



**What do we *do* in Post-industrial Society?**  
**The nature of work and leisure time in the 21<sup>st</sup> Century**

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ISER Working Papers  
Number 2005-7

## Institute for Social and Economic Research

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*The support of both the Economic and Social Research Council (ESRC) and the University of Essex is gratefully acknowledged. The work reported in this paper is part of the scientific programme of the Institute for Social and Economic Research.*

## Acknowledgement:

This paper was written as part of the scientific programme of the ESRC Research Centre on Micro-social Change, and also as part of the ESRC funded research project "Time use Studies: Daily Life and Social Change".

Readers wishing to cite this document are asked to use the following form of words:

Gershuny, Jonathan (2005) 'What do we *do* in Post-industrial Society? The nature of work and leisure time in the 21<sup>st</sup> Century', *Working Papers of the Institute for Social and Economic Research*, paper 2005-7. Colchester: University of Essex.

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## ABSTRACT

There are three meanings of “industrial”, the first two taking industry as a concrete noun, the third as an abstract:

- “industries” as a general term for *branches of economic activity* or production
- “industry” as *a particular branch, manufacturing*
- “industry” as a description of *an approach to the activity of work*.

And there are (at least) three ways in which we have now passed beyond the “industrial” phase of economic development:

- The emergence of “value chains” as a new form of economic organisations: the disaggregation of industrial structure and the growing importance of human capital versus industrial capital.
- Self-servicing versus service industries: understanding technical change by thinking of “systems of provision for wants”, which combine production, reproduction and consumption.
- Developing Veblen’s leisure theory: industry is progressively replaced by exploit as a core characteristic of paid work.

The arguments that follow rely (mostly, for the moment) on empirical evidence from time diary studies.

## NON-TECHNICAL SUMMARY

Employment is classified both by industry (relating to the nature of the product resulting from the labour) and by occupation (relating to the particular characteristics of the job). Through the 19<sup>th</sup> and the first part of the 20<sup>th</sup> centuries, enterprises became more vertically integrated and the employment structure became as a result more complex, with, eventually, pretty much every major industrial category employing members of virtually every major occupational category.

More recently, technical change and the globalisation of trade have led to a partial re-concentration of occupations into firms which make specialised *separate* contributions (eg design, assembly, marketing) to the “value chain” ending in purchases by consumers, that may extend across several continents and lengthy periods of time. This tendency interacts with the growing importance of specialised knowledge, to produce a new political economy, in which different fractions of “human capital” compete with each other, and with increasing success with the owners of physical capital, for increased shares of the value created by the productive system. In post-industrial societies, these fractions of human capital replace social classes as the most helpful aggregated categories used to understand human action.

But there is more to socioeconomic change than these developments in the narrow sphere of the money economy. The value chains are nested within more extended sequences of human activity, that are best to be understood as “chains of provision” linking the paid work in the economy to unpaid work within households and voluntary agencies, and to final consumption activities. Human needs are met by combining paid and unpaid work and consumption. Technological change alters each of these, as well as the inter-connections between them. This paper summarises an accounting system bringing together these disparate activities through measures of the time devoted by different sorts of people to each of them (described in more detail in ISER Working Paper 2005-8). The development of post-industrial societies may involve progressive transfers of time away from work in the economy to work in other spheres, or to consumption—this is however, to say the least, a controversial proposition.

Less controversial, perhaps, is the changing *nature* of work in post-industrial societies. In rich economies, paid work has less of the character of “industry”, the repetitive and laborious

transformation of inanimate materials—this is increasingly either mechanised or transferred to poorer economies—and more to do with invention, problem solving competition and coordination (“exploit”). The skills and capabilities required for these tasks (which are the resources used in the competition for advantage among human capital fractions) become the basis for a new social ordering, in which the dominant groups are those who can use their capacities most successfully in the context of paid work. While there are still, perhaps increasing, advantages to inheritors, the inheritance of fixed capital is of less importance, and the acquisition and transmission of human capital is the mark of the new dominant classes. The new dominant class in a post-industrial society is a (very well paid) working class, devoted to “exploit”. (This proposition is discussed in more detail in ISER Working Paper 2005-9)

# **What do we *do* in Post-industrial Society? The nature of work and leisure time in the 21<sup>st</sup> Century**

## **1 Introduction**

What is really *post-industrial* in post-industrial society? This essay concerns in the broadest terms production and consumption in modern societies, and the meaning of the word “work” in the context of the current changes in these.

Social change is not a neat process. There is no basis, other than religious conviction, for thinking that societies necessarily progress towards any particular state, sublime or malign. Individual societies may not so much progress as metastasize (ie. change in random or unexpected ways). This is not to deny developmental advantage to particular societal forms. Particular forms of social organisation persist and flourish in given states of the world. But social forms that do so, derive no moral or normative merit as a result. Natural selection produces no more than the persistence of the persistent. Nevertheless the evident fact of this selection process means that we can use the term “socio-economic development” in a non-teleological sense akin to biologists’ use of “speciation”.

