TOWARD A POLITICAL ECONOMY OF THE SERVICE SOCIETY

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INTRODUCTION

We live in a service society. That much is clear from the myriad of statistics on the occupational structure of the American economy.[1] But we have yet to discover the salient meanings of this new and still rapidly developing job structure. The quantitative picture cannot be denied, but its qualitative meaning is suggested only elliptically by the numbers at hand. Services are different to be sure, but how? They are sometimes face-to-face activities, such as counselling, but sometimes highly capital intensive, such as insurance. They are sometimes ancillary to manufacturing, as is advertising, but sometimes the locus of productivity for manufacturing, as is research. They are sometimes private sector activities, such as leisure time consumption, but sometimes public sector activities, such as education. So what are they?

Indeed, the search for a unifying element behind the myriad of services might itself be a misguided effort. As services themselves come to represent an increasing proportion of the occupational and sectoral structure of the economy, they must of necessity embrace the widest range of socio-economic activity, and no unifying element might exist. Services were originally the "residual" category within the industrial classification system. They were everything industry was not. But as they progressively embrace the entire occupational structure, the search for the definition of services might be better replaced by a new classification scheme divided not along industry-service

lines, but along new divisions within the service sector itself. With such a scheme, the search for the key definition of the service sector would give way to a more complex analytic of the service sector structure itself. In short, the question "what are services?" might be the entirely wrong question, a reflection not of problems raised by socio-economic realities, but rather of a progressively obsolete classification system.

But we would have to be ornery intellectuals to deny the thrust behind the search for the definition of services. Clearly, the economy is at a turning point. The quantitative evidence is too persuasive. The emergence of our residual category to the economic foreground has made our classification system obsolete, and this obsolescence is a reminder that we have lost touch with the economic realities. The search for the definition of services is in the end an attempt to recapture these realities by understanding the meaning and structure of this turning point. Behind the quest for the services definition is an attempt to grapple with turning points, with deep qualitative changes in the political economy itself. This is hardly the incorrect question. It is, rather, the key one.

But if it is the key question, modern economic thinking ill equips us to grapple with it. To the extent that we are all Keynesians, and Keynesianism is today the vehicle for most economic thought, we study only short run economic developments. The requirements of a full employment policy draw attention to the determinants of smooth job <u>growth</u>, to the quantitative expansion in the number of jobs, but they do not point to the dimensions of job <u>development</u>, to the qualitative changes in the structure of jobs. The former determines the

economic short run, the latter, the political-economic long run. Our search for the structure and meaning of developmental turning points comes up against the obstacles posed by our own Keynesian heritage.

But political economy has a variety of traditions. If Keynesianism obscures the long run, then other traditions highlight it. The grand theorists of economic development, from Marx to Schumpeter to Galbraith have explored the meaning and patterns of political-economic turning points, and their work might help us understand the sources and consequences of the emergent service society.

The theories of each are multidimensional and can hardly be summarized in a single concept. But each thinker, in his exploration of the determinants of development, has pointed to the "sources of productivity," or Marx's "productive forces," (or the "forces of production") as the primary factors in the determination of economic "epochs" or periods of economic development. The "sources of productivity" is both a quantitative and qualitative concept. It is quantitative to the extent that it explores the relative contribution that different "factors of production," e.g. capital, land, knowledge, make to productivity growth. But it is more importantly a qualitative concept to the extent that it tries to examine how power, politics, and the structure of work are organized to accommodate the relative importance of these different factors of production. Thus where land is the key source of productivity, that is, where agriculture provides the surplus above subsistence to both support the political and cultural systems of the period, and propel further development and change, the ownership of land, the organization of work around land, the relative

marketability of land, etc., will emerge as the key political questions of the period.

Clearly then, a change in the sources of productivity will mean not only a change in the relative scarcities of different factors of production, not only a change in the quantitative relationships between "inputs and outputs," but also a change in the institutional basis of the political economy itself. It is particularly the latter, expressed concretely in both changes in the occupational structure, and in the distribution of power between classes and groups, that gives "turning points" their particularly all pervasive and systemic quality.

Seen in this context, interpreted within this framework of grand political economy, might not the shift to the service society, that is the change in the occupational and sectoral structure of the economy, be seen as a manifestation of a deeper change in the sources of productivity themselves, in the "forces of production"?

Over the past decade there has in fact been a large amount of economic research on the changing sources of productivity, but it has been, in general, confined to a purely quantitative analysis of these changes. As a consequence, such research has cast very little light on the possibly more systemic consequences of the economy's changing productive forces, and has therefore shed little light on the meaning of the emerging service sector. Perhaps the most solid and extensive work on the sources of productivity has centered around an examination of what has come to be termed the "residual."

Beginning with Robert Solow's seminal article in 1957[2] economists have discovered that certainly since the end of World War I (if not a

decade earlier) the growth of national per capita income, or more fundamentally the productivity of labor, has not been a function of the growth in reproducible capital and labor time, or more concretely, of men and machines, but rather, has been due to a more complex set of factors ranging from scientific research, general education, vocational training, the diffusion of technological innovations, labor mobility, locational efficiency, economies of scale, etc.[3] This is indeed a wide array of factors, but they might be summarized under the rubric of the "informational and organizational" dimensions of the political economy. In other words, information and organization conceived of as abstract or summary categories of factors of production have come to replace capital and labor as the sources of productivity.

But curiously, economists have not in general explored the possible social, political, and occupational implications of this quantitative development. As we have argued, shifts in the sources of productivity involve not only changes in the quantitative importance of different factors of production, but also changes in the institutional and occupational structure of the political economy. Information, organization, research, labor mobility, all come to play increasingly important roles in the economy, only when human beings have reorganized their socio-economic activities to bring out the productive potential of these new factors. In other words, the factors that make up the residual do not emerge from and float about in some abstract space, but are rather the consequences of new patterns of human activity.

But since economists have not explored these new institutional patterns, the possible meanings of the turning point in economic development implied by the residual have never been fleshed out, and residual

research has come to a clear dead end.[4] It has degenerated into a kind of "listing process," in which one enumerates all the conceivable elements that might go into the residual, and then assigns them numerical weights (on the basis of sometimes dubious econometric procedures), in this way "filling up" the residual until the full growth in productivity can be accounted for. But accounting for productivity growth is in no way equivalent to understanding it, and this listing procedure (which to some extent must be arbitrary, since one can often find more than enough factors to fill the residual) becomes analytically unproductive.

This failure of economists is in part due to the patterns of modern economic thinking with its focus on the primarily quantitative dimensions of economic life. But equally important, the institutional organization of these new sources of productivity, of these new factors of production, are not as easily understood by the metaphors of "markets" and the laws of "supply and demand" that economists use to analyze the institutional contexts of the traditional factors of labor and capital. If earlier economists had a quantitative bent, their understanding of markets as forms of social organization enabled them to tie their abstract analyses of input and output to empirical social settings. Wage labor and money capital were indeed organized primarily through markets and these markets in turn affected the entire social context in which wage labor and capital appeared, were produced, and were traded. But the new sources of productivity, e.g. information, education, mobility, administration, etc., are organized by a much more complex melange of private and public, market and non-market activities. As a consequence, the purely market model is no longer a very effective tool for analyzing

the genesis, production, and "circulation" of these new sources of productivity. But without the market model, the economist loses his moorings. He can no longer tie his abstract pictures to social settings, and in this way loses his grip on economic reality. This is perhaps the most fundamental reason why residual research has not quite fulfilled its promise, and why in turn this research has never exposed the deeper meanings -- the sign of a developmental turning point -- implicit in its strictly quantitative results.

To be sure, there have been exceptions. John Kenneth Galbraith in particular has sought to examine the political and social implications of a shift from "capital to knowledge" as the key source of productivity.[5] But though Galbraith was insistent on demonstrating the dimensions of the new in the "new industrial state" that might flow from this change (implying that this change was analogous in form and impact to the shift from land to capital that took place at the time of the industrial revolution), he confined his institutional analysis largely to the changes taking place in the upper management echelons of the large national and multi-national corporations. The larger occupational structure was in general ignored, and one could argue that on the basis of his analysis there was not much that was new with the new industrial state. If the "techno-structure" was emerging from under the shadows of an increasingly diffuse body of absentee owners (a development examined by Berle some forty years earlier[6]), its goals -- the extension of corporate power and profits -- were identical to the goals of the non-absent owners of the first great modern American corporations that began to emerge at the turn of this century. Because he so

confined his analysis, his instinct for the new dimensions of political economy did not find a successful expression in his exposition of those dimensions. The intellectual community remained for the large part unconvinced.[7]

The consequence of such very confined research on the residual, reflected in either the total absence of, or too limited a form of qualitative and institutional analyses, has been that the very clear changes in the occupational and sectoral structure of the economy have not been systematically related to the changing sources of productivity. But again, a framework based on the concept of "productive forces" suggests that these two developments are closely related, and indeed it is not very difficult to suggest at least some surface or abstract connections between the two. The apparently increasing significance of workers' skills and training can be linked to the rapid growth in education, the impact of technological change to the rise in a large scientific establishment, increased mobility to both better information flow and perhaps improved health. Moreover, an empirical analysis will show that the most rapid increases in the service sector come not in the traditional ancillary or support services of transport, commerce, retail, and finance, but rather, from the new public and human services of health, education, government administration, welfare, and research.[8] In other words, it is precisely those services which would seem most clearly connected to the new sources of productivity, again summed up abstractly as information and organization, that have propelled the growth and emerging dominance of the service sector. Indeed, it is worth our while to pursue this abstract connection between the services

and the new productive forces somewhat further, for in so doing we can begin to develop a feel for the possible systemic changes entailed in the emergence of these new sources of productivity.

To say that information and organization have become the new sources of productivity is, at one step removed, to assign a qualitatively new role to a massively upgraded form of human labor, to what has been termed the new "human factor" in the general process of social production and reproduction.[9] Information can play a key role only to the extent that men's capacities to acquire, organize, and process information are adequately developed, while organization can play a key role only to the extent that men can organize their workplace and more general social networks to fit the requirements of their socio-economic tasks. To be sure, in this sense men have always had the capacity to acquire information and organize their networks, and we have said nothing new or interesting. But, if we continue to focus on developmental turning points, what counts is not the presence or absence of such skills or capacities, but rather the ratio of such skills and capacities to the more primitive laboring, muscle-based skills in the determination of an individual's, and ultimately society's, daily activity. To say at the macro-level that information and organization emerge as the key sources of productivity is to say at the micro-level that the creative-mental powers of men transcend in socio-economic significance their elementary muscle power. Of course, the industrial revolution also upgraded labor, at least up to the level of basic literacy. But it simultaneously systematized and organized the primitive labor power of men and made it central to the industrialization process. To the extent that a service society actually emerges,

such labor diminishes in significance and the social organization of men's creative capacities emerges as the key socio-economic task.

Equally important, there is increasing evidence that with a rising "change gradient," with an increasing rate of technological and political-economic change, what counts is not so much the efficiency or productivity of given or fixed organizational and cognitive structures, but rather the flexibility of those structures.[10] As both the ratios of available resources and technologies shift with increasing rapidity,[11] productivity comes to lie less in the basic production process and more in the adaptability of men and their social networks to the corresponding fast changing ratios of skills and tasks. A society is thus productive when it can develop and sustain the social networks, both informational and organizational, that support such flexibility.

In other words, social infrastructure of the most "invisible" kind, based not in highways or dams, but in networks of communication and social support, emerges as the dynamic factor that underlies overall productivity. Again, social organization was always a key element in the production process, but once again, its significance relative to the classical reproducible forms of social capital rises, emerging in this way from the background to the foreground of political-economic activity. In turn just as traditional economic development was based on the organized reproduction and elaboration of the capital stock, on changes in its size and form, so would service society development be based on the organized reproduction and elaboration of social structure, of social organization, or more fundamentally of the social conditions of life themselves. In this context, social organization would

appear not as a consequence or "output" of the patterns and direction of economic activity, but rather as the cause or source of such activity.

All this suggests two overlapping ways in which we can understand how services, particularly the fast growing services, might be linked to the sources of productivity. To say that the new sources of productivity are mediated through qualitatively upgraded labor is to argue that the human services, particularly the health and education complexes, become the social loci for the developmental possibilities of society. To say that society's social networks, both informational and organizational, are the keys to the new requirements for flexibility and adaptability, is to argue for the centrality of the public services, particularly of the administrative, welfare, and planning varieties. Taken together, both arguments suggest that the full development of the forces of production abstractly conceived, rest ultimately on the development and elaboration of the public and human services, of precisely those services that have fueled the emergence of the service society.

But we can hear our reader objecting. There is clearly something very unsatisfactory about our description of the connection between the public and human services and the productive forces. To be sure it is all too short and brief, and much more detail is required if such descriptions are to be at all convincing. Indeed, a major work published in 1968[12] outlines in strikingly comprehensive fashion and in full detail the structure of a high technology society based in a qualitatively upgraded form of human labor. But it is not so much the absence of detail that makes such descriptions unconvincing as their fanciful, if not lyrical, quality. From the perspective of the

present it is hard to believe that the public and human services can ever function in such a developmental fashion. They seem wasteful and inefficient, are often organized around seemingly meaningless or dysfunctional purposes, have an inflationary and resource draining impact on the rest of the economy,[13] and far from upgrading human labor they often contain the "surplus" of human talent and energy. To be sure, this is not to deny that this sector can and has played a developmental role, that it can and has contributed to overall socio-economic productivity. But if one takes the overall view, if one examines the productive activities alongside the dimensions of waste, can one really ascribe a developmental role to this sector?

Yet it is equally incorrect to be fixated on present appearances. The present is always a moment of tension between the past and future, and a given institutional structure will reflect an uneasy alliance between conflicting historical "forces" or pressures. Seen in this context, the developmental possibilities embedded in the public and human services might be contained within or be hidden by the present wasteful or retarding forms of these services. Or perhaps, more confusingly, the forces of waste or "anti-development," may be absolutely intertwined with the forces of development. The elaboration of the former might, within a given historical period, be a necessary condition for the elaboration of the latter. In other words, we must confront what must be a highly uneven and "zig-zag" relationship between the human and public services and the new forces of production. Because the potentially developmental forms of these services grow out of pre-existing service institutions (which may have performed a very different set of functions), the present state of the human

and public services must reflect forces of the old, the new, and perhaps most importantly, the tensions of the transition between the old and new.

