be no doubt that scientific knowledge can provide an excellent way to determine the best means to
achieve a given end. But scientific knowledge, however conceived, can never tell us what ends are worth achieving.

Max Weber perhaps expresses this view the most consistently:

...the scientific treatment of value-judgments may not only understand and empathetically analyze the desired ends...; it can also 'judge' them critically...i.e., it can be no more than a formal logical judgment of historically given value judgments and ideas, a testing of the ideas according to the postulate of the internal consistency of the desired end...The elevation of these ultimate standards, i.e., to the level of explicitness is the utmost that the scientific treatment of value-judgments can do without entering the realm of speculation. As to whether the person expressing these value judgments should adhere to these ultimate standards is his personal affair; it involves will and conscience, not empirical knowledge. 5

The legitimacy of a technocratic order rests upon the assumption that all distinctly "political" influences can be eliminated, although it must be admitted that this is not so much the case for Bacon as it is for Saint-Simon and Veblen. But the logic of the technocratic position leads to the conclusion that all ends as such are political, since it is obvious that no particular end or purpose is inherently "essential" to a collection of technological means. Veblen though that he had succeeded in demonstrating that the industrial society of his day could be effectively "purged" by simply overthrowing the captains of industry. There can be no doubt, however, that his decision to stop at this point is essentially quite arbitrary.

Although this criticism I think effectively undermines the technocratic claim to have established the basis for political legitimacy in the normative sense, what I have called
the technocratic "impulse" does not just disappear as a result. Technocracy as a political theory may not be internally coherent, but the temptation to employ scientific methods in order to suppress value conflict, establish political stability, and in general bring about the prerequisites for "commodious living", is in fact stronger now than ever before. There are obviously many practical reasons for this, some of which were alluded to in our discussion of post-industrialism. I need only repeat here the post-industrialists general argument that technological advance has created a world so complex and interdependent that the potentially destructive consequences of individual action are too great to allow traditional modes of decision-making to perpetuate. But I also want to argue that there is an intellectual and moral basis for this "resurgence", as it were, of the technocratic impulse.

In making this argument I should first point out that I am heavily indebted to Max Horkheimer's analysis in his Eclipse of Reason. Since my argument is largely an extension or Horkheimer's, it is convenient at this point to summarize his position. If I am not mistaken, reason in general can for Horkheimer be described as any form of knowing which enables one to act effectively. However, there are two categories of reason, the objective and the subjective. Objective reason has to do with mankind's capacity to understand how he ought to act. It assumes the existence of a principle inherent in reality from which man can derive a
conception of human destination. In other words, objective reason denotes the perception of a Truth which renders intelligible our existence. Subjective reason, on the other hand, is concerned with evaluating the adequacy of various means to a given end. Subjective reason does not ask whether or not ends themselves are reasonable. They are just taken as givens.6

Originally, according to Horkheimer, these two conceptions of reason were able to coexist, but what has happened is that over the past several centuries the subjective conception has gradually won out over the objective. The possibility of describing an object, concept, or purpose as being in itself inherently "reasonable" has been severely undermined. Reason, correctly understood, can now legitimately refer only to a certain faculty of the mind which is used to coordinate means with ends. An object can be said to have "value" only to the extent that it is useful in the realization of previously defined ends:

In the subjectivist view, when 'reason' is used to connote a thing or an idea rather than an act, it refers exclusively to the relation of such an object or concept to a purpose, not to the object or concept itself. It means that the thing or idea is good for something else. There is no reasonable aim as such, and to discuss the superiority of one aim over another in terms of reason becomes meaningless.7

But if it is held that it is no longer possible to arrive at a set of absolute principles by which we can judge the value of something, all philosophical categories, including "man" himself, become mere phenomena to be classified.
Nothing is autonomous, since everything is looked upon exclusively as a means.