Daniel Bell’s The Coming of Post-industrial Society (1974) provides the authoritative starting point for the discussion. At its heart is a very simple picture of stages of economic development. In prehistory we hunted and gathered. Pre-industrial societies depended on the “primary” sector, principally agriculture. Industrial societies depended on “secondary”, manufacturing industries. Post-industrial societies rely on “tertiary” production, services. There is a simple syllogism: (1) by an extension of Engel’s Law, the richer the household, the higher the proportion of household income spent on services; (2) technical change leads to productivity growth in primary and secondary sector production but not in tertiary; hence (3) labour displaced from primary and manufacturing sectors is absorbed in the service sector. Class structures in advanced societies mirror occupational distributions, so as service consumption increases, the service industries grow numerically, and the service workers become the dominant social class.

In Bell's formulation, theoretical knowledge, the key asset of the service class, replaces material possessions as the most important determinant of social position. Technocrats (state bureaucrats and those similarly placed in the great vertically integrated industrial combines), and high-skilled consumer service professionals (doctors, lawyers) act as un-self-interested Socratic guardians in the conduct of public and private policy choice, a new and trusted altruistic elite. The communist and capitalist systems alike are led by this "new class". Politics (and history—though Bell himself would not have put it this way) come to an end.

Tidy, even elegant. But misleadingly oversimplified, and in some (though not all) respects, quite wrong. "Services", in this account, mean just too many different things. In this paper I discuss three somewhat different senses in which societies might be said to have passed the "industrial" stage.

This paper is concerned with three sorts of social change in rich societies.

- Change in industrial structure which places human capital, and the processes of acquisition, accumulation and transmission of this, at the centre of the process of social structuration. Ownership of human capital progressively grows in importance, relative to financial or industrial capital, as a source of material and social advantage.
- Changes in the ways societies satisfy their members' wants, which require an innovation in the way we divide up economic life. Since Adam Smith we've had a strongly binary view which separates production and consumption into different spheres. What follows, attempts to bring together concepts of *production*, *reproduction* and *consumption* into a new notion, "chains of *provision*".
- Change in the nature of industry... in the sense of *industriousness*, which comes down to a reconsideration of the nature of work. The emergence of post-industrial societies, may, I will suggest, be understood as a decisive movement away from *industry*—using this word in a special sense due to Thorsten Veblen discussed later in the paper—to something that he called *exploit*.

## 2. Production changes

### Industries and occupations

But before we turn to Veblen's special use of "industry" as an abstract noun, we should start with the more conventional—and quite different—usage of the same word. We can define:

- an *industry* as a set of firms or establishments which all produce a particular class of good or service; in contrast to...
- an *occupation*, which is a set of job specifications with similar characteristics of skill requirement and task content.

At some definitely *pre-industrial* moment we might have thought of these two categories as identical. Take some ordered list of industries (such as "farming, fishing, mining, woodworking...") defining these categories to include all the population covered by the national Census; we could then specify a parallel list of occupations, such that, at this particular moment in history, all farmers worked in farming, and all workers in the farm industry were farmers, and so on for the miners and wood- and metal-workers, the transport workers and the inn-keepers and so on. At this pre-industrial moment, the Census cross-tabulation of all industries against all occupations, shows just a populated major diagonal, and all the off-diagonal cells are vacant.

There are some flows between industries—intermediate production and investment activities which complicate this picture a bit—but overall, at, say, the time of Britain's first census (the Domesday Book around 1080), there was certainly no basis for a distinction between "industry" and "occupation" as economic categories. And more than 700 years later, in the UK's first modern population census in 1801—and indeed for more than a century after that—no distinction of categories was made between the industrial and the occupational classification of the economic activity of the population.

**Figure 1: Pre-industrial undivided labour**

		Industries →		
		Primary	Secondary	Tertiary
Occupations ↓	Primary	X		
	Secondary		X	
	Tertiary			X

Of course, even by 1801 things had changed quite a bit. The division of labour, one of the essential elements in the emergence of an industrial society, means, in the first instance, a “vertical” movement of employment within each industrial column of the matrix. In addition to the pin factory processes of division of labour amongst the phases of a manufacturing process, also, in the high industrial period, a vertically integrated manufacturing industry might have employees across the whole spectrum of occupations, including for example miners and retail and occupational health workers as well as manufacturing process specialists; similarly the fisheries firm may employ engineers and transport and retail workers, and a hospital might employ gardeners (ie primary occupations), and carpenters (manufacturing process workers) as well as doctors and nurses and cleaners. In particular, tertiary or “service” *occupations* diffuse throughout the *industrial* structure.

**Figure 2: “Vertical” occupational movements in industrial society**

		Industries →		
		Primary	Secondary	Tertiary
Occupations ↓	Primary	X ↓	x ↑	x ↑
	Secondary	x ↓	X ↓	x ↑
	Tertiary	x	x	X

But—an aside on the imperviousness of statistical authorities to social change (and the ineffectiveness of academics’ publications)—separate classification of industry and occupation did not enter into the UK Census until 1911, a hundred and twenty years after Adam Smith!