Moreover, it is precisely this zig-zag relationship that is likely to confound all empirical analyses of service development. Thus, for example, expanded if not "continuous" education might be a key link between abstract information as a source of productivity, and upgraded human labor. But then how are we to interpret the recent clear overexpansion of higher education, to the point where a real downgrading of labor, relative to educational background, seems possible? Is it simply a function of capitalist uneven development, i.e. a "human capital boom," that like traditional capital booms, can in the short run prove too exuberant, though in the long run prove essential to development? Or is it a sign simply of the "warehousing" function of higher education -- an expensive but socially necessary way of hiding the growing surplus of human beings who are in fact not needed and will never be needed for socio-economic development? Or finally, and it is this view that our own framework of analysis most favors, might it in fact represent a structural stalemate in society in which the new productive forces, the developmental factors, simply cannot push their way into the given structure of institutions? In this case the overexpansion in education would represent the retardation of developmental possibilities. Clearly without an understanding of education in its potential relationship to socio-economic development, no clear answer is possible.

Finally, once we view the problem of service development dialectically, we can dispose of any "historical inevitability" in such development. Even if our quantitative evidence points to the emergence

of new forces of production, there is no guarantee that this past rate of emergence will be sustained, or that there cannot be actual regressions. Marx warned us formulaically that the productive forces must at some point come up against the "social relations" of society. In our context, confined, perverse, or restricted service development can in the end distort and delimit the impact of the new productive forces of information and organization. Services might never fulfill their "logical" or "historical" potentials, and as a consequence the new productive forces might appear only in their most limited and restricted forms. In other words, present "advanced capitalism" might appear increasingly inefficient or unproductive relative to its potential, and the seeming inevitability of service development might in fact become only a distant, if not lost, possibility.

How then are we to proceed? Clearly, we cannot here undertake a careful empirical analysis of service development that might shed light on what we have termed the zig-zag and uneven relationship between the dynamic services and the new sources of productivity. Nor can we in fact really prove within the bounds of this essay, that such a link, however tenuous and uneven, actually exists. Such could be the full-time work of a research institute. Rather, we can here only establish the prolegamenon for such research, a framework which could hopefully provide the basis for such research. As such, our paper should be seen not as an attempt to prove an argument, but rather as an attempt to elaborate in as much detail as possible one central hypothesis -- to wit:

> Both quantitative and qualitative evidence point to an emerging service society, and a change in the structure of productive forces. The two processes are interrelated in an uneven and dialectical fashion, reflected ultimately in an antagonistic or contradictory service structure. It

> is precisely this interrelationship that increasingly comes to structure the key elements of political-economic development and political-social conflict in the emergent service, or "post-industrial" society.

In order to flesh out this hypothesis we divide our argument into three parts. In Part One we take the route of history, examining the evidence and building the case for the existence of a turning point in American political-economic development. This leads us back to an examination of some of the key features of the decade of the twenties. In Part Two we examine in some detail the quantitative dimensions of service growth since World War II. This in turn sets the stage for a discussion of the relationship between such service growth and Keynesianism as the key to the post-World War II economy. Such a discussion leads to an examination of the antagonistic structure of services, which highlights the limitations of a Keynesian view of recent political-economic development. Finally, in the last part, we take up in some detail the dimensions of a "reorganization of services" within the restrictions imposed by the Keynesian political-economic environment. This discussion can then give us a sense of the structure of political conflict in the emergent service society.

AN HISTORICAL PERSPECTIVE

The specification of a particular decade or period as a "turning point" is subject to a great deal of methodological criticism, if only because all historical developments have historical roots as far back in time as we care to trace them. Historians of the industrial revolution will point to the growth in the scientific spirit from as early as the Renaissance, or the population spurt in the early sixteenth century, as precursors or even critical prerequisites of nineteenth century industrialization. Yet though all developments have their historical roots and antecedents, there are particular periods stretching over decades or perhaps only years when changes springing forth from all points of the society finally concatenate at the political and social centers. In such periods, men, or better, classes of men, must forcibly reorient their key political institutions to both adapt to and direct the new socio-economic forces. If the English Industrial Revolution has its beginnings in the commercial and transport revolutions of the eighteenth century, it was only in the late eighteenth and more completely early nineteenth centuries that men of all classes began to look at their own society through new terms and categories more suited to the complexities of industrial development. In 1776 Adam Smith first elaborated the theory of the market system, while in 1792 the "London Correspondence Society," perhaps the first authentic "class-based" labor organization, met for the first time to further the interests of the

working man.[13] Similarly, around 1790 the government of England began to substitute for its largely medieval structure of economic regulations a more modern complement of economic policies better suited to the needs of industrial development.*[14] Even the realm of culture produced its first authentic response to industrialization with the emergence of the romantic poets in the late eighteenth and early nineteenth centuries.

In short, however extensive and deep rooted were the sources of the industrial revolution, however far back we care to trace its beginnings, we can say that in the period from about 1750 to 1830 men began to reorient their conceptual frameworks, their value systems and ultimately their political institutions, to cope with and to ultimately shape the new processes of development. It is in such a period that the largely "autonomous" forces of change first reorganize and then are themselves further organized and integrated by the political structure. In turn, the "pace of change" speeds up as the integration of such forces through the political system reinforces their mutually supporting dynamics, and the resistances to change are themselves destroyed. Men come to believe that they are living in a "revolutionary period."

It is a bit tricky to find a similar turning point of perhaps decades or years for the emergence of our own service or post-industrial society. That the service structure still poses a conceptual problem for us suggests that its full dimensions have yet to be revealed, that we ourselves are living in that transition "between two ages." Yet

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*Indeed, it was only in 1832 with the repeal of the poor laws, that a market in labor was fully constituted.[15] In addition it was in the latter part of the 18th century that signs of labor dislocation began to appear on a mass scale. From 1760 to 1784, taxes for relief rose by 60%, and they doubled by 1801.[16]

there is enough evidence available of both a quantitative and qualitative form to guide our search and suggest some tentative conclusions.

The decade of the nineteen-twenties is enshrouded in a veil of nostalgia that prevents us from grappling with its historical meanings and impact.[17] As the "roaring twenties," as the age of ballyhoo and flappers, it is too quickly and easily seen as a reaction to the over-crusading years of the progressive period, a period that culminated in a war to end wars that in fact ended nothing.[18] Historiography favors instead the three decades from 1890 to 1920 as the crucial period of transition for the American political economy. The evidence is persuasive.[19] The "end of the frontier," Teddy Roosevelt's new global consciousness, the confrontation with and ultimate acceptance of the large corporations, the partial and uneven attempts to integrate labor into the structure of power, the progressive period's search for smooth government, for a rationalized economic system, for habitable cities -- all these developments pointed to men's recognition of an approaching end to their once fragmented and laissez-faire capitalism. As a consequence, there emerged in that period the search for a new "managed capitalism" through which the power of the large corporations might be contained, and the forces of pure profit constrained by extra-economic criteria.[20] The attempts to upgrade urban life, to eliminate child labor, to inspect consumer products, reflected on the one hand a recognition of and acceptance of the new national corporation, but on the other, an attempt to control the sometimes too destructive impact of these new national organizations.

Seen in this context, the rise to consciousness of the passing of an old age, the "romantic reaction" as typified in the writings of Henry Adams, the development of a loose but all encompassing political movement -- progressivism -- the interaction of that movement with the political elites and the presidency itself, all these developments when considered as an integrated pattern of events, suggest that the period 1890-1920 was a critical turning point in American political-economic development.

Yet, historical processes and trends are notoriously uneven. The 1890's was clearly a turning point from the perspective of both social awareness and political developments. Both quantitative and qualitative evidence from the economic sphere suggest that this period was at the same time structured by the very classic and hardly new process of labor-based capital accumulation. "Classical" capital accumulation is undoubtedly an abstraction and can never fully describe any single period of economic development. Rather it is a paradigm of other early periods of "extensive" industrialization, in which the labor time of a quantitatively expanding urban proletariat, particularly in manufacturing, provides the basis, in the form of surplus profits from the laboring process, for the capitalization of industry. In other words, both capital and labor expand, the latter providing the basis for the development of the former. Such a period is associated with a repressed level of consumption, through the medium of low wages, and capital base or capital stock that actually expands faster than output. Industry is in effect capitalized at the expense of consumption.

Viewed quantitatively and qualitatively, the period of 1890-1920 has many of the earmarks of such a process of development and growth.

Most importantly, it was a period of vast in-migration from the old world, with immigration reaching a peak of some 1.2 millions by 1914.[21] To be sure, the immigrants were being pushed by circumstances abroad, but equally important they were being pulled by labor hungry entrepreneurs that actively sought and recruited foreign labor. In 1905, the year in which immigration first topped the one million mark, the productive non-agricultural segment of the arriving immigrant groups amounted to close to 3% of the total non-agricultural labor force.[22] But their quantitative impact probably underestimates their even greater qualitative significance. They settled in the industrial centers of the north-east close to factories where they quickly became available for industrial work. Equally important, in contrast to the native-born American, they would settle for low wages and were not protected by the craft unions of the native American.[23] In fact, child labor, one of the best qualitative indications of the labor-based dimension of economic growth, actually rose in the period 1900-1910.[24] In other words, their concentration in and around the industrial centers combined with the low wages they commanded in the labor market made them a key source of surplus profits required for the capitalization of industry.

Data on such capitalization for this period are also revealing. The capital to output ratio in manufacturing rose in this period by about one-third.[25] In other words, capital invested in manufacturing expanded at 1.3 times the rate of industrial output. (The data are similar for mining, the other core industry in the capital-accumulation process.) The more rapid expansion of capital relative to output suggests in turn that rising levels of investment were financed by or mediated by repressed levels of consumption.

Viewing, then, both the quantitative and qualitative evidence on labor inputs and capital expansion, the period from 1890 to 1920 has a particularly classical feel to it. As the classical paradigm suggests, the expansion and consolidation of an urban proletariat concentrated in the industrial centers went hand in hand with the increasing capitalization of industry. To be sure, this is not to suggest that this period can be characterized completely by the process of classic extensive industrialization. Rarely is their growth in any period without qualitative changes in the structure of development. Indeed, as we shall see shortly, beginning in the last decade of this period there was a significant slowing down of the rate of labor input into the economy. Rather, we suggest that there are enough elements representative of a classic capital accumulation process in this period to make it more representative of past economic growth patterns rather than a break with them.

Seen in this context we might interpret the rise of the large corporation at the turn of the century as suggesting not so much a new order, but rather as setting the stage for an even more vigorous expression of the old. It was precisely the concentration of capital, the elimination of the smaller "inefficient" owner-worker, that permitted the rapid expansion in the ranks of the urban proletariat. Paradoxically, just as the elites and intellectuals contemplated the end of the frontier, a vast internal frontier, a vast internal frontier fueled by the labor power of the old-world migrant, was growing up within the bounds of the national economy. All this is not to dismiss the intimations of qualitative change that the rise of the national corporation suggested to observers and critics of the period. Only

the willfully blind could ignore what Marx called the "socialization" of resources suggested by the increasingly national corporations. Viewed retrospectively, the national corporation appears as an institutional precondition for the substitution of science and technology -- or information and organization -- for labor and capital as the roots of the economy's productive potential in the twentieth century. It is only to argue again that history moves dialectically, that before the large corporation could function as the handmaiden of the new forces of production, it had first to express in perhaps their purest form the older, more classical forces.

Because the progressive period decades reflected in many ways classical economic processes, we need to turn to the decade of the twenties, for it is in this period that we find changes not only in the realm of sensibilities and perception, not only in the field of economic organization, but also within the structure of economic processes themselves. Two crudely measured developments within this decade convey a sense of these changes. In a brief study on technology and automation Leontief notes that[26]

> between 1890 and 1910 our national input of human labor shot up from 28.3 million standard man years to 42.5 million...In the next decade our manpower input increased by only one million and after 1920 it levelled off and remained almost constant till the early 1940's. Even at the peak of the recent war effort [W.W.II] our total labor input, with an enormously larger population was only 10% greater than in 1910. [my underlining, LH]

In other words, in the decade of the twenties, despite the rather sizable growth in national income, despite a rate of growth in total product that matched the records of the previous decades, despite the

60% increase in manufacturing output,[27] there was no increase in man years of input.

This data on national man years is matched by more detailed data on manufacturing labor. It is customary to think of the decade of the twenties as the decade of the "mass production worker," as the period in which the blue collar worker in the nation's factories on the economy's assembly lines finally comes into his own as a highly visible and potentially powerful industrial and class grouping. Indeed this decade is the period of Henry Ford's assembly line, when six dollars a day and steady work could bring the assembly line worker an income far beyond his expectation. Yet curiously, the growing visibility of the mass production worker in basic industry, which was to erupt into the industrial strikes of the thirties, was simultaneously matched by zero growth in the number of manufacturing production workers during this period. In 1919, there were 8.7 million production workers in manufacturing and in 1929 there were 8.6 million.[28] Moreover, this slight decline in the number of production workers in manufacturing reflects an even greater drop in the total input of hours worked by this same group. From 1889 to 1919 manufacturing output tripled while hours worked per year just about doubled. But from 1919 to 1929 production increased by 60% while annual hours worked actually fell by 6 percent.[29] Clearly, unlike the classical process of accumulation, industrial growth no longer required an expansion in the labor time contributed by the manufacturing labor force.

The data on the rate of capitalization of manufacturing and mining are equally striking. Lest it be thought that the absence of labor input growth was compensated for a greater infusion of capital

by an even faster rate of industrial capitalization, the numbers suggest the contrary. Throughout the nineteenth and early twentieth centuries, capital to output ratios in manufacturing and mining, that is, the amount of capital required to set a unit of output into motion, was rising. But beginning in 1920 that same ratio began to fall and has in fact been falling ever since.[30] Indeed the capital to output ratio for the entire private sector of the economy began to turn down at about this time.[31] In other words, rising levels of output and production were now possible on the basis of more slowly rising rates of capital growth. Labor, just like capital, was becoming increasingly productive. In effect, there was a new "structure of productivity" unleashed in the nineteen-twenties which was both labor and capital saving and which no longer required the rapid accumulation of capital and labor to increase both productivity and production.

It should now become clear why the decade of the twenties can be viewed as a technological, economic and ultimately socio-political turning point. As we have seen, the classical process of capital accumulation based in the mutual expansion of both labor time and capital began to unravel. But this has more than simply technical implications. Viewed from the perspective of early industrialization this mutual expansion was the sine-qua-non of interrelationship between labor and capital as classes, and was thus the basis for the social structure of industrial-class society. Capital needed labor for its own expansion, through the profits garnered from the laboring process, but labor simultaneously required capital for its expansion, since only increasing levels of investment could insure sustained increases in employment. But this mutual dependence was structured through

wage-profit conflict, that is, through the dynamics of the labor market, so that the interdependence of labor and conflict merged as a form of "symbiotic antagonism" in which as both classes were dependent on each other they were also opposed to each other. Thus, the unraveling of this process at the economic base, in the actual structure of technological processes, suggests not only far reaching changes in the economic sphere, but also in the entire structure of classes interests and conflicts.