But what are the practical consequences of a situation in which the possibility of knowing an ultimate Truth is categorically rejected? What happens is that subjective reason, which accepts as truth (i.e. as "fact") only scientific knowledge, becomes subject to the vicissitudes of competing interests. Since reason is now only a faculty for the classification of data, there can be no objectively valid limits placed upon the ends which it will serve. One value is as reasonable as the next, since there is no rational agency authorized to appraise and link various ends to an objective reality:

Having given up autonomy, reason has become an instrument. In the formalistic aspect of subjective reason, stressed by positivism, its unrelatedness to objective content is emphasized; in its instrumental aspect, stressed by pragmatism, its surrender to heteronomous contents is emphasized. Reason has become completely harnessed to the social process. Its operational value, its role in the domination of men and nature, has been made the sole criterion.

In other words, the subjectivization of reason furthers the development of ethical relativism. All ends, whatever their content, are simply accepted as raw data, as givens. Since no particular end can be said to bestow meaning upon our actions, there is no logical reason why any end can not serve as a legitimate impetus for action.

Of course, the ultimate cause of all of this has been the increasing prestige and authority of the scientific method.
As we have seen, even though the scientific method was originally justified on the basis of its ability to provide "fruits" for commodious living, this faith was itself based upon the assumption of an inherent order in nature which is not man made. However, in pre-modern systems of thought in which the objective conception of reason predominated, reality in this sense was understood to be only a part of "a comprehensive system or hierarchy, or all beings, including man and his aims." In objectivism, reality (i.e., the natural world and the relations among human beings and between social classes) was identified with Truth and goodness, and it was felt that an analysis of reality could only reveal this Truth. However, the original spokesmen for the scientific method such as Bacon and Descartes, were quite unaware that since science is capable of only a classification and description of the elements of reality, its acceptance as the only legitimate form of knowing would inevitably lead to a denial that by understanding reality one can arrive at a Truth which somehow makes reality meaningful. In other words, the relativistic implications of the fact-value distinction were for a long time unappreciated.

At any rate, given a situation of total value-relativity, Horkheimer points out that the only possible "authority" which remains is science. Horkheimer does not make the mistake of basing this conclusion upon the ostensible "value-neutrality" of scientific inquiry, or upon the assumption that method really can expose a reality which is independent
of the observer. Science is an authority because it enhances our capacity for subjective reason—that is, it is an extremely useful tool for helping us get what we want. It really makes no difference whether or not there is an inherent order in the natural and social world, or whether it is possible to remove all biases which interfere with our capacity to understand that order by employing scientific methods. It is enough that a belief in these things enhances one's power to act in the world.

Where, then, does this leave the technocratic mode of legitimation, particularly as it finds expression in theories of post-industrial society? First of all, it is clear that to the extent that the post-industrialists maintain that scientific and technical elites will acquire power because of the objective requirements of technical rationality, this represents nothing more than a pipe-dream. Indeed, there is plenty of empirical evidence which suggests that scientists and technicians are usually subordinate to various political interests. Jean Meynaud concludes, "Technocracy has not managed to gain a completely preponderant control of government action in any contemporary regime, supposing that this is in fact the true wish of technicians." In fact, if specialization is as pronounced as is usually claimed, its quite difficult to imagine a situation in which the individual expert, whose "vision" beyond his own specialty must of necessity be limited, makes policy. It is even harder to envision a situation in which a group of experts
cooperate sufficiently to do this. Yet it has been argued that this type of collegial decision-making will become increasingly prevalent, because rapid socio-economic change necessitates temporary, ad hoc responses to specific problems. This requires that men of widely diverse backgrounds be repeatedly brought together to deal with these problems. But it is precisely because these people are dealing with quite specific problems that leads one to believe that the generality of their influence is rather limited.

This is expressed very clearly in Anthony Giddens' notion of "issue-strength", which refers to the range of issues over which various types of elites can exercise authority. While it is undeniable true that specialists impose limitations upon the competence of policy decisions taken by the political elite (i.e., upon the means to achieve a given end), specialization itself imposes restrictions upon the "issue-strength" of experts, leaving effective power in the hands of non-specialists. Following Galbraith, we might concede that the authority which specialists exercise within their particular fields grants them a large degree of autonomy with respect to the organizational line of authority. But this is not the same thing as having the capacity to shape overall policy.