These non-manufacturing occupations constitute, in the most general sense, “bureaucracies” within productive enterprises. And this straightforward consequence of Adam Smith’s division of labour, brings with it all the familiar *problems* of bureaucracy—high levels of specialisation of function lead to inflexibilities of allocation of individual remits and rewards within the undertaking, with demarcation between traditional crafts with traditional rates of pay and conditions of service, with rigid structures of management, planning, accounting and control, with traditional rights and responsibilities. Enterprises’ bureaucratic subcultures, lead to inefficiencies, in particular an inability to respond effectively to changes in technology and market conditions.

### **Two approaches to “the division of labour”**

The Wealth of Nations discussion of division of labour identifies three categories of advantage. Specialisation leads to an increase in dexterity (experience, practice, and other knowledge) in the specialised task, to a saving of the time involved in changing between tasks, and encourages the invention of new machinery to reduce labour inputs.

There is a parallel tendency, reflecting the principle of *occupational specialisation by level of returns to human capital*, as first identified by the computer pioneer Charles Babbage in 1832. Babbage himself saw this principle as operating alongside the conventional Adam Smith “material advantages of specialisation” division of labour, minimising the wage bill by maximising the proportion of labour within the enterprise undertaken by the least skilled of its workers. This increases the wage gap—or at least the potential wage gap—between the least skilled workers and the most skilled workers. That this potential may not actually be achieved within conventional vertically integrated enterprises reflects, simply, their bureaucratic inflexibility.

This alternative or additional view of the division of labour reached modern sociology via the work of the American sociologist Harry Braverman; its consequences are identified as deskilling within vertically integrated enterprises. A little later Sabel and Piore amongst others pointed to similar consequences from outsourcing, or subcontracting, to avoid the fixed costs (social security, insurance, job-protection etc) attached to the direct employment of low-valued-added labour. From their perspective also, the Babbage-type division of labour simply and unambiguously leads to job degradation. However, I contend that this is a mistakenly one-sided view.

Partly as a result of technological developments in transport, communications and storage (and surveillance) technologies, partly as a simple consequence of scale, there emerges a natural countervailing alternative to the integrated industrial form. A more general reading of the Babbage principle leads to the conclusion that the “vertical” disaggregation of employment within enterprises leads ultimately to an answering “horizontal” *reaggregation* of occupations—and to the emergence in particular of one very important new sector of the economy, which is not itself manufacturing, but does not provide services to final consumers, hence its description as “intermediate” or “producer” services industry (the second of these terms is due to Greenberg 1966).

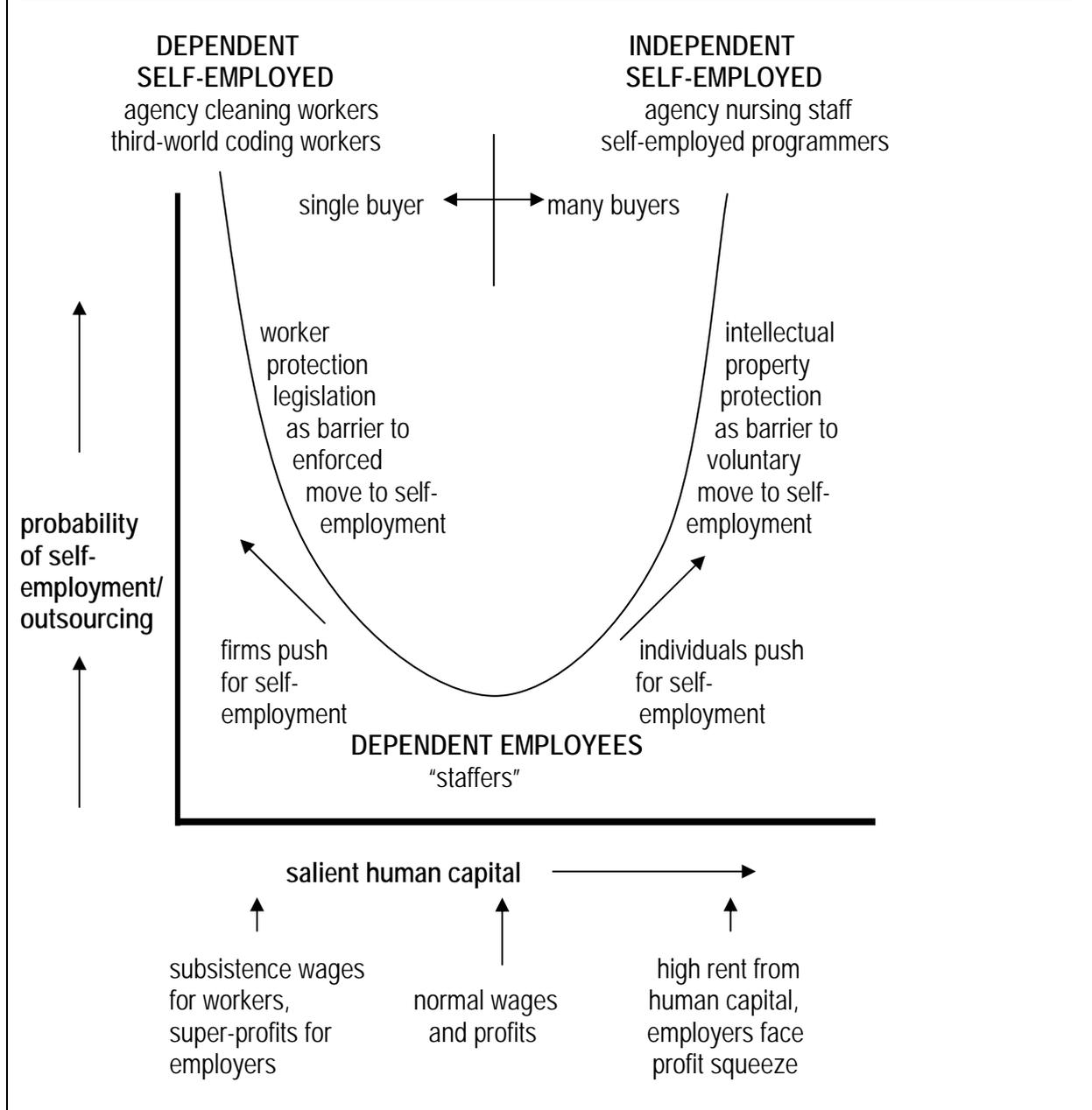
Manufacturing production tasks that once had to be done contiguously and continuously, can now be undertaken remotely and discontinuously. Which in turn means that activities that might once, as a matter of necessity, or to maximise efficiency, have taken place within enterprises in an integral manner, can now be efficiently separated and “out-sourced” or

