

3 Authoritarian High Modernism

Then, as this morning on the dock, again I saw, as if for the first time in my life, the impeccably straight streets, the glistening glass of the pavement, the divine parallelepipeds of the transparent dwellings, the square harmony of the grayish blue rows of Numbers. And it seemed to me that not past generations, but I myself, had won a victory over the old god and the old life.

—Eugene Zamiatin, *We*

Modern science, which displaced and replaced God, removed that obstacle [limits on freedom]. It also created a vacancy: the office of the supreme legislator-cum-manager, of the designer and administrator of the world order, was now horrifyingly empty. It had to be filled or else. . . . The emptiness of the throne was throughout the modern era a standing and tempting invitation to visionaries and adventurers. The dream of an all-embracing order and harmony remained as vivid as ever, and it seemed now closer than ever, more than ever within human reach. It was now up to mortal earthlings to bring it about and to secure its ascendancy.

—Zygmunt Bauman, *Modernity and the Holocaust*

All the state simplifications that we have examined have the character of maps. That is, they are designed to summarize precisely those aspects of a complex world that are of immediate interest to the map-maker and to ignore the rest. To complain that a map lacks nuance and detail makes no sense unless it omits information necessary to its function. A city map that aspired to represent every traffic light, every pothole, every building, and every bush and tree in every park would threaten to become as large and as complex as the city that it depicted.¹ And it certainly would defeat the purpose of mapping, which is to abstract and summarize. A map is an instrument designed for a purpose. We may judge that purpose noble or morally offensive, but the map itself either serves or fails to serve its intended use.

In case after case, however, we have remarked on the apparent power of maps to transform as well as merely to summarize the facts that they portray. This transformative power resides not in the map, of course, but rather in the power possessed by those who deploy the perspective of that particular map.² A private corporation aiming to maximize sustainable timber yields, profit, or production will map its world according to this logic and will use what power it has to ensure that the logic of its map prevails. The state has no monopoly on utilitarian simplifications. What the state does at least aspire to, though, is

a monopoly on the legitimate use of force. That is surely why, from the seventeenth century until now, the most transformative maps have been those invented and applied by the most powerful institution in society: the state.

Until recently, the ability of the state to impose its schemes on society was limited by the state's modest ambitions and its limited capacity. Although utopian aspirations to a finely tuned social control can be traced back to Enlightenment thought and to monastic and military practices, the eighteenth-century European state was still largely a machine for extraction. It is true that state officials, particularly under absolutism, had mapped much more of their kingdoms' populations, land tenures, production, and trade than their predecessors had and that they had become increasingly efficient in pumping revenue, grain, and conscripts from the countryside. But there was more than a little irony in their claim to absolute rule. They lacked the consistent coercive power, the fine-grained administrative grid, or the detailed knowledge that would have permitted them to undertake more intrusive experiments in social engineering. To give their growing ambitions full rein, they required a far greater hubris, a state machinery that was equal to the task, and a society they could master. By the mid-nineteenth century in the West and by the early twentieth century elsewhere, these conditions were being met.

I believe that many of the most tragic episodes of state development in the late nineteenth and twentieth centuries originate in a particularly pernicious combination of three elements. The first is the aspiration to the administrative ordering of nature and society, an aspiration that we have already seen at work in scientific forestry, but one raised to a far more comprehensive and ambitious level. "High modernism" seems an appropriate term for this aspiration.³ As a faith, it was shared by many across a wide spectrum of political ideologies. Its main carriers and exponents were the avant-garde among engineers, planners, technocrats, high-level administrators, architects, scientists, and visionaries. If one were to imagine a pantheon or Hall of Fame of high-modernist figures, it would almost certainly include such names as Henri Comte de Saint-Simon, Le Corbusier, Walther Rathenau, Robert McNamara, Robert Moses, Jean Monnet, the Shah of Iran, David Lilienthal, Vladimir I. Lenin, Leon Trotsky, and Julius Nyerere.⁴ They envisioned a sweeping, rational engineering of all aspects of social life in order to improve the human condition. As a conviction, high modernism was not the exclusive property of any political tendency; it had both right- and left-wing variants, as we shall see. The second element is the unrestrained use of the power of the modern state as an instru-

ment for achieving these designs. The third element is a weakened or prostrate civil society that lacks the capacity to resist these plans. The ideology of high modernism provides, as it were, the desire; the modern state provides the means of acting on that desire; and the incapacitated civil society provides the leveled terrain on which to build (dis)utopias.