Changes in the technological base should have their correlates in qualitative changes in the economic structure, and indeed such changes are easy to discern in the decade of the twenties. Among the most striking we find are the rapid growth in consumer credit and advertising, reflecting perhaps the new problems of "demand" in a high productivity, non-labor based economy, and a decline of the work week by about four hours.[32] But perhaps most important from our perspective, two striking changes in the occupational and industrial structure stand out. The service sector, which in the past had grown largely (in employment terms) at the expense of agriculture, takes off on its own, diverging for the first time from that of the industrial sector.[33] In addition, the combined occupational classes of education workers and the professions which in the late nineteenth and early twentieth centuries accounted for an average of about five percent of employment growth, accounted for eleven percent of employment growth in the decade from 1910, and a full sixteen percent in the decade of the twenties.[34]

Thus viewed as an integrated pattern, these developments -- the growth in advertising and consumer finance, the growth in leisure, the shift to services, and the emergence of a more professionally weighted occupational structure -- seem to reflect in substance the hallmarks of the "modern" period of economic development. In short, the shift in the basic "forces of production" at the technological base was paralleled by qualitative changes in the economic structure.

Yet there is something unsatisfactory about our discussion. While we have been able to present in cursory fashion the dimensions of quantitative and qualitative change in this period, we have not really exposed the interconnections and sources of these developments. We can say with some certainty that the economy became based on new non-capital and non-labor sources of productivity, that in this decade new sources of productivity emerged. But again, what are these sources? The information and organization metaphors might be helpful, but perhaps less novel developments might equally explain our results. In particular the wider application of electricity,[35] the further concentration of industry, and the wider application of "taylorism" to the organization of manual labor might account for a large part of our results. Similarly, the emergence of a more professionally weighted occupational structure is hardly evidence of any developmental role that this sector may have played in the developments of the decade. It is equally likely that the rise of the professions may have been the consequence rather than the cause of the underlying technological developments, that labor and capital saving technical innovations may have permitted the release of labor into the service and professional occupations.

Yet without using "dialectics" as an escape hatch from rigorous thinking, we can employ it to help us unravel the intertwining of the old and the new that characterizes all historical developments. Taylorism is perhaps the best example of this. As the science of "labor engineering" it represented the logical culmination of the labor based industrial system. Its goal was not so much to displace labor, as it was to refine, systematize and maximize the use of labor. As a consequence it abstracted as much as possible from the human dimensions of work, and envisioned, in as rigorous and mathematical fashion as was possible, the movement of muscle as machine-mechanical adjuncts to machine processes.[36] But it is precisely in the scientific and abstracted dimensions of taylorism that there are hints of the transcendence of the labor based industrial system. The refinement of labor power was based on the application of information, intellect, and organized intelligence to the labor system. The more effective taylorism became, the greater was the significance of intelligence to labor in the determination of overall productivity. Thus it was precisely the shifting ratios of these two factors that suggested or pointed to new sources of productivity based not in labor but in intelligence. The final logic of taylorism points beyond labor refinement to labor displacement. Taylor engineering must and has come up against the limits of muscle capacities and muscle speed, and the search for greater efficiency must lead toward more nearly automated, continuous process production systems. In such systems the muscle factor becomes negligible, and instead the supervisory role of men based in their information processing and nervous system capacities becomes paramount. Human engineering -- the management of abstracted human labor -- becomes system engineering -- the

management of integrated machine processes. In effect, even though part of our quantitative result might be explained by the wider application of a system based not on the displacement but rather the refinement of labor inputs, this very wider application, which already had clear quantitative consequences, suggested in its logic the qualitative implication of this shift in the sources of productivity, or productive forces.

A similar, if even simpler, argument can be applied to the role played by the further concentration of industry in the determination of apparently new productive forces. On the one hand this concentration can be seen as a simple extension of the growth and development of large scale industry, of the emergence of "economies of scale" and new efficiencies associated with the rationalization of the business system and the progressive elimination of the small scale entrepreneur. But on the other hand, the growing independent significance of the organizational, as opposed to the machine dimensions of corporate structure, point toward a time when organization in general, that is, social organization, can become a significant determinant of overall productivity. In other words, "organization," abstractly conceived as a new source of productivity, first emerges within the older framework of corporate growth and rationalization. But as it so emerges and has a clear quantitative impact it simultaneously points toward a point in time when "organization," confined not to corporate structure but rather conceived in more general social structural terms, can have a major impact on socio-economic productivity.

In this spirit of finding the new in the old we can similarly interpret the rise in a more professionally weighted class structure,

not as the cause of the quantitative changes in the sources of productivity, for it is unlikely that newly emergent subsystems of society will immediately find their new or emergent function, but rather as setting the stage for the eventual or rather probable interconnection between the service sector and the productive forces. When two subsystems in society, in this case the system of productive forces and the occupational system, undergo qualitative change, the simultaneity of those changes is a sign not of their interconnection but rather of their potential interconnection. As each subsystem continues to grow along its new axis of development the stage is set for their (undoubtedly conflict ridden) integration.

In effect we can view the twenties as a turning point, in that the major "pieces" of a service or post-industrial society, represented most importantly by new productive forces and a new occupational structure, first emerged. But because they emerged within the framework or "womb" of the industrial system they were confounded with elements of the old system, and their actual integration -- in effect "putting the pieces together" -- would have to await a later period. The twenties was a turning point, but in this sense only the starting point for the emergence of a post-industrial society.

Turning points in economic and technological developments should not be discerned from statistical data alone. On the contrary, as we have already argued, such turning points will appear as a period of "revolutionary change" to those who live through them, and the structure of psychological moods, of the "sensibilities" of the times, should provide additional insights into the dimensions of technological

turning points. Moreover, while institutions are constrained by their pasts and can change only through the medium of conflict, the limits of new sensibilities are the boundaries imposed only by the human imagination. Intimations of the new can be amplified by imagination into visions of entirely new possibilities for human experience. In this sense, sensibilities can function as signposts, as signals of the dimensions and depths of political-economic turning points.

The nineteen twenties was indeed a period of moods, fads and fashions, of waves of national crazes, and a flowering of sensibilities. No doubt part of the ambience of the twenties was a reaction to the deadly seriousness of the progressive period and its demise in the cynical reaction to Wilson's World War I idealism. But an investigation of the moods and fashions of the period suggests that the sensibilities of the period were most importantly a response to the sense of new horizons opened up by what contemporaries conceived to be a "new era" of prosperity. Moreover, this new era was not conceived of as simply a period of growing income. The two decades previous had also been ones of substantial growth in national product. Rather its newness seemed to lie in a new structure of growth and productivity that depended less and less on the repression of wages and consumption, and more and more on the development of mass consumption with its correlate in the growth of a broad middle class.[37] Moreover, surface labor peace, a function of both the post-war Palmer raids and the defeat of labor in its attempts to organize the mass-production industries,[38] added a veneer of conflict-free development to the new structure of growth and productivity.

To intellectuals of the period, the social and economic statistics pointed very clearly to new dimensions of socio-economic development. In a report entitled "Recent Economic Changes" prepared by the Hoover Commission and released in 1929, the authors turned their attention to the new prospects and problems of a mass consumption society.[39] They saw a new structure of productivity in which agriculture, mining, and manufacturing were no longer based on the expansion of labor time. Instead this new structure offered a road to affluence based on mass consumption and the release of labor from the traditional extractive and manufacturing centers. Such a release of labor, however, opened up new problems and prospects based in the uses of leisure time, technological unemployment, and the expansion of services as a new source of jobs. By implication the solution to these new, strikingly post-industrial problems, in contrast to the classical problem dichotomies of capital versus labor, wages versus profits, and consumption versus investment, were the keys to the unfolding of the new structure of affluence.

Curiously, the editors of the report (in contrast to its numerous contributors) chose to see the developments of the twenties as an extension of past socio-economic trends.[40] But this same conservatism of intellect also led them to ignore the clear danger signs on the horizons (i.e., the economic and financial imbalances that were to result in the stock market crash) that, as we shall shortly see, were also part of the new structure of affluence. In other words, to the extent that they examined their own decade in the context of past history, rather than within the framework of qualitatively new developments, to that extent were they unable to detect the danger signs,

the indications of stress and imbalance brought on by these same developments.

Popular culture too reflected a sensitivity to the new structures and patterns of development.[41] Most striking in this regard was the appearance of a new "youth culture" encompassing the children of the fast growing middle classes. The experiments with sexual styles, the fascination with the new jazz and dance forms (which fed in turn Harlem's Black Renaissance), the growth of a semi-autonomous and more numerically significant campus life, the popularity of a vulgarized Freud, the fascination with Fitzgerald as both author and person, all reflected a new generation's response to the seeming evaporation of old social issues, and the simultaneous appearance of an endless stream of new possibilities in "life-styles." To be sure, unlike the children of the sixties, this cultural revolution never found its way into the stream of political conflict; the social conflict and antagonisms were not very visible, nor were their numbers as large as their counterparts in the sixties. But viewed as an integrated pattern, the youthful revolution of the twenties can be interpreted as an indicator of the dimensions of the new opened up by the new structure of affluence and productivity.

Moreover, the cultural revolution was of course not confined to youth alone. On the contrary, there was a vast explosion of a new mass culture that found expression in a wave of fads, the hero-worship of athletes and movie stars, and a lust for crime and sex-scandals that became the focus of the entire nation. Behind this array of national crazes, each one in no way entirely new, was nevertheless the new element of mass national consciousness, based not so much on the

abstract sharing of values as on the individual's daily participation in national events. Undoubtedly abetted by the growth of radio and the national picture magazine, this consciousness also reflected a new sense of national power, of social potentials that grew from the emergence of collectivity bound together as never before. While at the turn of the century the end of the frontier seemed to imply an end to economic vitality, to the growth and accumulation of power, the turn inward in the 1920's, away from the frontier, suggested new sources of power based in an ever more integrated and connected polity.[42]

But there is a deeper meaning to these fads. A fad is, after all, the mobilization and channeling of a nation's social-psychological energies onto a particular object, person or task. In other words, like a political movement it becomes the symbolic expression of a society's newly found powers. But fads are by definition temporary affairs. Their own internal logic, whether it be in hero-worship, a game, or a scandal, cannot for long contain the reservoirs of energy that flow through it and elevate it. Because fads are in the end only symbolic expressions of national energies, they must quickly fail as effective foci for such energies. Instead, we must find, as we did in the twenties, the rapid and seemingly unending succession of national crazes.

The presence of fads as focal points for national sensibilities is in effect a sign of a social problem -- "How can and how might national energies be mobilized?" Clearly, the traditional pattern for the mobilization of energies, the evolution of class conflict, had been repressed with the defeat of labor in the great steel strike of 1919. The centrality of fads might indeed be seen as one dimension of this repression. But this same centrality suggests that the political

system as a whole was underdeveloped in relation to the new productive forces and new sensibilities. While fads cannot for long mobilize and crystallize social energies, the charismatic leader, the strong president. the political movement, can provide, through an appeal to "program," whether it be in the form of expansion, reconstruction or revolution, the long term sustained focus for a society's emergent and newly discovered energies. Thus the phenomena of national fads in the twenties, while reflecting at one level the absence of mobilizing issues, suggests in addition a key failing on the part of the political system; an inability of the political system to evolve with or encompass both the new forces of production and the new structure of sensibilities. In other words, to the extent that fads were rooted in the ambience of "new era" prosperity, which in turn was a consequence of the emerging new forces of production, the centrality of the wave of fads to the general psychological climate of the twenties was a sign and signal that the political system had not evolved along with the new forces of production.

Herein lies perhaps the greatest paradox of the twenties -- one that exposes the nature of social "contradictions" that accompany historical turning points. The twenties, as we have already argued, saw the emergence of new forces of production that transcended in their potential both the classic sources of productivity in capital and labor, and their correlates in the class structure -- a bourgeoisie and proletarian facing each other antagonistically in the labor market. Yet, paradoxically, this change at the technological base was accompanied by a backward movement in the sphere of sensibilities and ideology. Business civilization, expressed through the core of its values and

practices, which was in fact being increasingly eroded by these new technological and economic developments, came once again to occupy the center of the ideological stage. In contrast to the attempts during the progressive period to limit the power of the entrepreneurial corporation, to develop social rather than strict economic criteria for evaluating the society, the twenties became the "dollar decade."[43] Paradoxically, the new era prosperity, which in retrospect must be assigned to the productive forces, was in popular culture understood as proof of and testimony to the success and stability of the old business system. The sensibilities of the twenties were thus wrapped in a strange contradiction in which the intimations of the new order of new patterns of wealth creation were intertwined with a resurgence of the old forms and values.

Here lies in part the reason for the failure of the political system. Accompanying the resurgence of business ideology and the decline of social reformism was the retreat of an active presidency and thus an active and vigorous politics from the national scene. In contrast to the active presidencies of Roosevelt and Wilson and the vigorous politics of the progressive period, we find instead the comical ineffectiveness of Coolidge, the corruption of the Harding administration, and the retreat from power during the Hoover administration.[44] The robust economy, the isolationist turn inward[45] (reflected most importantly in the reluctance of the U.S. to assume leadership in international monetary relationships), the discovery of an internal frontier based, it seemed, on an ever expanding market for new consumer goods, turned men away from their attempt to fashion a new

political order that might match what they had earlier conceived to be a qualitatively new economic system. Politics took a back seat to the business of America.

Within the framework suggested by the tension between the new sensibilities and an underdeveloped political system, perhaps we can give greater historical and structural meaning to the stock market crash -- that greatest symbol of the roaring twenties and the proximate cause of world-wide disaster that was to follow.

It is popular to point out that there were clear underlying economic conditions, in the form of the classical imbalances between production and consumption, wages and profits, productive versus speculative investments, that lay behind the financial disaster of the late twenties.[46] A market system, it is argued, is inherently unstable, and the crash of '29 was simply an extreme form of that instability. But such explanations, while undoubtedly correct, cannot account for the mania of speculation that preceded the crash and contributed so much to its particular severity. That the depression was an expression of the inherent instability of market capitalism is clear. But its severity, expressed in the attendant collapse of the entire credit structure -- this requires an explanation based in the particularities of the period itself.

Clearly, when viewed from the perspective of the twenties the stock market speculation that took off in earnest in 1928 was the culmination of the wave of fads and crazes that gave the twenties their special character. Since we have already argued that fads can be interpreted as symbolic but perverted expressions of a nation's

collective power, and the wave of fads as the unstable search for such expressions, then the stock market mania of 1928 can be viewed as the final focal point for such expressions. However, unlike other fads, speculation has no natural or logical end. The accumulation of paper profits seems to the speculator to be an unending and infinite process. It is, so to speak, the paradigm of the bourgeois dream of accumulation in which the most infinite future can be capitalized into the present and speculation emerges as an inexhaustible process.