subcontracted. Specialist skills embodied within workers, that were once exploited exclusively by owners of vertically integrated capitalist enterprises, can now be abstracted from those enterprise, and used by their owners as a means of extracting what is in effect “rent”—thus increasing the share of the value-added attributed to labour (ie “human capital”) rather than fixed capital (in the manner described by Sorensen 2000). The results of such change emerge in the standard industrial classifications as a growth of free-standing service industries, in such sectors as business consultancy and technical services, involving self-employment as well as the emergence of “bodyshop” service agencies providing highly skilled manpower on a subcontracting basis (PS1 in Figure 3).

Similarly, groups of low skill workers (eg cleaners) can be excluded from the core enterprise by the owners of the physical or key intellectual capital, so as to avoid fixed overheads from employment protection rules, or to evade agreements with labour unions over pay and conditions of service (or indeed to take advantage of the producer service firm’s specialised management expertise or equipment). The low value-added intermediate service firms (PS2 in Figure 3) that result from this distinct form of subcontracting provide employment for predominantly low human capital workers, similar to the peripheral or secondary labour market positions described by Piore and Sable (1984).

As matters of statistical accounting, the resulting high- and low-value-added service industrial employment may be little more than a re-labelling of specialised employment that was previously found in manufacturing or sometimes as freestanding consumer service industries. But of course the emergence of occupationally specialised producer service industries is not *just* occupational re-labelling. The workers in the high value-added and the low-value-added producer service groups have utterly contrasting life-chances. Human capital is the major source of income for most of the population for the majority of the life-course. Human capital is used as a bargaining tool to achieve advantageous social positions, and those with the highest human capital have the best life chances.

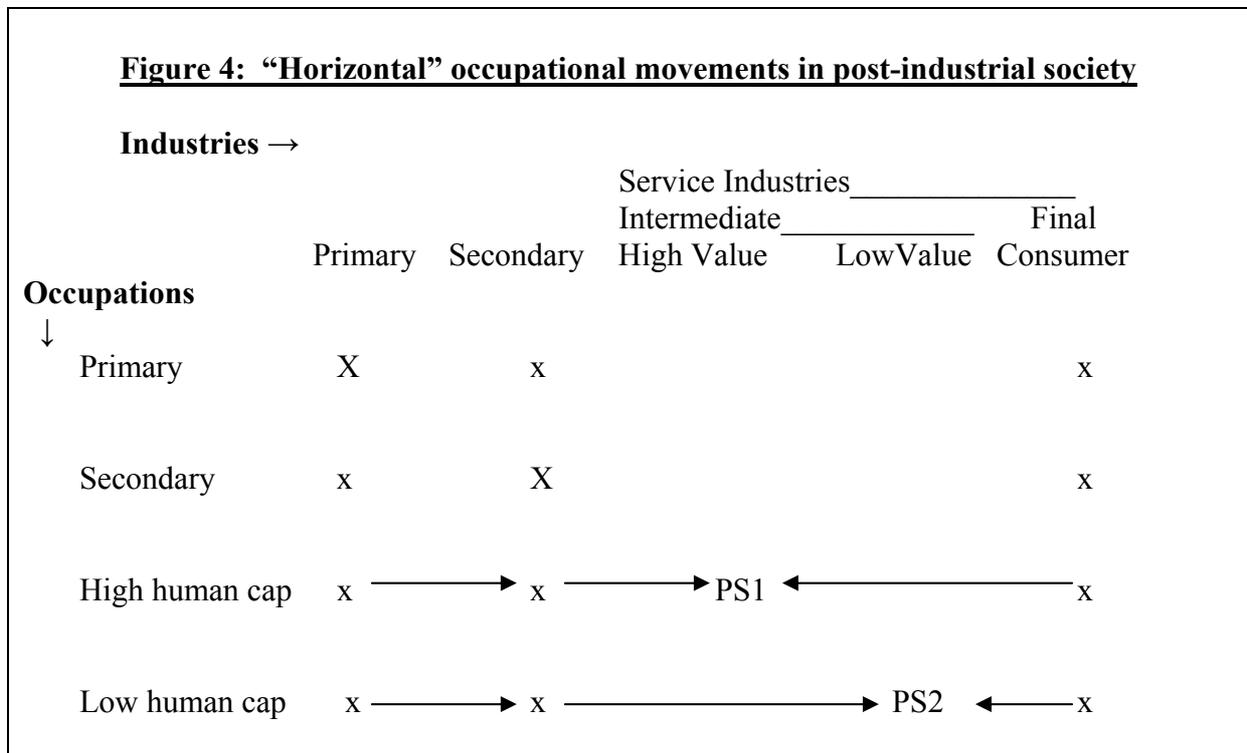
**Figure 3: Human capital and terms of employment: hospital and computing examples**