We shall return shortly to the premises of high modernism. But here it is important to note that many of the great state-sponsored calamities of the twentieth century have been the work of rulers with grandiose and utopian plans for their society. One can identify a high-modernist utopianism of the right, of which Nazism is surely the diagnostic example.⁵ The massive social engineering under apartheid in South Africa, the modernization plans of the Shah of Iran, villagization in Vietnam, and huge late-colonial development schemes (for example, the Gezira scheme in the Sudan) could be considered under this rubric.⁶ And yet there is no denying that much of the massive, state-enforced social engineering of the twentieth century has been the work of progressive, often revolutionary elites. Why?

The answer, I believe, lies in the fact that it is typically progressives who have come to power with a comprehensive critique of existing society and a popular mandate (at least initially) to transform it. These progressives have wanted to use that power to bring about enormous changes in people's habits, work, living patterns, moral conduct, and worldview.⁷ They have deployed what Václav Havel has called "the armory of holistic social engineering."⁸ Utopian aspirations per se are not dangerous. As Oscar Wilde remarked, "A map of the world which does not include Utopia is not worth even glancing at, for it leaves out the one country at which Humanity is always landing."⁹ Where the utopian vision goes wrong is when it is held by ruling elites with no commitment to democracy or civil rights and who are therefore likely to use unbridled state power for its achievement. Where it goes brutally wrong is when the society subjected to such utopian experiments lacks the capacity to mount a determined resistance.

What is high modernism, then? It is best conceived as a strong (one might even say muscle-bound) version of the beliefs in scientific and technical progress that were associated with industrialization in Western Europe and in North America from roughly 1830 until World War I. At its center was a supreme self-confidence about continued linear progress, the development of scientific and technical knowledge, the expansion of production, the rational design of social order, the growing satisfaction of human needs, and, not least, an increasing control over nature (including human nature) commensurate with scientific

understanding of natural laws.¹⁰ *High* modernism is thus a particularly sweeping vision of how the benefits of technical and scientific progress might be applied—usually through the state—in every field of human activity.¹¹ If, as we have seen, the simplified, utilitarian *descriptions* of state officials had a tendency, through the exercise of state power, to bring the facts into line with their representations, then one might say that the high-modern state began with extensive *prescriptions* for a new society, and it intended to impose them.

It would have been hard not to have been a modernist of some stripe at the end of the nineteenth century in the West. How could one fail to be impressed—even awed—by the vast transformation wrought by science and industry?¹² Anyone who was, say, sixty years old in Manchester, England, would have witnessed in his or her lifetime a revolution in the manufacturing of cotton and wool textiles, the growth of the factory system, the application of steam power and other astounding new mechanical devices to production, remarkable breakthroughs in metallurgy and transportation (especially railroads), and the appearance of cheap mass-produced commodities. Given the stunning advances in chemistry, physics, medicine, math, and engineering, anyone even slightly attentive to the world of science would have almost come to expect a continuing stream of new marvels (such as the internal combustion engine and electricity). The unprecedented transformations of the nineteenth century may have impoverished and marginalized many, but even the victims recognized that something revolutionary was afoot. All this sounds rather naive today, when we are far more sober about the limits and costs of technological progress and have acquired a postmodern skepticism about any totalizing discourse. Still, this new sensibility ignores both the degree to which modernist assumptions prevail in our lives and, especially, the great enthusiasm and revolutionary hubris that were part and parcel of high modernism.