Indeed, beginning in 1928 an increasing array of economic actors behaved as if there could be no end to the upward spiral of stock prices. A growing army of non-financial businesses lent capital to support increasingly shaky margin loans, the upper middle classes threw their resources into the speculation process, and the federal reserve board (with power situated particularly in New York) succumbed to new-era prosperity talk and refused to take steps to dampen the speculative wave.

Thus the stock market, perhaps the purest symbol of business-capitalist civilization, became the final expression of the powerful and contradictory sensibilities of the twenties. A sense of new horizons and new beginnings that was simultaneously intertwined with the resurgence of old forms and values, was symbolized through the "sky's the limit" speculation in capitalism's oldest instrument -- the property title. But if speculation appears inexhaustible in the realm of dreams it must come to a halt in the world of hard finance. The growing dissociation between stock prices and real values led to a collapse in those prices and in turn to a collapse in the nation's

entire credit structure. The consequent short run problems of liquidity led to the long run immobilization of the nation's productive apparatus.

In the end, it was the retreat from politics that lay behind the stock market crash -- not the pragmatic retreat of the federal reserve board that didn't take corrective action in time, though this was certainly a factor, but rather, the long run retreat from the tasks of societal mobilization that could structure, sustain and give long run direction to the sensibilities of new beginnings. Just as the U.S. was incapable of providing the global leadership required for a stable international monetary order that was already defacto dollar based,[47] so was the U.S. government unable to provide a new dimension of domestic politics that could lead to the mobilization of sensibilities, and the consequent more rationalized flow of investment funds. Stated abstractly, just as the emergent productive forces forced a retreat from politics, so did that same retreat stifle the further emergence of those forces. The emergence of the residual had to mean the emergence of a new system of politics.

In sum, we see that the twenties had all the characteristics of a turning point. Both at the technological base, in the industrial and occupational structure, and finally in the realm of sensibilities, that which was qualitatively new made its mark. But turning points leave their clearest marks on history when they emerge at the political level, when the political system becomes subject to the shocks of technological development, when the underdevelopment of the political system relative to the new technological forces emerges as a socio-political problem. This is what gives turning points their crisis-ridden and revolutionary

qualities. Seen in this context the stock market crash stands as a clear indicator of the dimensions and significance of the turning point in political-economic development that took place in the twenties.

THE KEYNESIAN MILIEU

Post World War II economic history in the United States is the story of the emergence of Keynesianism as the source for the fundamentals of all political-economic policy. And viewed from the perspective of the traumatic events of the late twenties and thirties, Keynesianism as the practice of "demand and growth management" appears as an unmitigated success. In contrast to the likelihood of long-term employment and income stagnation that loomed on the horizon throughout the thirties, the post-war period saw on the whole a steady increase in income, employment, and man-hours over the entire period. To be sure, periodic recessions of uneven duration and severity punctuated the upward advance of the economy. But in contrast to the record of the twenties in which labor time input did not expand, and the record of the thirties in which labor time input contracted, labor time expanded without a break over the entire post World War II period. The economy, under the guiding hand of Keynesianism, so the story would go, surmounted the crisis of demand that had destroyed it in the crash of '29.

But such a rendering of post World War II economic history ignores the problems of structure and development that were first exposed in the twenties. The problems of demand, of the balance between production and consumption that surfaced in the depression crisis, were, as we have seen, reflections of a deeper crisis in the "productive forces." Demand problems were in effect only surface manifestations

of problems in the structure of the economy, in the organization of institutions around the emergent productive forces -- of, ultimately, supply problems. In this context, the story of the success of Keynesianism would be incomplete if not misleading. For what is at stake is not the record of demand maintenance, but rather the record or history of the emergence of the abstract forces of information and organization within their institutional settings of the human and public services. In other words, the acid test evaluation of the Keynesian period must rest on an examination of the functions and structure of the human and public services.

But the Keynesians can meet us halfway on this question. An examination of the statistics of job growth over the post World War II period would indicate that the dynamic sectors of employment growth are precisely those sectors associated with the new productive forces. Services, as is well known, have been the major sources of growth over this period. But more importantly, the human and public services -- education, health, welfare, government administration, research -- have been the wellsprings of service growth itself.

The statistics are readily at hand.[48] From 1950 to 1970 Services (most broadly defined to include everything but manufacturing, mining, construction and transportation) almost doubled in employment terms accounting for almost 80% of total job growth over that period. Within this broadly defined service sector, the most dynamic sectors of government (which comprise for the large part education, administration and welfare),[49] and the more narrowly defined services classification (the largest group of which are health employees), more than doubled, accounting in turn for some 63% of total service sector growth. Even

within the manufacturing sector, the non-production work force, whose work more nearly captures the impact of information and organization on productivity, also doubled, while the production work force increased by only 12% (in contrast, for instance, to an earlier twenty year period, e.g., 1890 to 1910, in which production workers increase by 76%).[50]

Indeed, Keynesian theorists probably underestimate the extent to which the picture of job growth approximates Keynes' own prescription for rescuing capitalism from employment and demand crises. In contrast to the popularizations of Keynes, Keynes himself was not so much concerned with the smoothing out of the business cycle as he was with the possibilities of long term structural stagnation in the number of jobs provided by the private for-profit sector.[51] Rather, his main concern was with the prospect that capital saturation would lead to continuing and structurally insufficient levels of investment required for full employment. It is for this reason that he argued for a vastly expanded role for the public sector in the process of job creation.

The post World War II record of employment growth follows closely his prescription for political-economic management. The combined impact of the dynamic services of government and health services reflects most fundamentally the role that not-for-profit employment, both public and private, has come to play in job growth. In 1920 9.7% of the population was employed in either government or not-for-profit institutions, whereas by 1960 about 20% were so employed.[52] In turn, such a rate of increase would suggest that at present close to a quarter of the population is so engaged. Moreover, since much private for-profit employment is a result of government contracting decisions, as in the case of construction and defense, if we then include all employment that

results from public-political decision making we could say that close to a third of the labor force is employed in this expanded definition of the public sector.[53]

The flip side of this growth in not-for-profit and public sector employment has been periods of long term stagnation in the private sector. It has been estimated that in the 1953-1963 decade (after the Korean War but before the Vietnamese War) the private for-profit sector (inclusive of government contracted employment) actually reduced its number of job offerings by a total of 200,000.[54] In other words, as Keynes feared, the private sector could prove to be structurally stagnant, in employment terms, over longer periods of time. But, as he prescribed, the growth dynamic could be restored by the emergence of an expanded not-for-profit and public sector. As a consequence, classical private profit maximization as a matrix for employment allocation decision has declined in significance, and the more complex, public and communal decision making structures have come to dominate the leading edge of employment growth.

Thus we might argue that the emergence of Keynesianism as we have described it, and the emergence of the new productive forces in their institutional expression as the human and public services, have been absolutely intertwined. Solving the demand problem posed by the crash, is within Keynesianism coterminous with solving the "supply" problem posed by the twenties -- that is, the problem of supplying or elaborating the new productive forces. In this context Keynesianism emerges as a particularly creative solution, insuring as it does job growth while at the same time reinforcing the pressure for job development -- i.e. the changes in the overall job structure required to elaborate the new productive forces.

But in the end such a strictly quantitative analysis, such aggregate statistics on the sources of job growth, do not really confront the issues of job development. If we are to evaluate the ways in which services growth has resolved the problems of development we cannot simply look at the growth of such services; rather we must first examine the actual functions of the human and public services. Their emergence will prove "developmental"; that is, they will contribute to what we termed the massive upgrading of the "human factor" only if they perform in certain ways and in certain settings. Their simply quantitative dynamic is in the end no proof of their qualitative import and significance.

Indeed, the growing evidence of severe conflicts, strains, and imbalances within the dynamic services suggests that these services, emerging as they must from institutional settings which reflected earlier functions and socio-economic settings, have hardly found their stable vector of new functions, purposes, and settings which might reflect their new developmental potentials. The 1960's saw the emergence of the "Urban Crisis" on a national scale. But at one step removed, the urban crisis was a crisis in the dynamic services. The problems of local taxes, health, education, black community development, centralization versus decentralization, the structure of research and development and the intertwining of scientific manpower utilization and military needs -- in short the mobilizing concerns of the sixties -- were in fact conflicts over the structure, meaning, and direction of the dynamic services. Nor can it be reasonably argued that such conflicts were simply the result of fast growth or the clash of "tastes." Such an approach to the analysis of service

conflict cannot account for the clearly systemic and systematic character of the urban crisis and its expression in dynamic services conflict. Indeed, analyses of conflicts in the services hint at very clear patterns of conflict that cut across all the services, patterns that are based in the clash between groups in the rhetoric of issues, and in the manipulation and resolution of problems. Such patterns beg for an analysis that would highlight the larger structural meanings of such crises. In effect, Keynesian arguments and Keynesian analyses of post World War II job growth will not suffice. We need a framework for the examination of qualitative dimensions of service structure and its elaboration over time.

There is one approach to the analyses of service conflict and service development which, though based squarely in Keynesian style thinking, tries to understand the services problem in structural-qualitative terms. It will prove helpful to examine this approach as a way of not only distancing ourselves further from Keynesian approaches to political-economy, but also of highlighting our own approach to service "antagonisms."

Services, particularly the dynamic public and human services, so the argument goes, are highly wasteful of human labor, full of bloat, and plainly inefficient in the performance of their functions. This flows from the fact that while the manifest function of these services is the performance of certain socio-economic tasks, their latent function is the provision of jobs so that demand will match production. In other words, the latent function of services is to distribute claims to income that match the production of income. This becomes particularly

the case when, in fact, the dynamic services become the major source of job growth. In this view the conflict within services is an expression of the conflict or contradiction between its latent and manifest function. Since the latent function is simply demand creation, the actual structure of jobs is of no consequence. Indeed, the greater the number of jobs, irrespective of the tasks of such job-holders, the more successful will services employment be in fulfilling its latent function. Waste, purposelessness, inefficiency, which often seem to characterize these services, are direct outcomes of the strictly Keynesian component of services growth. Like the first Keynesian view developed in our argument, this "neo-Keynesian" analysis also sees service growth and demand maintenance as intertwined. But instead of seeing this combination as a particularly creative or progressive solution to political-economic problems, it sees in this combination the very source of contradiction or conflict in the services.

As we shall see shortly, there is some merit to this argument, but it ultimately rests on weak and shaky grounds. While services growth has been a key element in the solution of the employment and demand problem the latter have not been the immediate roots of service job creation. Clearly required socio-economic tasks rather than job creation underlie most services job growth. Indeed, the source of most service growth has not been the federal government -- the presumed seat of Keynesian wisdom -- but rather state and local governments whose job creating actions were based on perceived needs and as responses to conditions in the general urban environment. This does not argue that job creation may still not be a latent function of services growth, but it does suggest that the real reasons for wastefulness in the services

lie less in their internal organization and procedures, in the ratios between labor input and service output, and more in the very tasks performed by the services; that is, they lie in the relationship between the services and their socio-economic settings.

Thus if education is wasteful, its fundamental wastefulness stems from the fact that within its general setting it functions as a warehouse for surplus human beings rather than as a center for the skill and informational upgrading of human labor that can contribute to the general productivity of society. In other words, the wastefulness of education is a direct function of the extent to which it cannot or does not fulfill what we have termed its "developmental" function. The perversion of repression of that function is in turn less a consequence of the internal organization of education and more a reflection of the larger structure of social forces that define the limits, scope, and purposes of education.

This neo-Keynesian view of services is in fact part of a larger critique of "advanced capitalism" which locates the tensions of capitalism in the ways in which demand is created to "sop up" productivity and production.[55] Demand creation, the general argument goes, is predicated on inherently wasteful forms of consumption such as advertising and the military. In turn, such waste is required because income is not distributed in sufficient quantity to those (e.g. the poor, the working class) whose needs would impose a more rational use of society's resources. The solution of the demand problem thus prevents society from obtaining a more rational form of consumption, from, in effect, using its available productive resource for rational ends. Waste is a direct outcome of a perverse system for distributing

claims to the productive capacities of the economy. The problem of Keynesianism is in Marx's terminology one of "realization."

But such a critique misses the deeper problems and tensions involved in a developmental turning point that is signified by the emerging service structure. As we have repeatedly emphasized, the problem of such turning points hinges on the uneven, dialectical and conflict-ridden emergence of the productive forces. In other words, the issue at stake is not whether society can rationally use its productive capacities, but rather whether in fact those productive capacities can at all be developed; in our terms whether or not the public and human services can be so structured so as to bring out and elaborate the new productive forces of information and organization. In this context the key term is not waste rooted in the consumption sphere -- that is, in the structure of consumption -- but rather stagnation, or "anti-development" rooted in the production sphere -- that is, in the organization of the productive forces.

In effect, if a critique of the Keynesian success story is to be effective, it must rest not with the simple exposition of the apparent systemic conflicts in the services, nor can it be based only on the dimensions of waste and inefficiency in the services. Rather if it is to capture the meaning and flavor of historical turning points at all, it must begin and end with an analysis of service conflict as a function of and reflection of the developmental and anti-developmental forces within the services. In other words, <u>the organization of the productive forces as reflected in the organization of the public and human services must become the focus of analysis</u>. Perverse, conflict-ridden service organization will in the end signify the restriction and

delimitation of the productive forces, to be reflected ultimately in wasted human beings, limitations on human development, and a declining rate of economic surplus available to expand levels and standards of living. Similarly, productive service organization will signify the unleashing of the productive forces, to be signified in the full use of human beings, in the full development of human capacities, and in a rising rate of economic surplus available for the expansion in levels and standards of living. Development vs. Anti-development -- this should be the key to the structure of service conflict.

But how then are we to proceed? Clearly, we cannot here analyze all the services in terms of this dichotomy. Such an analysis in fact ought to constitute the core of an extended research program that might flow from the framework established here. Our paper can stand only as prolegomena to such research. Yet we can attempt to provide models or relatively abstract examples of how such analyses might be developed. We try to do this in the next section. However, because our examples are in the form of "ideal types" or models, we do not expect them to be completely accurate or "true" representations of the structure of developmental and anti-developmental tensions in services. Rather we present our analyses as a set of plausible pictures of such tensions, and as examples of how such tensions might in general be explored.