The producer service enterprises themselves employ only a small part of the working population, but their significance goes greatly beyond their numbers. They are “countervailing institutions” in Galbraith’s original (1953) use of the term and their significance is rhetorical or exhortative as much as it is practical. They serve to demonstrate to both labour and to management that the great concerns can be effectively broken down into a sequence (or network) of distinct and separately owned production activities—providing a means of escape from the bureaucratic sclerosis of vertically integrated

enterprises. There is a range of possible responses to this demonstration, with self-employed subcontractors at one extreme, and still-employed workers paid something closer to a free-market wage (or with more attractive conditions of service) at the other.

Babbage breaks down production processes by the “rent” that can be extracted in exchange for the deployment of the relevant skills. One intermediate consequence may be the breakdown of large enterprises into multiple smaller enterprises each with different levels of profitability. So in place, for example, of the integrated textile firm working (as in the proud boast of a now defunct British clothing manufacturer) “from weaver to wearer”, we now might expect to find multiple separate firms in the design, different stages of manufacture, assembly, stock control and distribution, marketing, after-sales support and so on, which might be located anywhere on the planet. The familiar clothes-manufacture brands (eg Nike) may now be involved in just a tiny proportion of the production process—and indeed, since they will wish to specialise as far as possible in only the high-value aspects of production, they may perhaps have no direct employees whatsoever involved in manufacturing production.



The implication of the development of this new form of disaggregation of industrial structure, is that the old vocabulary of “industries” and “occupations” is now becoming outdated. To replace them we need two new concepts:

- The first referring to the particular bundles of economically salient skills possessed by individual adult members of the society (from a more macro perspective we might think of these as *fractions of human capital*).
- The second referring to the sequences of activities through which these skills are combined to produce useful goods and services (think of these as *chains of production* or *value chains*).

These chains or sequences are constantly changing (as a result of new technology, and entrepreneurs’ “animal spirits”) and as they change so does the degree of economic salience of the particular bundles of skills, and hence the individuals’ power to extract rent for their deployment.

Of course, given that these bundles of economically salient skills accumulate slowly through the life course, and are frequently transmitted from parents to children, they constitute a prime basis for social differentiation. And the particular distribution of such skills deployed in any particular society within the global economy therefore constitutes its system of stratification—its social structure.

But instead of pursuing this issue of the central nature of human capital in social structuration, at this point I want to continue the discussion of the way chains or sequences of human activities are combined to satisfy human wants. Because there’s more to it than just changes in industrial structure within the economy.

### 3. From occupations and industries, to “chains of provision”

#### Consumption Changes

As well as the changes in the system of *production* we find changes in *consumption*. In particular through the 20<sup>th</sup> century, we see certain sorts of change in the modes of consumption of services:

- We may travel more, but not buy more trips on trains and buses.
- We may experience many more artistic performances, but this does not mean we go more often to theatres or concerts.
- We wear more clean clothes without buying more laundry services.

**Figure 4: Substitution of purchased goods for final services in some areas of service function provision during the 1930s-1980s**

**Transport:**

Trips by bus and train

*substituted by*

private automobiles, fuel, garage services

**Entertainment:**

Visits to cinema, theatre and concert hall

*substituted by*

television, video, radio, recorded media and associated players

**Domestic functions**

House cleaning, food preparation, laundry

*Substituted by*

White goods, more easily maintained materials, ready-prepared meals

The final consumption of services, in short, may quite as likely imply purchase of durable goods and materials (washing machines, cars, DVD players, computers and broadband connections) as final services produced by consumer service industries.

Similarly over the next half century, perhaps:

- We may substitute remote tele-shopping (the outcome of a complex sequence of communications, automatic warehousing and transport scheduling processes) for routine marketing.
- Other complex services (medical, life-style, personal management) accessed (initially at least) over the net.
- Some remote virtual reality experiences substituting for actual travel..