The Discovery of Society

The path from description to prescription was not so much an inadvertent result of a deep psychological tendency as a deliberate move. The point of the Enlightenment view of legal codes was less to mirror the distinctive customs and practices of a people than to create a cultural community by codifying and generalizing the most rational of those customs and suppressing the more obscure and barbaric ones.¹³ Establishing uniform standards of weight and measurement across a kingdom had a greater purpose than just making trade easier; the new

standards were intended both to express and to promote a new cultural unity. Well before the tools existed to make good on this cultural revolution, Enlightenment thinkers such as Condorcet were looking ahead to the day when the tools would be in place. He wrote in 1782: "Those sciences, created almost in our own days, the object of which is man himself, the direct goal of which is the happiness of man, will enjoy a progress no less sure than that of the physical sciences, and this idea so sweet, that our descendants will surpass us in wisdom as in enlightenment, is no longer an illusion. In meditating on the nature of the moral sciences, one cannot help seeing that, as they are based like physical sciences on the observation of fact, they must follow the same method, acquire a language equally exact and precise, attaining the same degree of certainty."¹⁴ The gleam in Condorcet's eye became, by the mid-nineteenth century, an active utopian project. Simplification and rationalization previously applied to forests, weights and measures, taxation, and factories were now applied to the design of society as a whole.¹⁵ Industrial-strength social engineering was born. While factories and forests might be planned by private entrepreneurs, the ambition of engineering whole societies was almost exclusively a project of the nation-state.

This new conception of the state's role represented a fundamental transformation. Before then, the state's activities had been largely confined to those that contributed to the wealth and power of the sovereign, as the example of scientific forestry and cameral science illustrated. The idea that one of the central purposes of the state was the improvement of all the members of society—their health, skills and education, longevity, productivity, morals, and family life—was quite novel.¹⁶ There was, of course, a direct connection between the old conception of the state and this new one. A state that improved its population's skills, vigor, civic morals, and work habits would increase its tax base and field better armies; it was a policy that any enlightened sovereign might pursue. And yet, in the nineteenth century, the welfare of the population came increasingly to be seen, not merely as a means to national strength, but as an end in itself.

One essential precondition of this transformation was the discovery of society as a reified object that was separate from the state and that could be scientifically described. In this respect, the production of statistical knowledge about the population—its age profiles, occupations, fertility, literacy, property ownership, law-abidingness (as demonstrated by crime statistics)—allowed state officials to characterize the population in elaborate new ways, much as scientific forestry permitted the forester to carefully describe the forest. Ian Hack-

ing explains how a suicide or homicide rate, for example, came to be seen as a characteristic of a people, so that one could speak of a “budget” of homicides that would be “spent” each year, like routine debits from an account, although the particular murderers and their victims were unknown.¹⁷ Statistical facts were elaborated into social laws. It was but a small step from a simplified description of society to a design and manipulation of society, with its improvement in mind. If one could reshape nature to design a more suitable forest, why not reshape society to create a more suitable population?

The scope of intervention was potentially endless. Society became an object that the state might manage and transform with a view toward perfecting it. A progressive nation-state would set about engineering its society according to the most advanced technical standards of the new moral sciences. The existing social order, which had been more or less taken by earlier states as a given, reproducing itself under the watchful eye of the state, was for the first time the subject of active management. It was possible to conceive of an artificial, engineered society designed, not by custom and historical accident, but according to conscious, rational, scientific criteria. Every nook and cranny of the social order might be improved upon: personal hygiene, diet, child rearing, housing, posture, recreation, family structure, and, most infamously, the genetic inheritance of the population.¹⁸ The working poor were often the first subjects of scientific social planning.¹⁹ Schemes for improving their daily lives were promulgated by progressive urban and public-health policies and instituted in model factory towns and newly founded welfare agencies. Subpopulations found wanting in ways that were potentially threatening—such as indigents, vagabonds, the mentally ill, and criminals—might be made the objects of the most intensive social engineering.²⁰

The metaphor of gardening, Zygmunt Bauman suggests, captures much of this new spirit. The gardener—perhaps a landscape architect specializing in formal gardens is the most appropriate parallel—takes a natural site and creates an entirely designed space of botanical order. Although the organic character of the flora limits what can be achieved, the gardener has enormous discretion in the overall arrangement and in training, pruning, planting, and weeding out selected plants. As an untended forest is to a long-managed scientific forest, so untended nature is to the garden. The garden is one of man’s attempts to impose his own principles of order, utility, and beauty on nature.²¹ What grows in the garden is always a small, consciously selected sample of what *might* be grown there. Similarly, social engineers consciously set out to design and maintain a more perfect social order. An Enlightenment belief in

the self-improvement of man became, by degrees, a belief in the perfectibility of social order.