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THE ANTAGONISTIC STRUCTURE OF SERVICES: SOME MODELS

In order to examine the antagonistic structure of services we will analyze components of the welfare, education, government, research and health systems, with a view toward highlighting both their developmental potentials, their possible functions in post-industrial settings, and the forces of retardation or anti-development that hold back the emergence of their post-industrial functions. We do this by first examining the concrete nature of a service's developmental possibility, and then analyzing those features of its present setting and function that stand in contradiction to, or in conflict with, those possibilities. Again, we remind the reader that our examples are to be understood only as "models" of the developmental-antidevelopmental tensions, and not as the best or most accurate representation of service structure or conflict.

Welfare and Education

There are indications that a "high-technology," high change post-industrial society, in which the productive forces of information and organization find their successful expression in productive "socio-technical" systems, will require both a highly mobile and flexible worker and equally flexible organizational structures. The new dimensions of stress, shock and "overload" that are the likely consequences of the rapid obsolescence of old skills, tasks and social

organizations,[56] will put a severe strain on the general capacity of the worker and the organization in which he works to contribute to the ongoing productive tasks of the society. This will be particularly the case when the obsolescence of tasks and skills entails the dissolution of work-groups and friendship-groups, or involves a high level of mobility between regions and areas in the country (or world). In such a case general socio-economic productivity could require a sustained ability to cope with separation and loss and a capacity to enter quickly into new task and friendship groups. This would be particularly the case if such higher levels of mobility are accompanied by a gradual dissolution of the nuclear family (the latter a consequence of both women's liberation, and the growing autonomy of the child) as the traditional form of stable support and regeneration.[57] To be sure, industrial society, particularly in its earlier forms, imposed a high degree of forced mobility on certain often marginal groups of often young "wandering" proletariat, such as farm hands, lumber jacks, fishermen, copper miners and other outdoor workers (who in the U.S. constituted the bulk of the "wobblies" at the turn of the century). But such forced mobility was predicated not on supporting and sustaining the continued creativity and general social capacities of the worker, but rather on his forced degradation, on eliminating him from all social networks, and imposing on him a form of sub-human and "outlaw" life. Today's mobility, if it is to prove productive in post-industrial settings, must, on the contrary, be based on a flexibility that nevertheless preserves social structure and social organization, that allows for the shifting of persons or groups of persons between organizations and areas without thereby imposing a

mental and social deterioration on the individual that would render him unproductive in society. To be sure, like all social change, such a new form of organizational or geographical mobility involves a loss; in this case the loss of (the clearly fragile) nuclear family, work place, and local community structures. But it also offers gains not only in the forms of general socio-economic productivity, but also in the form of newly developed human capacities as human beings are called upon to participate in increasingly complex social and informational networks across both space and time. The loss of the industrial urban community -- itself always a tenuous proposition within the framework of capitalist development -- can be compensated for by the growing complexity and strength of individual personality structure. In addition, the rapid dissolution and re-formation of work groups will require a new level of sensitivity to group process. In the absence of stable hierarchies for ordering work relationships and decision structures, "self-organizing" groups that can develop their authority structures from within, authority structures that would derive fundamentally from the task at hand, will prove necessary. Such a self-organizing capacity could emerge only through a greater sensitivity to group processes with all their implicit and explicit patterns of social relations.

Within this context welfare services, by drawing on both their traditions and potentials, can play a particularly developmental role.[58] Three aspects of this role, in this potential servicing of the mobile post-industrial worker, stand out. First, welfare service can draw on its psychotherapeutic traditions by supporting, if not creating, micro-social structures (both family and non-family) that can both

minimize or cushion the destructive consequences of change and bring out its positive dimensions. Secondly, it can draw on its older tradition of community resource mobilization, the tradition of coordinating a wide array of public and community services available to individuals, to help reduce the complexity and seeming impenetrability of the urban and social structure, as it must appear to those in the midst of locational, occupational or organizational change. Thirdly, it can draw on both these traditions to provide the facilitators and catalysts for the rapid formation of new task-groups within both public and semi-public organizational settings. In this setting the welfare services could be the expression of the planned or organized dimensions of social structure and social networks that might service and assist the mobile worker. In other words, welfare services would become the concrete form of "organization" as a productive force, and the mediation between that productive force conceived abstractly and its empirical expression in the capacities and experiences of human beings. To be sure, other non-governmental institutions might fulfill some of these roles. But unless such a service is to be restricted to key elites and to encompass only selected groups of the society (and such a confinement of the welfare role would, we suggest, signify a general limitation on post-industrial development) only the public sector where the finances and necessary resources can be mobilized and supported over the long run can provide the sustained setting in which these welfare services will develop and proliferate.

But if all this appears as a fanciful picture of welfare services it is precisely because such services function at present in largely non-developmental and stagnation-prone settings. The

counselling-welfare staffs that have ballooned in the municipal bureaucracies (along with the growth in welfare recipients), particularly since the late fifties and early sixties, has been much less a developmental response and more a response to the growing stagnation of the prototypical "inner-city economy." That stagnation has in turn been a direct function of the transition to a more nearly post-industrial economy, as semi-skilled manufacturing work has not only stagnated in numbers nationally, but has been redistributed to the suburban centers of metropolitan economies. The consequence has been a perverse inner city economy characterized by a structural unemployment among youth and blacks, low wages and high turnover in the low skill labor markets of the commerce and retail sectors, and a growing superfluity of the inner city economy to the rest of the society. The metropolitan economy as a whole has become increasingly segmented and "dual" in structure,[59] its dynamic part often fueled by the growth of services and its static part left to organize itself around the low status low wage occupational and industrial structures. The result (which though at present confined largely to black areas should come to encompass the white working class "inner suburbs") has been a general deterioration of social life in the stagnating centers of metropolitan areas. This has in turn required literally an army of "domestic pacification" in the form of welfare bureaucracies to insure some minimal degree of social cohesion and social peace in the face of increasingly dysfunctional economic reality.

In this setting, the welfare worker, far from operating either as a psychotherapist or ombudsman, has in the tradition of the classical "outdoor relief" worker become simply a conduit for welfare payments,

for the disbursement of the dole. The level of social deficiencies in the central cities has made all but the payment of money simply superfluous. Psychotherapy and its variants which could prove productive in dealing with the subtle though potentially all-pervasive affects of mobility, separation and loss, can hardly correct the consequences of a pathological job structure in which the issue is not the complex shifting of job status and job functions, but rather the absence of jobs itself. The ombudsman, who in productive and developmental settings can help the individual adapt to (or perhaps transcend) a given urban setting, who can in effect represent the individual in relationship to the social structure, will in stagnant settings come to represent the requirements of the social order for stability and control. In other words, because the welfare services are elaborated in stagnant settings their traditions, which could serve as the basis for their post-industrial development, are simply repressed.

In turn, as these traditions remain underdeveloped and find no expression in social structure, a crucial component of "organization" as an abstract form of the new productive forces cannot find its way into the political economy. The consequence is that the productive potential and capacities of the economy itself are repressed, with that repression best expressed in the underutilization of human beings. Thus just as wasteful socio-economic settings hold back the development of the welfare services, this same underdevelopment of welfare contributes to the growing social and numerical weight of these stagnant settings. Stagnation "fulfills" itself, and the superfluity of human beings is both a cause and a consequence of welfare-service underdevelopment.

In such a context it is possible that the growing size and cost of the welfare bureaucracies accompanied by the growing demoralization of the welfare worker and the rising rebelliousness of the "clients" will result in a whole-scale rationalization of the welfare system in which clients, reduced in number through a pruning of the welfare rolls, will be placed on some form of guaranteed income and the entire counselling/human servicing function of welfare will be all but disposed of. Anti-development would then be complete.

A similar analysis might be applied to the educational system in the older sections and central cities of metropolitan areas. It is by now prosaic but no less true to point out that the information and skill structures required to operate in post-industrial job environments transcend in both structure and form the patterns of education provided by either traditional vocational training or liberal arts programs.[60] As economic development spreads around the world, the press on global resources and an advancing rate of technological change will induce increasingly rapid change in the ratios of available resources, energy sources, cost-effective technologies, and, ultimately, socio-technical systems that structure all such activity. In such a setting it is likely that a new form of "polytechnical" training, based in a synthesis of liberal arts, technical skills, and "systems analysis" capabilities, the foundation of which must be developed from the earliest grades on, will be required for the cognitive flexibility, the skill adaptability, and the independent learning potential demanded of the post-industrial worker. In addition, there is today clearly a new level of "informational complexity" in the social environment, a function of both the extensive and intensive

expansion in society's communication infrastructure.[61] Such a complexity, both in the realm of information and in the field of values, can in the absence of post-industrial learning styles disorient the individual and lead to attempts to cut-off, fragment, and resist the increasing rates of information flow. Such a resistance can in turn lower the generalized adaptability and flexibility of the post-industrial worker with critical consequences on the general flexibility, and thus productivity, of the political economy. Thus as in welfare, the underdevelopment of education can in turn undermine the developmental potential of society as a whole.

But again, if such a description seems strictly based in fantasy it is because large sections of the urban educational structure from the grade schools to the colleges function less as places for learning and more as "warehouses" to keep apparently surplus youth off the labor market. Thus in contrast to new patterns of learning one finds instead sober reports of declining reading capacities of inner city students, combined with growing violence in the corridors of inner city schools. Not only does a new dimension of literacy remain underdeveloped among inner city youth, but even older forms of literacy, the elementary reading and arithmetic competencies required for functioning in simple machine and clerical settings, seem to be falling off.

The "crisis of authority," always a problem in urban schools, has, it seems, reached its penultimate level in the transition to post-industrial society. Today, the urban school teacher can no longer even offer the minimum of English language skills, elementary arithmetic and a surface familiarity with American traditions that was the sum and substance of the immigrant child's passport into the work-a-day

world. Today the street-wise black child can learn more about the world about him, both in its actuality and its potential, from the varied and many dimensional images that stream to him over the television set. The four walls of the school which comprise the geographical domain of authority of the school can no longer contain the range, richness, and variety of information that the black child is exposed to in his daily life. Moreover, just as the school can no longer cope with the new sources of information, so can the job market no longer cope with the expectations of inner city youth. Unlike yesterday's immigrant, inner city youth of today show less and less willingness to shackle themselves to low paying, low status non-upwardly mobile jobs in the interests of "saving for the children." But such a change in motivation does not (as some writers would have us believe) derive from the poor person's unwillingness, in contrast to the immigrant of yesteryear, to "postpone gratification." Rather, the discipline of yesterday's immigrants took place within a framework of a national discipline in which the entire economy's savings were mobilized for the further development of the industrial base. Today, any call for discipline must sound hollow when placed against the backdrop of an increasingly wasteful economy, where not savings, but a kind of obscene consumption becomes the hallmark of the economic process. As a result the low-paying job and its correlate in the practical, vocational training with emphasis on the "basic skills" can no longer instill the incentives for study and work. Expectations far transcend the job structure, and only a regime of political-economic austerity could restore the balance between the two.

While the problems in higher education are clearly more complex, anecdotal evidence points to declining morale among faculty and students

based in the "hidden" crisis of a deteriorating curriculum. The liberal arts, social studies, and the sciences seem to motivate the curiosities of both faculty and students less and less. As a consequence there is a growing sense of "superfluity" within the university as most academic functions and activities are no longer supported by a value system that supports, integrates, and motivates such activities. But the sense of superfluity also derives from another source. Job possibilities seem increasingly unrelated to educational background. Indeed, the job structure seems incapable of absorbing, at their potential level of training and capacity, the growing mass of college education students. Instead, a job-downgrading seems increasingly likely for educated youth. As a consequence, education itself seems unrelated to life possibilities and the process of learning appears as a superfluous and "irrelevant" activity.

The two sources of superfluity are related. The internal crisis in curriculum -- the crisis of morale and motivation -- is probably a sign of the disjunction between students' experiences and sensibilities that already reflect more nearly post-industrial conditions of life -- particularly in their relationship to the media (i.e. new sources and patterns of information access), to the experimentation with "life-styles" and syncrentistic value fields, to the sense of new <u>global</u> possibilities for development, etc. -- and a curriculum that is based largely on the study of industrialization and modernization. In other words, there is an imbalance between experience and study, between the development of sensibilities and the development of intellect, and the student, much like the black youth who can learn more from the television than he can from his teacher, can no longer find sources of natural authority either in the curriculum or in its representative -- the professor.

The crisis of jobs is similarly a crisis of unbalanced or uneven post-industrial development. Paradoxically, while post-industrial development proper flows from the interaction between a rapidly changing job structure and new patterns of education, each reinforcing the other, in the transition or potential transition (for no development is inevitable) to post-industrialism the growth in education leaps ahead of the transformation of the job structure and the inflexibility of the latter makes the growth of the former seem excessive and wasteful. In other words, both sources of superfluity reflect the tensions of uneven development -- the first between experience and study, the second between education and jobs.

But these uneven developments have more than "mechanical" consequences. They are in the end reflected in new patterns of conflicts and discontents. In such settings it is likely that elite groups will seek to "straighten up" education by integrating education and jobs through the downgrading of the former -- e.g. with a revival of more traditional vocational training and education. But such a rationalization of education, like the rationalization of welfare, is in the end likely to retard the developmental potential of society as a whole. Information as an abstract productive force will not find its expression in a new post-industrial form of learning. Instead, the forced underdevelopment of education will in turn be reflected in a retardation of society's general productive capacities.

Thus we see that in both education and welfare uneven development, with its consequent patterns of political conflict, is likely to lead, via a rationalization of the service, to first the underdevelopment of the service and then the underdevelopment of the society

relative to its post-industrial potential. Society is in effect caught in a "low-level trap" in which the rationalization of the service represses the very conditions that required service development. In effect the antagonistic structure of the services can lead to a general stifling or blocking of post-industrial development.

Government Administration

The rise in state and local government administrative employment stands as an example of the ways in which the dynamic services, developing within their old institutional structures, can block the growth in the socio-economic productivity of urban areas. While exact numbers cannot be adduced, it is probably safe to guess that a sizable proportion of the growth of local and state government employment in the post World War II period is less a function of truly developmental activity, of innovative patterns of governance that reflect productive patterns of regional organization, and more a response to the patchwork structure of jurisdictions and administrative units that developed in response to the massive suburbanization of residence and jobs in the post-war period. Jurisdictional boundaries themselves were inherited from an earlier quasi-rural age and were ill-suited to the increasingly interdependent structure of metropolitan areas of the post World War II period. As a consequence, much of the growth in local government has resulted in a massive duplication of functions (e.g. police, fire, hospital, courts), or, more importantly, has impeded a more effective coordination of jurisdictions to match the interdependent structure of the metropolitan economy.[62] As a consequence, local government appears everywhere incapable of "solving" local problems that are in

fact the consequence of regional imbalances. The attempt to solve these problems at the level at which they manifest themselves has resulted instead in rising costs of local administration, consequent rising taxes, with no real visible impact on the problems themselves.