All of this of course suggests the logical validity of Horkheimer's conclusions. When he says that reason has become "harnessed to the social process", this is based in part upon his recognition that there is no particular end
which subjective reason (i.e. technical means) "must" serve. But it is also based upon the fact that there are no longer any standards by which the acceptability of various ends can be definitively judged. Writers such as Habermas and Alvin Gouldner have seized on this fact to attack technocracy (and by extension Post-industrialism) as being "ideological".

The problem with technocracy, according to these theorists, is that it sees itself as containing a rationality which transcends all subjective interests, politics, and conflict, when in fact it is nothing more than the unreflexive ideology of a power-hungry class of technicians who are totally subordinate to the powers that be. Gouldner remarks that...

...the actual structural subordination of technical rationality to managerial power and economic interests is occluded by the ideology of the new technology. The technologists' wish-fulfilling fantasy of being free from the control of purely political, economic, military, or banking interests is a technological ideology, a project mistakenly defined as an already achieved condition. 14

Gouldner's point is well-taken, but the problem is that he tends to assume that the characteristic goals and biases of technocratic thought do not exist apart from technocracy as a political ideology. This is simply not the case.

We have seen that a desire for political order and material abundance are characteristic of technocratic thought. Now, these are by no means goals which are in any way unique to technocracy. Political theorists of every persuasion have at one time or another concerned themselves with both goals. What is striking about technocratic theory is that these
goals appear in isolation; a reading of Saint-Simon, for example, leaves one with the impression that nothing else is necessary. However, such a conception makes much more sense if one views it as a response to value-relativism. Given a situation in which words such as "ought" and "value" are denounced as illusions, it seems to me that there will be a tendency to accept these goals as the only legitimate ones.

I should point out that I am not claiming that this is in any sense logically "necessary". For one thing, it is clear that such a tendency is mitigated to the extent that traditional philosophies, faiths and world-views persist. What I am arguing is that in a world without absolute values, people will be more inclined to accept "commodious living" and political order as legitimate in and of themselves for lack of anything demonstrably better. Of course, an extremely potent tool, the scientific method, is available for us to achieve these goals. But as we have seen, there are now no longer any objectively valid restraints which can be placed on its use. What are the likely consequences of this?

We noted that the justification for science as an activity does not have to rest upon the assumption that it allows us to discover truths about the natural or social world which are independent of the observer. However, as Reinhard Bendix points out, "Scientists do believe in an ordering of society which is not man-made. This belief is a necessary precondition of any attempt to arrive at scientific
generalizations in the study of human affairs."\(^{15}\) Consequently, science will proceed on this assumption, and the past successes of science can only lend support to this approach. In other words, the scientific method presupposes that all factors are related in some way, and that in theory nothing is unexplainable. "Explanation", in both the natural and social sciences, can consist of no more than various theories which postulate statistically significant interrelationships among various factors, which are then tested. Realize that the ongoing assumption of an "order" here involves only the notion that all factors are in some way connected with other factors; there is no "meaning" in any of this.

What is disturbing to me, however, is that total explanation requires total control. The nature of scientific explanation, regardless of whether its account of the world is understood to be objectively true, is inherently technological. Method involves the breaking down of the seemingly complex natural and social world into its simpler elements. This is why the ongoing assumption of an orderly universe gives one power to act in the world.\(^{15}\) If a thing can be broken down into its constituent elements, in theory it can be remade, perhaps into something which will help bring about "commodious living". This explains Bacon's famous slogan, "knowledge is power". To know how something works is to be able to make something. Consequently, factors which cannot be explained by definition cannot be controlled. Contribution
to the body of science, then, requires instituting that state of unity in which all particulars are truly related. Given a situation in which values themselves are "phenomena" which are theoretically explainable, nothing can be excluded as a subject of control. Nietzsche was the first to fully comprehend and accept the logic of this. Nature (i.e. truth) has no value apart from our ability to manipulate it to insure survival. And survival requires total control, total understanding. Science, according to Henry S. Kariel...