One of the great paradoxes of social engineering is that it seems at odds with the experience of modernity generally. Trying to jell a social world, the most striking characteristic of which appears to be flux, seems rather like trying to manage a whirlwind. Marx was hardly alone in claiming that the “constant revolutionizing of production, uninterrupted disturbance of all social relations, everlasting uncertainty and agitation, distinguish the bourgeois epoch from all earlier times.”²² The experience of modernity (in literature, art, industry, transportation, and popular culture) was, above all, the experience of disorienting speed, movement, and change, which self-proclaimed modernists found exhilarating and liberating.²³ Perhaps the most charitable way of resolving this paradox is to imagine that what these designers of society had in mind was roughly what designers of locomotives had in mind with “streamlining.” Rather than arresting social change, they hoped to design a shape to social life that would minimize the friction of progress. The difficulty with this resolution is that state social engineering was inherently authoritarian. In place of multiple sources of invention and change, there was a single planning authority; in place of the plasticity and autonomy of existing social life, there was a fixed social order in which positions were designated. The tendency toward various forms of “social taxidermy” was unavoidable.

The Radical Authority of High Modernism

The real thing is that this time we're going to get science applied to social problems and backed by the whole force of the state, just as war has been backed by the whole force of the state in the past.

—C. S. Lewis, *That Hideous Strength*

The troubling features of high modernism derive, for the most part, from its claim to speak about the improvement of the human condition with the authority of scientific knowledge and its tendency to disallow other competing sources of judgment.

First and foremost, high modernism implies a truly radical break with history and tradition. Insofar as rational thought and scientific laws could provide a single answer to every empirical question, nothing ought to be taken for granted. All human habits and practices that were inherited and hence not based on scientific reasoning—from the structure of the family and patterns of residence to moral values and forms of production—would have to be reexamined and redesigned. The structures of the past were typically the products of myth, super-

stition, and religious prejudice. It followed that scientifically designed schemes for production and social life would be superior to received tradition.

The sources of this view are deeply authoritarian. If a planned social order is better than the accidental, irrational deposit of historical practice, two conclusions follow. Only those who have the scientific knowledge to discern and create this superior social order are fit to rule in the new age. Further, those who through retrograde ignorance refuse to yield to the scientific plan need to be educated to its benefits or else swept aside. Strong versions of high modernism, such as those held by Lenin and Le Corbusier, cultivated an Olympian ruthlessness toward the subjects of their interventions. At its most radical, high modernism imagined wiping the slate utterly clean and beginning from zero.²⁴

High-modernist ideology thus tends to devalue or banish politics. Political interests can only frustrate the social solutions devised by specialists with scientific tools adequate to their analysis. As individuals, high modernists might well hold democratic views about popular sovereignty or classical liberal views about the inviolability of a private sphere that restrained them, but such convictions are external to, and often at war with, their high-modernist convictions.

Although high modernists came to imagine the refashioning of social habits and of human nature itself, they began with a nearly limitless ambition to transform nature to suit man's purposes—an ambition that remained central to their faith. How completely the utopian possibilities gripped intellectuals of almost every political persuasion is captured in the paean to technical progress of the *Communist Manifesto*, where Marx and Engels write of the "subjection of nature's forces to man, machinery, and the application of chemistry to agriculture and industry, steam navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalization of rivers, whole populations conjured out of the ground."²⁵ In fact, this promise, made plausible by capitalist development, was for Marx the point of departure for socialism, which would place the fruits of capitalism at the service of the working class for the first time. The intellectual air in the late nineteenth century was filled with proposals for such vast engineering projects as the Suez Canal, which was completed in 1869 with enormous consequences for trade between Asia and Europe. The pages of *Le globe*, the organ of utopian socialists of Saint-Simon's persuasion, featured an endless stream of discussions about massive projects: the construction of Panama Canal, the development of the United States, far-reaching schemes for energy and transportation. This belief that it

was man's destiny to tame nature to suit his interests and preserve his safety is perhaps the keystone of high modernism, partly because the success of so many grand ventures was already manifest.²⁶