**Figure 5: New IT-based services 2000-2020**

**Routine retail distribution**

Shopping trips

*substituted by*

telecommunications, automatic warehousing and transport scheduling, home delivery

**Specialised personal services**

Face to face consultations

*substituted by*

video links to live providers or simulacra

**Travel**

Physical relocation

*substituted by*

remote virtual-reality “visits”

I should immediately add that these IT-based changes do not imply any necessary reduction of sociability. More social life may in the future be experienced remotely, but also, and perhaps as a direct result of, new remote contacts, we may experience a more *varied* social life. And there is no reason to assume that face to face contact reduces in absolute terms. Robert Putnam’s (2000) summary of changes in US over the second half of 20<sup>th</sup> century do not apply in quite the same way for Europe. We may have increased our time spent watching television, but in the UK and elsewhere, time devoted to social life outside home has also increased—in part perhaps as a result of new tastes learned at home in front of the TV. It is certainly the case that, contrary to Nie and Erbring 2000, those in the UK who increase their time using the internet *also* increase their out-of-home leisure time (Gershuny 2003:

presumably the internet is used to make arrangements to meet friends, and to book tickets and tables and tennis courts).

But I want to turn now to the implication of this for social accounting, turning back to the previous section's discussion of industries and occupations, reconceptualising production as a chain of activities in which different fractions of human capital are brought to bear in a complex sequence to satisfy human needs. It is clear that this sequence of activity does not in reality stop at the boundary of what is generally thought of as "the economy" (ie production activities). In addition to paid work it must also include closely analogous *paid-work-like* activities that take place in private households, sometimes substituting for things that used to go on in the economy (as in the laundry case) or perhaps being substituted for by activities inside the economy (the teleshopping example). And the consequence of these changes may be, in turn, to increase consumption time, and hence indirectly provide more opportunities for paid work.

Teleshopping, for example, substitutes time on the internet for (longer) periods spent shopping in person and in associated travel. But what does this do for jobs? It may perhaps mean:

- Less local employment of shelf-stackers and checkout workers;
- more employment for software specialists, producers of automated warehouses, drivers of small local delivery vehicles and so on; and
- some more free time for consuming other services (and hence employment in producing them).

Issues of this sort imply that we need a new way of thinking about consequences of technological and organisational change, that brings together production activities (inside the economy) and unpaid work and consumption (outside the economy) into a single system that combines them, that we might think of as *chains of provision for human wants*.

### **Time accounting and chains of provision.**

So, let us conceptualise social and economic life as a set of processes providing for a given set of “wants”—such as the “final service functions” in the first column of Table 1.

Consider the various rows of the table as representing “chains of provision” in which various activities—first of all different sorts of intermediate and final production in the money economy, then various sorts of unpaid work, then consumption time—are combined to satisfy each particular sort of want. Different technologies imply different “modes of provision” for each class of want (eg laundry vs washing machine (the French “regulation” school following Aglietta refers to these as “filières” or “threads”—as of silk—of connected activities). As prices and productivity and service quality for each particular filière change, so the “modal split” shifts: thus, the chain of provision associated with the automobile takes over proportionately from that associated with the streetcar, that of the television from the cinema, or, prospectively, home-based tele-shopping supplants the trip to the supermarket.

Table 1 is constructed from standard time budgets through the following four steps:

1. Associate each individual’s leisure and unpaid work time to the appropriate cells (eg in the nutrition row, eating time as leisure, cooking as unpaid work).
2. Associate the money values of each item of final output from the economy (ie all purchases plus all goods and services provided free by governments or similar agencies) with the appropriate rows in the table.
3. Use standard input-output and occupation-industry employment tables to calculate the ultimate occupational labour-time content of each category of final output (including both intermediate flows and the longer-term investment content of all commodities); substitute these time values for the money values in each cell.
4. Add in an extra row representing the paid work time embodied in exports (ie the time devoted by members of this society to satisfying the wants of members of other societies), and an extra column representing other societies’ work time embodied in imports (this information is provided in standard input-output tables).

**Table 1 The “Great Day” of UK adults, 1961, 1983 and 2001<sup>1</sup>** (minutes per UK adult aged >18)

	UK time						TOTAL	Non-UK time	
	leisure time	unpaid work time	UK paid work time						
			Consumer service professions	managers, scientists, etc	other service workers	manual workers		Foreign work from imports	
<b>1961</b>									
Sleep	564						<b>564</b>		
Shelter, nutrition etc.	94	159	1	15	32	71	<b>374</b>	24	
Home leisure, childcare	213	12	1	2	5	12	<b>245</b>	4	
Shops, out-of-home leisure	87	25	0	2	13	12	<b>139</b>	3	
Medicine, Education	5		12	2	10	8	<b>37</b>	2	
Background services			1	5	13	17	<b>36</b>	1	
Exports			0	5	11	30	<b>45</b>	6	
<b>TOTAL</b>	<b>963</b>	<b>196</b>	<b>15</b>	<b>32</b>	<b>83</b>	<b>150</b>	<b>1440</b>	<b>40</b>	
<b>1983</b>									
Sleep	550						<b>550</b>		
Shelter, nutrition etc.	82	154	2	11	19	28	<b>296</b>	22	
Home leisure, childcare	268	20	1	2	4	5	<b>299</b>	3	
Shops, out-of-home leisure	121	47		2	11	6	<b>187</b>	4	
Medicine, Education	11		14	3	12	5	<b>46</b>	3	
Background services			1	5	11	7	<b>23</b>	1	
Exports			1	7	11	20	<b>39</b>	10	
<b>TOTAL</b>	<b>1033</b>	<b>222</b>	<b>19</b>	<b>29</b>	<b>68</b>	<b>70</b>	<b>1440</b>	<b>43</b>	
<b>2001</b>									
Sleep	558						<b>558</b>		
Shelter, nutrition etc.	65	147	3	17	18	25	<b>276</b>	22	
Home leisure, childcare	244	24	2	3	4	4	<b>281</b>	3	
Shops, out-of-home leisure	136	52		3	10	5	<b>206</b>	4	
Medicine, Education	8		24	5	11	4	<b>53</b>	3	
Background services			2	8	10	6	<b>25</b>	1	
Exports			2	11	11	18	<b>41</b>	10	
<b>TOTAL</b>	<b>1011</b>	<b>224</b>	<b>34</b>	<b>47</b>	<b>62</b>	<b>62</b>	<b>1440</b>	<b>43</b>	