As a consequence, there have often developed secondary levels of government at the regional level through the chartering of special functional agencies (e.g. transportation or water management agencies) to both effect a higher level of coordination and offset the inefficiencies of the lower levels of governance. But paradoxically, such agencies, because of their independence from local government, often served less the socio-economic developmental needs of the areas under their purview, and more the needs of their bond-holders who funded authority investment. These did not wish to see unwise investments, such as in mass-transit, lower the marketability of past and present authority bond flotations.[63] The regional authority thus became accountable not to tax-payers but to bond-holders, and the irrational structure at the local level was often made more irrational at the regional level.

Equally important is the fact that, because the patchwork structure of government has prevented the older core areas from extending their boundaries to match the suburbanization of economic activity, there has resulted a concentration and multiplication of social and human deficiencies in the older sections of metropolitan areas. Due to suburban zoning and housing regulations (combined of course with de-facto mortgage lending discrimination) inner city residents have been restricted to the deteriorating metropolitan centers and the core cities have not been able to tap the tax bases of the suburban periphery

with which they might be able to subsidize the growing superfluity of the inner city economy. This resulting concentration of deficiencies in the central cities has, through the "vicious circle of poverty," undoubtedly increased the quantitative significance and impact of such social deficiency. In other words, the uneven regional distribution of poverty has increased the total social-fiscal costs of such poverty.

But the irrational structure of government does not mean that it should simply be rationalized or made more efficient. This was the progressive's period view of urban structure, in which "scientific" management, crystallized in the non-political office of the city manager, could impose a stable order of urban living on otherwise tumultuous and disorderly urban processes. The problem is more subtle than this view would allow. Urban areas are everywhere more productive than their rural counterparts, and good empirical evidence suggests that the larger the urban area the greater is labor productivity and per capita incomes -- this despite any possible increases in "diseconomies of scale" or increases in the cost of living.[64] This result is in part due to classical economic "efficiency" as the more integrated and large urban areas allow economic factors to find their highest return -- i.e. the division of labor becomes more efficient. But more importantly, it is becoming increasingly recognized that the key to urban area productivity lies most fundamentally in the ways in which the flows of information, ideas and values within it, and the "intersection" of such flows, contribute to its dynamic or "change potential," to the rate at which it can transform its division of labor as new possibilities for organizing human work become possible. In other words, the productivity of an urban area is one step removed from a

reflection of the ways in which its organizational structure, as reflected in its social networks and structures of governance, sustains the creation, flow, and intersection of new information. It is the greater opportunity for such flows and intersections that makes the larger urban area more productive.[65] This informational function of cities becomes all the more important as metropolitan development becomes part of an increasingly global process in which the ratios of available resources, energy sources, and new technologies, must change at an increasingly rapid rate. As a consequence, the urban area must on the one hand become increasingly adept at managing and conserving a particular stock and structure of resources and technologies,[66] and on the other must be able to transcend that stock and structure. To this end the task of the urban area must become the organization, management, and transformation of its own infrastructure.

Seen in this context, the structure of an urban area can become the embodiment par-excellance of the abstract forces of information and organization. Indeed, the key to post-industrial urban structure lies in the ways in which social organization, as reflected in the partitions and hierarchies of metropolitan government, can be seen as direct mappings of information flows. Organization and information must be seen as two sides of the same coin. Empirically speaking, this means that dynamic regional structure must at minimum be based on a creative synthesis of regional government and local responsibility to insure, on the one hand, the broad scale and efficient management of a given structure of material and human resources, and on the other, the local flexibility and initiative required to support the dynamic and change potential of the urban area.

Discovering the empirical dimensions of such a synthesis remains the central challenge for visionary regional planning.

In other words, the present structures of regional government not only impose present social costs on the rest of the society, they also prevent or block the emergence of productive forms of regional organization required to operate in post-industrial economic environments. It should be clear that given the set of vested interests in present patterns of regional governance, it is unlikely that a new regional structure of government can be developed in the absence of severe political conflict. It is likely then that the developmental potential of regional government will be blocked at eventual great cost to society as a whole.

Scientific Research

The organization of scientific research stands as perhaps one of the clearest examples of the antagonistic structure of dynamic services. While at one level science is the key to, or the prime mover for, the unfolding of the new productive forces, at another its organization emerges as a key impediment to the full development of these forces. As a consequence, the structure of scientific research and its correlate in the present scientific division of knowledge can be seen as a precise reflection of the general tensions of uneven developments and antagonisms in the political economy as a whole.

It has been sufficiently documented that the central needs of defense and space exploration have shaped the structure of science policy and scientific research in the last two and a half decades.[67] At one time, concern that such a seeming misallocation of scientific manpower and talent would only undermine the productive potential of

the economy was countered with the argument that there were indeed powerful "spill-over" effects of such military based research. Missile and space technology development, it was argued, would eventually wend its way into the civilian sector of the economy. Indeed, the rapid developments in electronics, computers, chemicals, aerospace, and general "self-guided" production systems seem to be indications of such autonomous transfers of technology and expertise from the military to the civilian sector. Yet the more rapid rise in industrial productivity of U.S. competitors in Europe and Japan, despite the generally lower percentage of GNP that they committed to research and development, raised serious questions about the productivity of the U.S. research and development effort.

Upon investigation, two factors in particular stood out. The "cost-plus" environment of much government sponsored research and development work, both in the private sector and in university and government laboratories, has immensely inflated the costs of scientific talent, taking such manpower out of the reach of a vast range of civilian industries.[68] The consequence has been a spectacular improvement along certain dimensions of technology, often closely associated with military needs -- i.e. the entire computer-electronics complex of industries -- but relative stagnation and underdevelopment along a broader range of the more traditional civilian based industries, such as machine tools, textiles, transport, ship-building, and housing. It is the relative decline in the productivity of the latter that has in fact contributed to the recent balance of trade deficits of the American economy.[69] In other words, the organization and distribution of scientific manpower has resulted

in an uneven development of general industrial productivity with a broad range of civilian industries falling behind not only the advanced sector in the United States, but their corresponding sectors abroad.

But more importantly, because the priorities of research have been based on military-security needs, research into social spheres such as housing, transit, medical and communication technologies have gotten the short end of the stick. This has resulted not simply in an "unjust" set of priorities. The military bias to research need not be judged only in value or distributional terms, but also in terms of social productivity. It has clearly resulted in an underdeveloped set of "social-support" systems, i.e. the urban infrastructure both hard and soft, required to sustain and enmesh the new technologies of the post-industrial age. As any systems analyst will tell us, a technology is a combination of the core "tool" or program and the support systems surrounding it. If the full benefits of the technology are to be realized, if the potential cost reductions in the technology are to be attained, then an even and balanced development between the two will be required. The rationalization and (partial) automation of industry in combination with truck and auto-transport, has perhaps been the key core technology behind the growth and development of the potentially highly productive and dynamic metropolitan areas. But its emergence has not been matched by a synchronous development of new technologies of urban housing, mass transit, and communications (to be particularly used for education and retraining) that could smooth out these new post-industrial urban forms and insure a balanced transformation of

the old parts of the urban area along with the development of the new parts. Because the latter technologies have not been forthcoming, the urban structure appears increasingly as a "drain" on the national economy, with the life-requirements of many of its residents appearing as subtraction from total production and productivity elsewhere.

Moreover, if we are correct in asserting that increasingly it is the urban support system that holds the key to economic and social productivity, that the change potential of urban areas is based on the conscious and planned organization of urban infrastructure both hard and soft, then the organization of scientific research has stood in direct contradiction to the emergence of the new productive forces of information and organization as they are reflected in urban structure. While the "spillover" of expertise and know-how between different sectors in industry seemed and still seems plausible, such an automatic and unplanned transfer of knowledge between the industrial/military and social spheres seems most improbable. The airframe and aerospace sectors which support perhaps the highest ratio of scientists and engineers to production workers in American industry, clearly contain the capacities and potential for becoming the core of a revived "mass-transit" industry, based in highly automated and flexible transport. Not only must such a transformation of aerospace be actively planned and publicly financed (this much is trivial), but a whole generation of scientists and engineers must be retrained if their talents are to prove effective in developing socio-technical systems, such as transit, which far transcend in complexity the simpler technical systems of air and missle guidance.

This issue of retraining raises an even deeper question, for it becomes increasingly clear that the priorities of research have distorted the entire concept of science and scientific investigation. "Science," elite science, has been the exploration into the structure of the universe; but correspondingly, very little intellectual talent has been committed to penetrating the meanings and operations of man's own socio-technical systems. Free-swinging "systems analysts," perhaps anticipating this need, jumped into the social systems analysis field, but with little training and background (often sacrificing their intellectual integrity to the grants-hustling game);[70] while the more traditional social scientists continued to build towers of theory that were "testable" in some abstract or econometric sense, but were in fact rarely operational, in the sense that they might point to required rearrangement of the social structure which might render the more strictly scientific and technological discoveries truly socially productive. (Indeed, economic theory, the most mathematical of social science theory, is dedicated to the proposition that such interventions are unnecessary, that the free market is efficient.)

Thus a strange division of thought and expertise followed on the heels of the structure of government supported research. Scientists could not fathom the interpenetration of their work and the social structure; engineers, while perhaps eager to operate in the real world, could not fathom the meanings of the larger social system; and social scientists lacked the empirical and engineering thrusts that might give their their theoretical efforts meaning above and beyond their internal communication of mutual solidarity and support.*

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*The integration of science, engineering, and social science required for urban reconstruction, and the development of productive regional organization, has not been forthcoming.

In short, the uneven development of the metropolitan areas can in part be seen as a reflection of the unproductive and inefficient division of knowledge and expertise. Just as the quantitative expansion in education, welfare, and government has often masked the increasingly unproductive and anti-developmental character of these services, so has the growth in science, research and development, hidden their growing retarding effect. And just as the quantitative expansion of these services must be seen as a prelude to their reorganization if their developmental potential is to more fully emerge, so, too, a reorganization of research, knowledge, and information is necessary to increase the productivity of our scientific, social scientific, and engineering efforts.

In effect, scientific research, like the other dynamic services, is built around an antagonistic structure of developmental and anti-developmental tensions. At one level the great success in electronics and computer technologies, whose development has been tied to the defense sector, has laid the basis for a super-automated and highly productive industrial infrastructure. But simultaneously, the social and economic distribution of scientific resources and personnel on the one hand, and the division of knowledge and information on the other, have generated a process of uneven development in which new industrial technologies have gone hand in hand with declining industries, and new scientific and social scientific knowledge has implied a deteriorating and non-developmental urban infrastructure.

To be sure, the integration of science and the military is a direct outcome of the exercise of foreign policy, based as it is on the accumulation of increasingly sophisticated weaponry. Since foreign

policy is probably the focal point for all policy that originates in the executive branch of government, the resistance to a reorientation of science is great, if not insuperable. Yet, paradoxically, as the accumulation of weaponry drives the super-powers to a nuclear stalemate, and the zig-zag detente restricts the flow of non-nuclear weaponry to client states, it is likely that the projections of power onto the global plain will depend less and less on the accumulation of hard weaponry and more and more on the general dimensions of socio-economic power, national flexibility, and domestic morale. Under these conditions the present structure of scientific research would appear increasingly as a liability, and elites might be moved to reorient priorities, albeit in a limited and controlled fashion. But the chances of this, at least in the intermediate run, are very small. Instead the structure of science would be a sign of the continuing antagonistic structure within all the dynamic services, and the division of thought, a reflection of the general patterns of uneven and blocked development within the society.

Health

The health care system probably occupies the attention and concern of the "tax-payer citizen" more than any other service. This is not surprising since health care costs have risen faster than the cost of any other service, and, excluding for the moment the recent food price inflation (a function of the Russian wheat deal and consequent speculation), faster than the costs of any other sector in the economy. As a consequence, the health care system, far from appearing developmental and productive, seems inflation-inducing and "cost-draining" on the rest of the economy.

The reasons for this cost-spiral have been documented and over-documented.[71] The cost-plus arrangement between the government and hospitals, or between private insurers and hospital, combined with the growth in overall per-capita income and the extensions of health benefits to the older and poorer sections of the population, have resulted in the enormously rapid increase in health care costs. Such financing arrangements combined with the growth in competing health centers (a reflection of the shift of health care away from the General Practitioner to the medical-school-hospital complexes), each equipped with its own highly capital-intensive but often underutilized medical technologies (for both research and therapy), have added an additional fillip to the annual jump in health costs. As health services account increasingly for a larger and larger component of the rise in consumer prices, unions, during contract negotiations, try to shift the burden of such costs onto the corporations by having the latter foot a larger percentage of the worker's health insurance bill. Such a rise in fringe benefit costs to the corporation, if uncompensated for by direct wage increases, will in general lead to higher commodity prices. Thus the rise in health costs will in turn wend its way into the general commodity-price structure.

The result of all this has been a call for a more "rationalized" and cost-sensitive health system. The government and private insurers in particular have tried to fashion cost-disciplinary measures to force the hospitals into rationalizing their systems of delivery. The accent has decidedly been on increases in "efficiency" within the hospital complex. Yet ironically, just as the health system appears as the paradigm of the "unproductive," inefficient and

inflationary service, it also appears, on closer scrutiny, to be the potential paradigm of the developmental and productive human service. In the progressive period, the period in which society confronted the reality of its industrial way of life, health and disease were seen largely as a function of the "quantitative conditions" of urban life as reflected in sanitation, housing density, basic nutrition and the like. But today health is conceived as a function of the more subtle qualitative conditions, conditions embedded in the social structural and social organizational dimensions of urban living. The leading edge causes of diseases today appear to be rooted in the realm of mental, nervous, and psychological disorders. Job stresses, job changes, technological displacements and technological shocks accompanied by a speed up in the rate of technological change, the social uselessness of the old age population as the older grow more numerous, a growing information and value "syncrentism" that confuse and make more complex information and value fields -- all these test the general adaptability and capacities of urban post-industrial man. This becomes particularly the case as the traditional forms of social support and regeneration -- the family, the job, the church -- are themselves overwhelmed by the post-industrial conditions of life. Thus the servicing of men's health converges with the construction of a social structure that will allow men to transform the stresses of post-industrial life into challenges and chances for individual human development. In this sense health care <u>is</u> the upgrading of the productive "human factor" required in a post-industrial economy, and the health care system is the arena in which all the broad and varied efforts to serve and develop human capacities are finally integrated.

Health care becomes synonymous with the unfolding of the new productive forces. Seen in this context, both the state of the health care system and measures of general health (as opposed to GNP or capital investment) emerge as the general metaphors for the developmental potential of society as a whole. Far from being unproductive and inefficient, health care in its potential is the sine-qua-non of the development service.