Once again the authoritarian and statist implications of this vision are clear. The very scale of such projects meant that, with few exceptions (such as the early canals), they demanded large infusions of monies raised through taxes or credit. Even if one could imagine them being financed privately in a capitalist economy, they typically required a vast public authority empowered to condemn private property, relocate people against their will, guarantee the loans or bonds required, and coordinate the work of the many state agencies involved. In a statist society, be it Louis Napoleon's France or Lenin's Soviet Union, such power was already built into the political system. In a nonstatist society, such tasks have required new public authorities or "super-agencies" having quasi-governmental powers for sending men to the moon or for constructing dams, irrigation works, highways, and public transportation systems.

The temporal emphasis of high modernism is almost exclusively on the future. Although any ideology with a large altar dedicated to progress is bound to privilege the future, high modernism carries this to great lengths. The past is an impediment, a history that must be transcended; the present is the platform for launching plans for a better future. A key characteristic of discourses of high modernism and of the public pronouncements of those states that have embraced it is a heavy reliance on visual images of heroic progress toward a totally transformed future.²⁷ The strategic choice of the future is freighted with consequences. To the degree that the future is known and achievable—a belief that the faith in progress encourages—the less future benefits are discounted for uncertainty. The practical effect is to convince most high modernists that the certainty of a better future justifies the many short-term sacrifices required to get there.²⁸ The ubiquity of five-year plans in socialist states is an example of that conviction. Progress is objectified by a series of preconceived goals—largely material and quantifiable—which are to be achieved through savings, labor, and investments in the interim. There may, of course, be no alternative to planning, especially when the urgency of a single goal, such as winning a war, seems to require the subordination of every other goal. The immanent logic of such an exercise, however, implies a degree of certainty about the future, about means-ends calculations, and about the meaning of human welfare that is truly heroic. That such plans have often had to be adjusted or abandoned is an indication of just how heroic are the assumptions behind them.

In this reading, high modernism ought to appeal greatly to the classes and strata who have most to gain—in status, power, and wealth—from its worldview. And indeed it is the ideology par excellence of the bureaucratic intelligentsia, technicians, planners, and engineers.²⁹ The position accorded to them is not just one of rule and privilege but also one of responsibility for the great works of nation building and social transformation. Where this intelligentsia conceives of its mission as the dragging of a technically backward, unschooled, subsistence-oriented population into the twentieth century, its self-assigned cultural role as educator of its people becomes doubly grandiose. Having a historic mission of such breadth may provide a ruling intelligentsia with high morale, solidarity, and the willingness to make (and impose) sacrifices. This vision of a great future is often in sharp contrast to the disorder, misery, and unseemly scramble for petty advantage that the elites very likely see in their daily foreground. One might in fact speculate that the more intractable and resistant the real world faced by the planner, the greater the need for utopian plans to fill, as it were, the void that would otherwise invite despair. The elites who elaborate such plans implicitly represent themselves as exemplars of the learning and progressive views to which their compatriots might aspire. Given the ideological advantages of high modernism as a discourse, it is hardly surprising that so many postcolonial elites have marched under its banner.³⁰

Aided by hindsight as it is, this unsympathetic account of high-modernist audacity is, in one important respect, grossly unfair. If we put the development of high-modernist beliefs in their historical context, if we ask who the enemies of high modernism actually were, a far more sympathetic picture emerges. Doctors and public-health engineers who did possess new knowledge that could save millions of lives were often thwarted by popular prejudices and entrenched political interests. Urban planners who could in fact redesign urban housing to be cheaper, more healthful, and more convenient were blocked by real-estate interests and existing tastes. Inventors and engineers who had devised revolutionary new modes of power and transportation faced opposition from industrialists and laborers whose profits and jobs the new technology would almost certainly displace.