<sup>1</sup> Data sources: Nationally representative UK own-words diary samples, harmonised to MTUS (v.5.22)

- BBC Audience Research “Viewer/Listener Availability Survey” 1961 (N=9,292 adult days).
- ESRC Time Diary Study (SCPR) 1983/4 (N=8,411 adult days).
- ONS/ESRC Time Use Study 2000/1 (N=15,781 adult days).

Outline of calculation methodology provided in Gershuny 2000 pp 223-231, and a more detailed summary set out in ISER WP2005-8.

Let us say that the “Great Day” of the society—with one Great Minute representing the total of each of the minutes available to all the adult members of the population—has exactly 1440 Great Minutes. We have, in Table 1, a complete accounting of the time use of a society, at three historical points, in which each of the 1440 Great Minutes is accounted-for in relation to the satisfaction of one or other of the wants of the population. It shows us, in the broadest of terms, the effect of *technological change*, on the structure of the society.

We see a reduction in paid work time from 281 to 205 minutes. But within this trend, we see a substantial growth, from 47 minutes to 81, in that part of the society’s time devoted to relatively “high end” jobs in the professions and in scientific work (ie from 17% to 39% of paid work time). Low level service work time hardly changes, while the amount of time spent in manual work declines dramatically (from 150 to 62 minutes).

Unpaid work shows various conflicting trends, but overall increasing somewhat from 186 to 224 minutes. There is a 15 minute reduction in time devoted to basic household operations, cooking and cleaning, related both to technological changes in households’ production of basic services, and to the reduction in the numbers of dependent children. But despite the smaller numbers of children, the absolute amounts of time devoted directly to childcare activities have doubled, reflecting both an increased priority given to this activity, and an increased awareness of children’s vulnerability and needs for care. And the amounts of unpaid work time devoted by consumers to shopping and to associated travel have more than doubled, from 25 to 52 minutes—even though the time spent in paid work related to retail activities has been nearly halved. Here we see a really dramatic change in a chain of provision, reflecting the growth in the UK over this period, of the self-service “supermarket” as the main medium of delivery of retail services: the retail trade have reduce their costs (wholesale warehousing, transport, final “across-the-counter” retail services and so on) by externalising them. Paid employment decreased, conversely consumers increasingly used their own time driving to the ever more distant but larger shops, walking round them selecting goods and queuing to pay for their purchases.

We see changes in the balance between basic and luxury consumption. Time related to basic food and shelter provisions overall shrinks dramatically from 374 minutes in 1961, to 276 in 2001. This reflects, in addition to the changes already noted, very great increases of

productivity in the paid work related to construction and nutrition. The day of course still has the same number of minutes, so these changes free more than an hour and a half which may be devoted to more luxurious activities. Thus, among others, time devoted, by the society (in the form of paid and unpaid work as well as consumption) to out-of-home entertainment, education, health and education-related activities, increases from a total of 176 to 259 minutes—from 12% of the day to 18%—over the period.

This, we might say, is the essence of any economic development process. The chains of provision associated with the satisfaction of basic wants become relatively efficient, so that these wants may be satisfied through a declining proportion of the Great Day. Which means in turn that a growing proportion of the society's ultimate scarce resource, time, may be devoted to the satisfaction of more sophisticated wants.

Not shown by Table 1, but most important and directly implied by it, are the class and gender patterns of distribution of the different sorts of work and leisure. While the patterns of change described so far are—to judge by the international comparative evidence of change in time use—pretty much generic across the OECD, nevertheless, within these trends is some not inconsiderable scope for variation in the distributions among different sorts of people

This comes down to a general equilibrium model (set out in Chapter 3 in my Changing Times book). The model has various alternative solutions related to different mixes of modes of provision for various categories of want, associated with different distributions of human capital, and hence different forms of social structuration. Indeed there is an infinite (though bounded) number of alternative possible solutions, and the extent of this potential variation makes it unlikely that we will eventually agree on any simple categorical classification of “worlds” of welfare provision in the manner proposed by Esping-Anderson. But again, rather than exploring this issue, I want to press on to the third and final part of this paper.

#### 4. The balance between work and leisure in post-industrial society

So far the discussion has concerned the changing organisation of the contributions that different fractions of human capital make to the production of economic value in the economy, and, more generally, a way of thinking about the paid and unpaid work and consumption time in terms of chains of provision for human needs. We turn now to consider the *changing meanings of work* as we move to the end of the industrial phase of social development.