But while bringing out the developmental potential of health care and solving its inflationary problems are in the short run separate issues, in the long run they converge on the development and support of broader and more comprehensively defined systems of preventive care in the realm of physical, mental and social-psychological disease. Not only does preventive care minimize the social cost of disease, but, because the accent is on prevention, it forces the health care system to actively intervene in the social family and job structure. In so doing it gropes toward the reorganization of general social structure which is the first step in the direction of bringing out its developmental potential. But clearly, such a restructuring of the health care system can only unleash a broad range of social conflicts. Health delivery, financing arrangements, levels of planning responsibility, the division of skills, medical education -- all this has to change. Doctors, other health professionals, clients, universities, medical complexes, drug companies, the medical technology industry, private insurers, and the federal government all will be affected by such a reorganization, and each will resist or welcome its many dimensions on the basis of its likely affect on the group's present or future status. Moreover, as the health care system follows

the logic of a "post-industrial preventive medicine" and begins to involve other service systems within its framework of operation, the transformation of those systems, with all their attendant conflicts, becomes the precondition for its own further development. In this sense, we would suggest that the restructuring of the health system stands as a general metaphor for the reorganization of services as a whole.

Health care thus throws into perhaps sharpest relief the dimensions of the antagonistic structure within the human and public services. Appearing, as it does today, as perhaps the most "unproductive" and inefficient of the dynamic services, it appears in its potential as the most developmental. Correspondingly, its transformation is a metaphor for the general systemic transformation required of the human services and the social conflicts that such transformations are likely to unleash.

Let us summarize. We have tried to show how service structure and service conflict might be analyzed within the framework of developmental and anti-developmental tensions. While it is clear that the tensions in each service have their very specific empirical roots, our analysis has hopefully elaborated a general model or system of approach for the examination of these tensions. Specifically, in each service we tried to describe its form and functioning under fully developed post-industrial conditions. This we did by asking how such a service might fulfill the requirements for the upgrading of human labor and of the human factor. At one step removed, this became equivalent to exploring the ways in which the services became

the institutional expression of the new productive forces of information and organization. We then tried to determine the most recent conditions (post World War II) in which the human and public services have experienced their quantitative growth. Very often these conditions merged with the general dimensions of the "urban crisis." The latter, while clearly a crisis of race, is at a deeper level the first and most exposed result of post-industrial uneven-development. That is, it is a result of the employment stagnation of the traditional manufacturing sector and a consequent bifurcation of the job structure that has closed off the traditional avenues of upward job-mobility to many inner city residents. (In this sense the racial crisis can be understood as only one aspect of the deeper crisis of systems transformation. In countries without a racial structure we can expect this first manifestation of post-industrial uneven development to take on a different social form.) Once we understood the general tensions between the recent conditions of growth of the services and their developmental potential, or, more generally, once we have understood the general phenomena of uneven development (as in education) with its specific impact on service structure, then we could imagine particular ways in which, or a sequence of steps through which, the pattern of tensions could lead to a general suppression of developmental tensions.

In short, from an examination of post-industrial potentials through an examination of post-industrial uneven development, we can begin to concretize the concept of developmental and anti-developmental tensions in the human and public services.

THE REORGANIZATION OF SERVICES: BEYOND KEYNESIANISM

We have tried to outline in the form of models or ideal types the antagonistic structure of the public and human services. But in the end, antagonisms are not abstract entities, reflected only in the formal structure of service organizations. Rather, they find their only convincing expression in the clashes and conflicts of groups around and within service organizations. The antagonisms themselves become political factors in historical development only when the conflict of groups and classes begins to overwhelm the traditional structure of alliances and policies that define the scope and direction of political-economic policy. The precise moment when such conflicts attain this quasi-revolutionary character cannot be predicted from abstract considerations. But the turmoil of the sixties is suggestive of the nature of such a convulsive politics and its likely impact on the political-economic fabric. It is precisely at this point that the "reorganization of services," the restructuring of services, emerges as a central political issue.

But like all "systems" or structural changes, the reorganization of services must come up against not only the specific political and historical limits of the services themselves (and we have tried to outline these limits in our models of service antagonism), but also against the general political milieu in which these limits have effectively functioned. In our case, the reorganization of services

must come up against the limits imposed by the political climate of Keynesianism, and in this sense Keynesianism emerges as the "fetter" or chain on the further development of the productive forces.

We can see this better by specifying some of the political dimensions of the Keynesian "climate." At the federal level Keynesian responsibility has required the government to stabilize the economy and develop the monetary and fiscal policies that could smooth out the unbalanced flow of private consumption and investment. As such it was not a policy of structural transformation operating on the "supply" side of the economy, but rather a policy of demand maintenance seeking to control the levels of spending. To be sure, and this is important, a key element of demand maintenance has been based on supply-side intervention -- i.e., through the subsidization and control of the military industrial sector that in turn shored up the unstable and destabilizing capital goods industry. But it is precisely this approach to fiscal control, through a sector that in no way produces for the civilian market, and thus in no way competes with the private for-profit sector, that highlights the limited forms of structure intervention implicit in the practice of Keynesianism.

Within this framework the politics of Keynesianism emerges as the politics of tax spending and interest rate policy, which, within a relatively stable structure of "class forces," is relatively easy to sustain. Specifically, as long as the "higher" interests of the military, organized labor, and the middle wings of the Republican and Democratic parties converge, Keynesianism itself would appear as a stable form of political economic management. Under these conditions

the federal government can very much appear as the "invisible dial turner" setting the interest rate so high, getting a tax hike of so much, without upsetting the vector of social forces in the society.

Similarly at the local and state level, the politics of Keynesianism has been the politics of funding job growth within the given structure of professional, civil service bureaucracy, and construction and real-estate interests. In other words, job growth at the non-federal level has been predicated upon maintaining a stable vector of forces between all those groups who benefit from such job growth. Thus, while at the federal and local level the politics of Keynesianism has thus decidedly not been a politics of "laissez-faire," it has nevertheless been the politics of stable interventions into the political economy, of intervention within the constraints of the social and economic structure.

It should be clear, however, that service reorganization, job development as opposed to simply job growth, requires a much more activist intervention, a much more dynamic politics, a quasi-revolutionary politics if you will, in which the deliberate upsetting of the vector of social classes and forces becomes the goal of political-economic policy. And such an overturning of old alliances and structure of interests is a risky business indeed, since any attempt to reorganize the services must call forth a wide range of groups, each of which hopes to defend its present power or increase its future prospects. Entrenched professionals hoping to contain and control the development of a new structure of skills, new professionals opting for qualitatively new skills and administrative structures, civil servants determined to defend job descriptions and job levels, administrative rationalizers hoping to

streamline job structures, community groups seeking to control service "outputs" or the allocation of service jobs, tax revolters hoping to either decrease service levels or reorient the distribution of services, foundations hoping to control and manipulate service development, and finally corporate interests seeking to extend the realm of profitability into the sphere of social services, all interact in the conflict over reorganization.

But ultimately all such conflicts evoke perhaps the most important constraint imposed by the economy's Keynesian heritage. Job-development, the sine qua non of service reorganization, must in the end conflict with job-growth, the sine qua non of Keynesianism. Like all previous structural transformations, service development demands the social-political retreat of certain groups, reflected ultimately in the elimination of their jobs, and the social-political advancement of others reflected in their growing claims on the new job structure. But unlike other previous transformations, the "losers" in the process of political-economic transformation cannot simply be forgotten or disposed of. In the past, structural transformation was often associated with regional transformations, and the loser could be literally left behind in the coal fields, mill-towns, and farms to bear the costs of change. But the transformation of services takes place within the heart of metropolitan areas, within urban economies so completely integrated that the costs of shifts in the job structure can no longer be borne by the declining groups themselves.

In this context it is clear why pension schemes, guaranteed incomes and the like have come under increasing scrutiny over the past decade. It is often hoped that such an arrangement can smooth out the

process of job transformation, can in effect "bribe" or compensate the job losers into acquiescence with their own diminishing socio-political significance. Yet such schemes contain their own contradictions and tensions. The separation of job and income implicit in such arrangements can itself be destabilizing. The linking of the two is the core of any market economy and the source of social control implicit in the "work ethic." But more importantly, the issue of job restructuring raises the problem of not only sustaining the incomes of those who must lose but also sustaining their sense of status and self-worth. The latter is not easily done through bribes. So long as the job remains not only the source of income but also the source of self-definition and social status, job transformation can unleash deep political discontents which, if not expressed strictly within the services themselves, can find expression in the wider society.

To be sure, it is possible to imagine processes of job transformation that transcend such conflicts and traps. Job restructuring with guaranteed income, with authentic retraining, with social status preserved by permitting all those affected to participate in the very planning of job transformation, can be envisioned. And, indeed, a plan for job restructuring along these lines can be developed in some detail. But in this in-between world of Keynesian and post-Keynesian political economy, such a process of job-transformation is unlikely to occur. So long as the job remains the basic unit of the political economy, as the source of income and status, the requirements of smooth job growth, i.e. the political economy of Keynesianism, must conflict with the requirements of job development, i.e. the post-Keynesian political economy of service reorganization.

In such a setting it is likely that service conflict will appear often to have little direction, with first one group and then perhaps its opponent emerging at the top of the heap. To say that there is in the end a zig-zag relationship between the services and the new forces of production, is to say that for long periods of time there might be no progress in the transformation of services, that there might even be regressions and backward steps. Moreover, this same confusing interplay of groups and forces suggests that no single group or complex of groups will for all time represent either the developmental or anti-developmental thrust within service conflict. Thus, at one moment "administrative rationalizers" can break down the older service structure in their attack on the civil servants or old professionals, thus setting the stage for reorganization; and then at a later point in time their same fixation on local efficiency and procedural rationalization can obscure the ways in which the developmental features of such services require measures of the highly external, indirect affects of these services as their impact is felt throughout the society. Similarly, while minority groups might at one point represent the forces for reorganization, their success in capturing jobs in these services might commit them in the future to resistance to change and status-quo positions.

Seen in this context, service-society, or post-industrial conflict, is likely to be a bit more complex than traditional class conflict. The service society is not conveniently divisible into two groups, the workers and the bosses, the owners of capital and the owners of labor power, but rather, it maps onto a collage of groups and shifting alliances, none of which represent a fixed point

in relationship to the elaboration of the productive forces. It is for this reason misleading to search for the analogues of the "bourgeois," the "feudal class," the "proletariat," in the analysis of service conflict.

But all this need not imply that the analyst need succumb to the confusion of such conflict. So long as he retains some conception, however incomplete and however abstract, of the developmental and anti-developmental forces or features, then he can bring some analytical and intellectual structure to the patterns of service conflict. With a theory or framework for the examination of the developmental and anti-developmental forces in hand for the key services (and such frameworks can ultimately be derived from detailed empirical analyses and case studies), the analyst need not accept the rhetoric of the actors themselves as the key to the meaning of their actions, for as Marx warns us, political actors dress themselves in the rhetoric of an epoch already passed. Rather, he can place their actions within a more general historical framework.

To analyze the structure of constraints in service development, as we have admittedly tried to do in too brief a fashion here, is to suggest that service development of only the most limited form is possible. In other words, it is likely that the pattern of conflicts within the services will lead not toward development, not toward the elaboration of the productive forces, but rather in the direction of a stalemate in which first the forces of development, and then the forces and constraints of anti-development, define the general drift of service functioning. In such a situation, it is likely that the

elites of the society, whether in the executive branch or the corporate structure, will bend their efforts not toward transformation but rather toward the manipulation of the service structure. Perhaps aligning themselves at one point with those who resist change and development, perhaps at another point with those whose goals are the most multi-dimensional forms of change, their aim will be patterns of limited transformation based on the continuous manipulation of service structure conflict. Their interests in such manipulation will probably lie less in the protection of profitability per se, the more classical reasons for their interventions in society, and more in the attempt to control and keep in hand the pace, direction, and scope of change.

In such a case it is likely that services will not be reorganized so much as they will be rationalized. The latter entails a "tightening up" of service institutions and service functioning, so that their most "timultuous" and destabilizing elements, in effect their post-industrial features and potentials, can be, for the most part, eliminated. The consequence of such a rationalization would be the reversion of the human and public services to their older "industrial forms" in which they played not a leading role in the determination of productivity, but rather an adjunctive one. In such a setting the immediate short run interests of the business-industrial systems become the determinants of the roles and functions of the services. Thus, in education, vocational training based on the quick acquisition of fixed skills would repress the post-industrial potential of "continuous learning" based on the life-long integration of liberal, technical and "systems" perspectives for the acquisition of both general and specific knowledge. In health, the integration of the

physical and mental-social components of disease within the system of cure and prevention would be replaced by the short run treatment of illness, to be financed in large part through financial adjuncts to the regressive social security system. In welfare, the counselling and family support potentials would give way to a pure dole system to be structured by a computerized check mailing system. In research, both scientific and social-scientific, the immediate short run needs of the business-industrial system are likely to replace long term, high risk, but high payoff research whose focus is on systemic changes in society's socio-technical systems. Finally, in government, the search for creative integration of both centralized and decentralized systems of decision making and resource allocation is likely to be replaced by the search for administrative efficiency within the present structures of governance. In other words, rationalization means solving the problem of services, in its manifold expressions as community conflicts, professional conflicts, and tax conflicts, by lopping off or repressing their post-industrial forms.

However, if we are correct in arguing that service development, service reorganization, is the key to post-industrial development in general, to the elaboration of the new sources of productivity, then service rationalization ought to be a sign of a general societal regression away from its post-industrial future. In other words, service rationalization ought to go hand in hand with a resurgence of the old industrial system, of the old sources of productivity, based in labor, time, and physical capital. Since service rationalization should undermine general productivity growth over the long run, if such productivity growth is to be maintained (and the global-political

system would require this maintenance), an intensification of the industrial system would be in order. Thus paradoxically, just as society stood at the verge of its post-industrial future, the old industrial categories and conflicts are likely to be revived. Rationalization would dominate reorganization in the services field, while speed-up and mechanization would dominate automation in the industrial field. Yet the revival of industrialism within the potential transition to post-industrialism is itself likely to be rife with tensions and contradictions and to lead to a set of conflicts as potentially intractable as the conflicts embedded in service reorganization.