For nineteenth-century high modernists, the scientific domination of nature (including human nature) was emancipatory. It “promised freedom from scarcity, want and the arbitrariness of natural calamity,” David Harvey observes. “The development of rational forms of social organization and rational modes of thought promised liberation from the irrationalities of myth, religion, superstition, release from the arbi-

trary use of power as well as from the dark side of our human natures.”³¹ Before we turn to later versions of high modernism, we should recall two important facts about their nineteenth-century forebears: first, that virtually every high-modernist intervention was undertaken in the name of and with the support of citizens seeking help and protection, and, second, that we are all beneficiaries, in countless ways, of these various high-modernist schemes.

Twentieth-Century High Modernism

The idea of a root-and-branch, rational engineering of entire social orders in creating realizable utopias is a largely twentieth-century phenomenon. And a range of historical soils have seemed particularly favorable for the flourishing of high-modernist ideology. Those soils include crises of state power, such as wars and economic depressions, and circumstances in which a state’s capacity for relatively unimpeded planning is greatly enhanced, such as the revolutionary conquest of power and colonial rule.

The industrial warfare of the twentieth century has required unprecedented steps toward the total mobilization of the society and the economy.³² Even quite liberal societies like the United States and Britain became, in the context of war mobilization, directly administered societies. The worldwide depression of the 1930s similarly propelled liberal states into extensive experiments in social and economic planning in an effort to relieve economic distress and to retain popular legitimacy. In the cases of war and depression, the rush toward an administered society has an aspect of *force majeure* to it. The postwar rebuilding of a war-torn nation may well fall in the same category.

Revolution and colonialism, however, are hospitable to high modernism for different reasons. A revolutionary regime and a colonial regime each disposes of an unusual degree of power. The revolutionary state has defeated the ancien régime, often has its partisans’ mandate to remake the society after its image, and faces a prostrate civil society whose capacity for active resistance is limited.³³ The millennial expectations commonly associated with revolutionary movements give further impetus to high-modernist ambitions. Colonial regimes, particularly late colonial regimes, have often been sites of extensive experiments in social engineering.³⁴ An ideology of “welfare colonialism” combined with the authoritarian power inherent in colonial rule have encouraged ambitious schemes to remake native societies.

If one were required to pinpoint the “birth” of twentieth-century high modernism, specifying a particular time, place, and individual—

in what is admittedly a rather arbitrary exercise, given high modernism's many intellectual wellsprings—a strong case can be made for German mobilization during World War I and the figure most closely associated with it, Walther Rathenau. German economic mobilization was the technocratic wonder of the war. That Germany kept its armies in the field and adequately supplied long after most observers had predicted its collapse was largely due to Rathenau's planning.³⁵ An industrial engineer and head of the great electrical firm A.E.G. (Allgemeine Elektrizitäts-Gesellschaft), which had been founded by his father, Rathenau was placed in charge of the Office of War Raw Materials (Kriegsrohstoffabteilung).³⁶ He realized that the planned rationing of raw materials and transport was the key to sustaining the war effort. Inventing a planned economy step by step, as it were, Germany achieved feats—in industrial production, munitions and armament supply, transportation and traffic control, price controls, and civilian rationing—that had never before been attempted. The scope of planning and coordination necessitated an unprecedented mobilization of conscripts, soldiers, and war-related industrial labor. Such mobilization fostered the idea of creating "administered mass organizations" that would encompass the entire society.³⁷

Rathenau's faith in pervasive planning and in rationalizing production had deep roots in the intellectual connection being forged between the physical laws of thermodynamics on one hand and the new applied sciences of work on the other. For many specialists, a narrow and materialist "productivism" treated human labor as a mechanical system which could be decomposed into energy transfers, motion, and the physics of work. The simplification of labor into isolated problems of mechanical efficiencies led directly to the aspiration for a scientific control of the entire labor process. Late nineteenth-century materialism, as Anson Rabinbach emphasizes, had an equivalence between technology and physiology at its metaphysical core.³⁸