...recognizes (1) that the end for man is quite literally his end—his death, and (2) that the end for science is the assuring of survival, the maintaining of the social and the individual equilibrium. Hence, the purpose of science is to keep everything endlessly moving. Its credentials are furnished by its power to make society survive; and as society is in fact kept forward and on the move—without hitches, deviations, or backtalk—its credentials are authenticated.

Again, I want to emphasize that this in no sense means that some kind of amoral technocratic power state is "inevitable", or even very likely. After all, scientists have their commitments, not the least of which is a commitment to a political system which sustains the activity of science. And scientists who publicly accept the implications of value-relativism for their discipline, such as B.F. Skinner, are often regarded with contempt in the scientific community. But the problem still remains. Any commitment which science might have to a certain set of values is due perhaps to a sentimentalism which derives from older traditions. In any case, it is certainly not a product of the assumptions basic
to scientific inquiry.

V

To the extent, then, that science assumes increasing importance in a society—there can certainly be no doubt about this for our society, as the post-industrialists have shown—there will be a tendency for it to strip away any possible grounds upon which its activity might be limited. But total control does not require a rigid, cruel authoritarianism. "Commodious living" is really based upon harmonizing the ideal with the real. "Commodious living" might just as well be translated into "happiness" or "satisfaction", which is probably more in keeping with an age in which material abundance cannot be provided for all. Man must instead be made to realize that a calm, stable satisfaction corresponds with his true interests. Desires must be tampered with, and if it is shown to be biologically necessary, outlets must be arranged for the expression of anger, hatred, and possibly outright violence. The necessity of making agonizing choices must be eliminated, since this necessity is the cause of all social and political instability.

Of course, the attempt to bring about an order such as this would in all likelihood fail miserably. But the point is that the willingness to surrender all of our conceptions of a truly meaningful existence for the sake of the sensation of happiness can only increase. Technocracy is an ideology which espouses precisely this view. And the fact that it persists in the form of post-industrialism is a disturbing fact, indeed.
FOOTNOTES

Chapter One

3. La Porte. pg. 5
7. Ibid. pg. 361

Chapter Two

1. Bell. pg. 14
3. Ibid. pg. 574
5. Ibid. pg. 136-37
6. Ibid. pg. 139
7. Ibid. pg. 147
9. Ibid. pg. 66


11. Ibid. pg. 461


14. Bell. The Coming of Post-Industrial Society. pg. 10 This is the only work of Bell's to which I will subsequently refer.

15. Winner. pg. 101

16. Bell. pg. 11

17. Donald Michael. The Unprepared Society.

18. Brzezinski. "America in the Technetronic Age" pg. 21

19. Michael. pg. ?

20. Brzezinski. pg. 23

21. Bell. pg. 364

22. Ibid. pg. 311


25. Brzezinski. pp. 22-23

26. Bell. pg. 454

Chapter Three

FOOTNOTES (Cont.)

2. John Schaar. "Legitimacy in the Modern State". In 
   Power and Community. Phillip Green and Sanford Levinson, 

3. Saint-Simon. pg. 81

4. Jurgen Habermas. Toward a Rational Society. The Beacon 

5. Max Weber. The Methodology of the Social Sciences. The 
   Free Press. New York. (1949) pg. 54

   New York. (1947) pg. 6

7. Ibid. pg. 6

8. Ibid. pg. 21

9. Ibid. pg. 4

10. See, for example, "Notes on Technocracy" by Margaret 
    (1972-73)

    (1969) pg. 296


13. Anthony Giddens. The Class Structure of the Advanced 

14. Alvin Gouldner. The Dialectic of Ideology and Technol­

15. Reinhard Bendix. "Social Science and the Distrust of 
    Reason". University of California Press. (Publications 
    pg. 29


17. Henry S. Kariel. "Social Science as Autonomous Activi­
    ty". In Scientism and Values. D. Van Norstrand Co., Inc. 
    Princeton, New Jersey. pg. 254
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