To be sure, it is unlikely that service reorganization will be completely repressed. Rather, along with service rationalization we would expect service reorganization to take place in certain key elite functional and geographical sectors. "Experiments" in post-industrial service reorganization are likely to take place in certain metropolitan areas or sub-areas in which the political-economic structure is already post-industrial in character (e.g. "decision making" cities or sub-cities structured by the requirements of multi-national headquarter operations), and where post-industrial services, on this limited scale, emerge as a necessary prerequisite for the effective and profitable functioning of these areas. Such a limited pattern of service reorganization is then likely to result in, and reflect, a general pattern of the highly uneven development of post-industrial conditions. Since uneven development is itself tension creating, limited service development is likely to go hand in hand with the growing manipulatory powers of the elites who will seek to contain the consequences of such development. In other words, the potential

planning of full service post-industrial development would be increasingly dominated by the manipulation of partial and uneven post-industrial development.

Yet one cannot help but wonder if such a process of sustained manipulation (and it is important for analysts to begin to ferret out the possible structures of such manipulation), will not of itself come up against its own internal limits. So long as the basic constraints of Keynesianism remain in effect, that is, so long as there is no wholesale abandonment of the full or near-full employment goal (and admittedly there are signs that such an abandonment might be in the offing), then growth without development, or growth with limited development, must increase the weight and significance of the service structure antagonisms within the society as a whole. Thus it would seem that manipulation must, in the end, only postpone the "day of reckoning," at which point either a truly developmental transformation will be necessary or a more severe and total repression of developmental possibilities will be called for.

It is strange, perhaps, to end on such an apocalyptic note. But in the end, when we talk of developmental turning points, we are talking of social revolution, and social revolution must in the end be matched by dimensions of revolution in the political sphere, whether in the service of development or anti-development. Thus perhaps all the questions posed, all the guesses as to political climates, constituencies, and conflicts, all the possible scenarios of service reorganization and rationalization, must resolve into questions of the possible structures of a revolutionary politics. Then the character, direction, and intent of such a politics become in the end the most central questions for service sector reorganization.

A BRIEF SUMMARY

By way of summary let us repeat our basic hypothesis presented first in our introduction:

> Both quantitative and qualitative evidence point to an emerging service society and a change in the structure of productive forces. The two processes are interrelated in an uneven and dialectical fashion, reflected ultimately in an antagonistic or contradictory service structure. It is precisely this interrelationship that increasingly comes to structure the key elements of political-economic development and political-social conflict in the emergent service, or "post-industrial" society.

To which we would add:

> In the next decade it is likely that the political economy of service development will be bound up with the contradictory political economy of Keynesianism. As a result, service development will be highly uneven in impact and form, and will reflect a more general process of <u>manipulated</u> post-industrial development in which the rationalization of services will dominate the reorganization of services. In such a case the manipulation of post-industrial development will be accompanied by a general intensification of industrial forms and conflict. This interplay of industrial and post-industrial conflict promises to make the political economy of the next decade extraordinarily complex.

Hopefully our analysis has made these propositions somewhat meaningful. If it has, then the material we have developed here might stimulate further research into the structure of the coming transition to the post-industrial service society.

STATISTICAL APPENDIX

I

Basic Employment Shifts[1]

Percent of Employment in each Category for the U.S.

	1910	1950	1970
Primary	34.7	14.1	4.1
Secondary	27.9	33.7	31.3
Tertiary	36.4	51.3	63.3

II

Service Category Breakdown[2] -- percent

	1900	1947	1968
Transportation	23	8	5.6
Trade	[31]	17	20
Finance, Insurance & Real Estate		3	4.6
Services (professional, business and personal)	42[3]	10	18.7
Government	4	11	14.7

[1] U.S. Dept. of Commerce, Census of the Population 1910-1970, cited in "California as a Post-Industrial Society: A Test Case," Todd LaPorte and Claire Abrams, Dept. of Political Science, University of California, Berkeley (unpublished).

[2] from "Labor in a Post-Industrial Society," D. Bell, Dissent, Winter, 1972, pp. 167-168.

[3] The bulk of this was personal services -- i.e. domestics.

III

Trends in Manufacturing 1889-1929

	A(a) Production workers (millions)	B(b) Weekly hours worked per worker	C(c) Total weekly labor time	D(d) Production	E(e) Capital to output ratio
1889	3.7	57.2	212	11	.73
1899	4.7	56	263	15	.8
1909	6.3	51	321	24	.97
1919	8.7	46.3	402	34	1.02
1929	8.6	44.2	380	56	.89

(a) Data for 1909-1929 are obtained directly from the Economic Almanac, N.Y. 1967, p. 56. Data for 1889-1899 were obtained by combining a series on workers in manufacturing and hand trades from Historical Statistics, p. 74 with the Almanac series. Essentially, we took the ratio of the figure of the former for 1909 to the figure of the latter for 1909 and used that ratio to calculate what production workers was in 1889 and 1899 on the basis of the Historical Statistics classification of the number of workers in manufacturing and hand trades for that year. This is clearly only a rough approximation, but it should give a sense of the relevant trends.

(b) Data for 1909-1929 were obtained from the Economic Almanac. The data are not absolutely precise in so far as they reflect paid vacation time, though since the latter is likely to grow over time our column is likely to underestimate the drop in actual hours worked. Data for 1889-1899 were taken from "The Leisure Component of Economic Growth," J. Kreps and J. Spengler, Technology and The American Economy, Appendix Vol. II. GPO, Washington, D. C., February 1966, p. 357.

(c) Column A times column B.

(d) An index series with 1947 as the base. Historical Statistics, p. 409.

(e) From Civilization at the Crossroads, R. Richta and others, Prague, 1969, p. 302.

IV

Percent of Production Workers in Manufacturing[1]	
1950	81.2
1960	74.9
1970	72.5

[1] Manpower Report of the President, 1972.

FOOTNOTES

1. See the Statistical Appendix.

2. "Technical Changes and the Aggregate Production Function," R. Solow, Review of Economics and Statistics, August 1957.

3. For an elementary discussion of attempts to account for productivity changes in terms other than the inputs of capital and labor, see A Primer on Productivity, S. Fabricant, N.Y., 1969, chapters 4-6. For a more complex discussion of the changing sources of productivity since the post civil war period see, "Reinterpreting Economic Growth," M. Abramovitz and P. David, American Economic Review, Papers and Proceedings, May 1973. They convincingly correct the recent notion that reproducible capital may never have been an important source of productivity.

4. "Recent Exercises in Growth Accounting; New Understanding or Dead End?" R. Nelson, American Economic Review, June 1973.

5. The New Industrial State, J. K. Galbraith, Boston, 1967.

6. The Modern Corporation and Private Property, A. Berle and G. Means, N. Y., 1968.

7. "The New Industrial State, or Son of Affluence," Robert Solow, Public Interest, Fall, 1967. This was typical of the academic response to Galbraith's book.

8. Education Services, the area of fastest growth in the country, comprised 50% of state and local government activities in 1968 as measured in employment terms. General Services was the second fastest growth area for employment between 1947 and 1968, and about 10% of employment in General Services is in private education institutions. Thus education as a whole, both public and private, represented 8% of total employment in the United States. Within General Services, the largest category is medical services, where employment rose from 1.4 million in 1958 to 2.6 million a decade later. "Labor in a Post-Industrial Society," D. Bell, Dissent, Winter 1972, pp. 169-170. In general, Federal, state and local government (a reflection of the health, education, welfare and general administration sectors), was the fastest growing sector of the economy from 1947-1968.

9. Civilization at the Crossroads, Richta and others, Prague, 1969. See especially chapter 3.

10. See The Temporary Society, W. Bennis and P. Slater, N.Y., 1968, for the outline of this argument.

11. For general data on societal rate of change, particularly with respect to invention and the diffusion of innovations, see World Facts and Trends, J. Mchale, N.Y., 1972.

12. Richta, op. cit.

13. The conceptual approach to services as a low productivity sector can be found in "The Macro-economics of Unbalanced Growth," William Baumol, American Economic Review, June 1967.

14. The Making of the English Working Class, E. P. Thompson, London, 1963, p. 19.

15. See The Great Transformation, K. Polanyi, Beacon, 1957, for a general discussion of the relationship between new economic regulations and the rise of the market.

16. Regulating the Poor, F. Piven, R. Cloward, N.Y., 1971, p. 21.

17. The idea of the twenties as a break-point in socio-economic development has been developed in a seminal article entitled "On the Proletarian Revolution and the End of Political-Economic Society," Martin J. Sklar, Radical America, May/June 1969. Sklar however, does not tie his analysis to the emergence of a developmental service sector, the subject of our work.

18. This is the argument made in The Age of Reform, R. Hofstadter, N.Y., 1955, pp. 281-282.

19. See The Search for Order, R. Wiebe, N.Y., 1967; also Building the Organization Society, ed. J. Israel, N.Y., 1972; The Corporate Ideal and the Liberal State, J. Weinstein, Boston, 1968; The Triumph of Conservatism, G. Kolko, Chicago, 1963.

20. J. Weinstein, op. cit.

21. Historical Statistics of the United States, U.S. Dept. of Commerce, p. 56.

22. Ibid., p. 60.

23. Perspectives in Public Welfare, B. D. Colle, HEW document, Washington D. C., 1969, p. 66.

24. Ibid., p. 69.

25. Richta, op. cit., p. 302.

26. "The Second Industrial Revolution: The Economic Impact," Wassily Leontieff, Automatic Control, Scientific American, N.Y., 1955, pp. 78-79. Leontieff does not provide the source for his statistic. Presumably "standard man-years" involves a standardization for the length of the work-day. His statistic, while difficult to trace down, does however confirm our own statistical findings.

27. Historical Statistics, p. 414.

28. Economic Almanac, N.Y., 1967, p. 56.

29. See the Statistical Appendix for the source of this data.

30. Richta, op. cit., p. 302.

31. Abramovitz and David, op. cit., p. 428.

32. "Leisure Component of Economic Growth," J. Kreps and J. Spengler, Technology and the American Economy, Appendix, Volume II, GPO, Washington, D. C., 1966, p. 357.

33. Bell, op. cit., p. 170.

34. Historical Statistics, p. 72. Bell (ibid, p. 170) notes that white collar labor also began to grow rapidly in 1920.

35. The role that electricity played in increasing productivity in the twenties is discussed in Technology and American Growth, Nathan Rosenberg, N.Y., 1972, p. 162.

36. For a discussion of Taylorism see Industrial Society, Georges Friedmann, N.Y., 1955, chapter 1.

37. The relationship between growing productivity and fads is one foci of a collection of documents entitled The Twenties, Fords, Flappers, and Fanatics, ed. G. E. Mowry, N. J., 1963.

38. See Rehearsal for Disaster, J. D. Hicks, Gainesville, 1961.

39. My discussion of this is based largely on Sklar, op. cit.

40. Ibid., p. 13. The euphoria of the report is also discussed in Depression Decade, B. Mitchell, N.Y., 1947, pp. 25-26.

41. A pleasant and popular account of the sensibilities of the times can be found in Only Yesterday, F. L. Allen, N.Y., 1931.

42. The naivete, optimism, and sense of power are the themes of Elizabeth Stevenson's book The American Twenties, Babbits and Bohemians, London, 1967. Of course, many intellectuals experienced the decade in an almost diametrically opposite fashion. They could sense the complexities of the period and the collapse of all the pre World War I categories. For the roots of their experience, see The End of American Innocence, H. May, Chicago, 1959.

43. See The Dollar Decade, J. Prothro, Baton Rouge, 1957. Revisionist historians have cogently argued that business reform during the progressive period favored the large corporations. A better indication of the difference between the progressive and post World War I periods, is seen in the decline of the social reform movements that flowered in the large industrial cities from about 1890 to the beginning of the war. This aspect of progressivism rather than the "rationalization" of the business structure, demonstrates with what success the progressives sought to develop a mature and "social" view of the industrial society. Correspondingly the decline of this aspect of progressivism in the twenties and the resurgence of business ideology is an indication of the loss of this social view.

44. The problem of Hoover is clearly more complex. He was certainly interested in intervening in society, but he stepped back from integrating his social engineering efforts with the mobilization of political constituencies. In other words, he retreated from the politics of intervention, not from intervention per se. Yet by the time of the crash the two were inseparable.

45. For a healthy antidote to the revisionist idea that there was no such thing as isolationism, particularly in economic affairs, see The World in Depression, C. P. Kindleberger, Berkeley, 1973, particularly p. 297.

46. See Growth and Welfare in the American Past, D. C. North, N.J., 1966, p. 167.

47. Kindleberger, op. cit., chapter 14.

48. Manpower Report of the President, 1972, p. 215.

49. Bell, op. cit., p. 169.

50. Historical Statistics, op. cit., p. 74; the data lump manufacturing and "hand trades" together.

51. Thus he discusses the "trade cycle" only in the appendix to his The General Theory of Employment Interest and Wages.

52. Bell, op. cit., p. 178.

53. "Taxation, Inflation and the Transition to Post-Industrialism," L. Hirschhorn, Working Paper No. 169, Institute of Urban and Regional Development, University of California, Berkeley, p. 54.

54. Most Notorious Victory, B. Seligman, N.Y., 1966, p. 210.

55. For instance, see Monopoly Capital, P. Baran and P. Sweezy, N.Y., 1966.

56. A popular but nevertheless persuasive approach to this problem can be found in Future Shock. A. Toffler, N.Y., 1970.

57. See for instance, "The Post-Industrial Family," M. Krieger, Ekistics, September 1971.

58. The Professional Altruist, R. Lubove, N.Y., 1969, contains an excellent discussion of the roots of social work and its varying traditions.

59. See "Urban Poverty and the Theory of the Dual Labor Market," B. Harrison in The Political Economy of Public Service Employment, eds., Sheppard, Harrison, and Spring, N.Y., 1972.

60. See The Reforming of General Education, D. Bell, N.Y., 1968.

61. See "Communication," J. Pierce, "Toward the Year 2000," Daedalus, Summer 1967.

62. 1400 Governments, R. Wood.

63. This has been the case for the New York Transit Authority.

64. See "The Economics of Urban Size," W. Alonso, Working Paper No. 138, Institute of Urban and Regional Development, University of California, Berkeley.

65. For a general communications approach to urban structure, see A Communications Theory of Urban Growth, R. Meier, Cambridge, 1962.

66. See Science and Economic Development, R. Meier, Cambridge, 1956, chapter 4.

67. The War Economy, ed. Seymour Melman, N.Y., 1971, chapter 16.

68. Our Depleted Society, S. Melman, N.Y., 1965, chapter 3.

69. This is the argument made in "The International Monetary Crisis," F. Block and L. Hirschhorn, Socialist Revolution, Sept./Oct. 1972.

70. For a muckraking view of the use of systems analysis see "Systems Analysis as a Technique for Solving Social Problems -- A Realistic Overview," I. Hoos, Working Paper No. 88, Institute of Urban and Regional Development, University of California, Berkeley.

71. See The American Health Empire: Power Profits and Politics, B. and J. Ehrenreich, N.Y., 1971.

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