This productivism had at least two distinct lineages, one of them North American and the other European. An American contribution came from the influential work of Frederick Taylor, whose minute decomposition of factory labor into isolable, precise, repetitive motions had begun to revolutionize the organization of factory work.³⁹ For the factory manager or engineer, the newly invented assembly lines permitted the use of unskilled labor and control over not only the pace of production but the whole labor process. The European tradition of "energetics," which focused on questions of motion, fatigue, measured rest, rational hygiene, and nutrition, also treated the worker notionally as a machine, albeit a machine that must be well fed and kept in good

working order. In place of workers, there was an abstract, standardized worker with uniform physical capacities and needs. Seen initially as a way of increasing wartime efficiency at the front and in industry, the Kaiser Wilhelm Institut für Arbeitsphysiologie, like Taylorism, was based on a scheme to rationalize the body.⁴⁰

What is most remarkable about both traditions is, once again, how widely they were believed by educated elites who were otherwise poles apart politically. "Taylorism and technocracy were the watchwords of a three-pronged idealism: the elimination of economic and social crisis, the expansion of productivity through science, and the reenchantment of technology. The vision of society in which social conflict was eliminated in favor of technological and scientific imperatives could embrace liberal, socialist, authoritarian, and even communist and fascist solutions. Productivism, in short, was politically promiscuous."⁴¹

The appeal of one or another form of productivism across much of the right and center of the political spectrum was largely due to its promise as a technological "fix" for class struggle. If, as its advocates claimed, it could vastly increase worker output, then the politics of redistribution could be replaced by class collaboration, in which both profits and wages could grow at once. For much of the left, productivism promised the replacement of the capitalist by the engineer or by the state expert or official. It also proposed a single optimum solution, or "best practice," for any problem in the organization of work. The logical outcome was some form of slide-rule authoritarianism in the interest, presumably, of all.⁴²

A combination of Rathenau's broad training in philosophy and economics, his wartime experience with planning, and the social conclusions that he thought were inherent in the precision, reach, and transforming potential of electric power allowed him to draw the broadest lessons for social organization. In the war, private industry had given way to a kind of state socialism; "gigantic industrial enterprises had transcended their ostensibly private owners and all the laws of property."⁴³ The decisions required had nothing to do with ideology; they were driven by purely technical and economic necessities. The rule of specialists and the new technological possibilities, particularly huge electric power grids, made possible a new social-industrial order that was both centralized and locally autonomous. During the time when war made necessary a coalition among industrial firms, technocrats, and the state, Rathenau discerned the shape of a progressive peacetime society. Inasmuch as the technical and economic requirements for reconstruction were obvious and required the same sort of collaboration in all countries, Rathenau's rationalist faith in planning had an

internationalist flavor. He characterized the modern era as a “new machine order . . . [and] a consolidation of the world into an unconscious association of constraint, into an uninterrupted community of production and harmony.”⁴⁴

The world war was the high-water mark for the political influence of engineers and planners. Having seen what could be accomplished in extremis, they imagined what they could achieve if the identical energy and planning were devoted to popular welfare rather than mass destruction. Together with many political leaders, industrialists, labor leaders, and prominent intellectuals (such as Philip Gibbs in England, Ernst Jünger in Germany, and Gustave Le Bon in France), they concluded that only a renewed and comprehensive dedication to technical innovation and the planning it made possible could rebuild the European economies and bring social peace.⁴⁵

Lenin himself was deeply impressed by the achievements of German industrial mobilization and believed that it had shown how production might be socialized. Just as Lenin believed that Marx had discovered immutable social laws akin to Darwin’s laws of evolution, so he believed that the new technologies of mass production were scientific laws and not social constructions. Barely a month before the October 1917 revolution, he wrote that the war had “accelerated the development of capitalism to such a tremendous degree, converting monopoly capitalism into *state-monopoly* capitalism, that *neither* the proletariat *nor* the revolutionary petty-bourgeois democrats *can* keep within the limits of capitalism.”⁴⁶ He and his economic advisers drew directly on the work of Rathenau and Mollendorf in their plans for the Soviet economy. The German war economy was for Lenin “the ultimate in modern, large-scale capitalist techniques, planning and organization”; he took it to be the prototype of a socialized economy.⁴⁷ Presumably, if the state in question were in the hands of representatives of the working class, the basis of a socialist system would exist. Lenin’s vision of the future looked much like Rathenau’s, providing, of course, we ignore the not so small matter of a revolutionary seizure of power.

Lenin was not slow to appreciate how Taylorism on the factory floor offered advantages for the socialist control of production. Although he had earlier denounced such techniques, calling them the “scientific extortion of sweat,” by the time of the revolution he had become an enthusiastic advocate of systematic control as practiced in Germany. He extolled “the principle of discipline, organization, and harmonious cooperation based upon the most modern, mechanized industry, the most rigid system of accountability and control.”⁴⁸

The Taylor system, the last word of capitalism in this respect, like all capitalist progress, is a combination of the subtle brutality of bourgeois exploitation and a number of its great scientific achievements in the fields of analysing mechanical motions during work, the elimination of superfluous and awkward motions, the working out of correct methods of work, the introduction of the best system of accounting and control, etc. The Soviet Republic must at all costs adopt all that is valuable in the achievements of science and technology in this field. . . . We must organize in Russia the study and teaching of the Taylor system and systematically try it out and adapt it to our purposes.⁴⁹

By 1918, with production falling, he was calling for rigid work norms and, if necessary, the reintroduction of hated piecework. The first All-Russian Congress for Initiatives in Scientific Management was convened in 1921 and featured disputes between advocates of Taylorism and those of energetics (also called ergonomics). At least twenty institutes and as many journals were by then devoted to scientific management in the Soviet Union. A command economy at the macrolevel and Taylorist principles of central coordination at the microlevel of the factory floor provided an attractive and symbiotic package for an authoritarian, high-modernist revolutionary like Lenin.

Despite the authoritarian temptations of twentieth-century high modernism, they have often been resisted. The reasons are not only complex; they are different from case to case. While it is not my intention to examine in detail all the potential obstacles to high-modernist planning, the particular barrier posed by liberal democratic ideas and institutions deserves emphasis. Three factors seem decisive. The first is the existence and belief in a private sphere of activity in which the state and its agencies may not legitimately interfere. To be sure, this zone of autonomy has had a beleaguered existence as, following Mannheim, more heretofore private spheres have been made the object of official intervention. Much of the work of Michel Foucault was an attempt to map these incursions into health, sexuality, mental illness, vagrancy, or sanitation and the strategies behind them. Nevertheless, the idea of a private realm has served to limit the ambitions of many high modernists, through either their own political values or their healthy respect for the political storm that such incursions would provoke.

The second, closely related factor is the private sector in liberal political economy. As Foucault put it: unlike absolutism and mercantilism, "political economy announces the unknowability for the sovereign of the totality of economic processes and, as a consequence, the *impossibility of an economic sovereignty*."⁵⁰ The point of liberal political economy was not only that a free market protected property and cre-

ated wealth but also that the economy was far too complex for it ever to be managed in detail by a hierarchical administration.⁵¹

The third and by far most important barrier to thoroughgoing high-modernist schemes has been the existence of working, representative institutions through which a resistant society could make its influence felt. Such institutions have thwarted the most draconian features of high-modernist schemes in roughly the same way that publicity and mobilized opposition in open societies, as Amartya Sen has argued, have prevented famines. Rulers, he notes, do not go hungry, and they are unlikely to learn about and respond readily to curb famine unless their institutional position provides strong incentives. The freedoms of speech, of assembly, and of the press ensure that widespread hunger will be publicized, while the freedoms of assembly and elections in representative institutions ensure that it is in the interest of elected officials' self-preservation to prevent famine when they can. In the same fashion, high-modernist schemes in liberal democratic settings must accommodate themselves sufficiently to local opinion in order to avoid being undone at the polls.

But high modernism, unimpeded by liberal political economy, is best grasped through the working out of its high ambitions and its consequences. It is to this practical terrain in urban planning and revolutionary discourse that we now turn.