For almost all of human history, work was about the application of human muscles to achieve some physical transformation in the material environment. Work was heavy, unpleasant, something to be avoided if possible. The dominant social or economic classes *did not work*, in this sense. And certainly, from the late middle ages, time devoted to work was a central crux, or following Marx in Capital, *the* central crux, of conflict in societies. The form of this conflict was that powerful social groups tried to force weaker groups to do more work, and weaker groups tried to resist this.

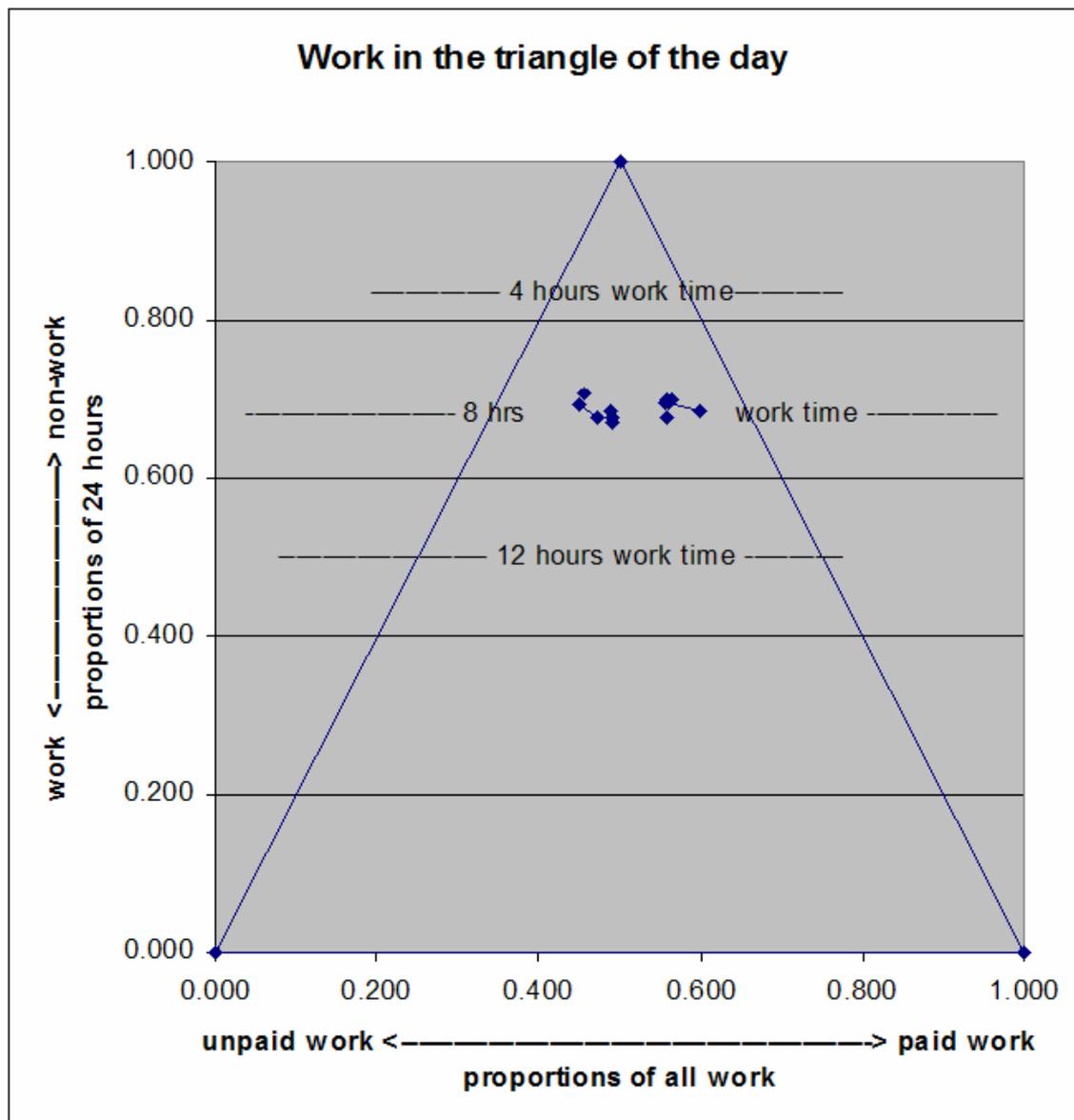
This conflict had, overall, an outcome that might be characterised as follows:

- historically, since the mid- to late-19<sup>th</sup> century, a decline in paid work time as the weaker groups combined successfully to resist “exploitation”; and
- at each point in history, maintaining a leisure gradient such that the more powerful, those with more command over capital, did less work than the less powerful.

Work time reduced; but still the dominant groups were—relatively at least—a leisure class, the dominated, a working class.

Consider recent changes in work in the very broad and comprehensive time allocation terms that introduced in the previous sections—in particular, the three grandest aggregated categories, the totals of paid work, unpaid work and consumption time (including sleep) for the working age population as a whole. Since these three categories add up to a constant

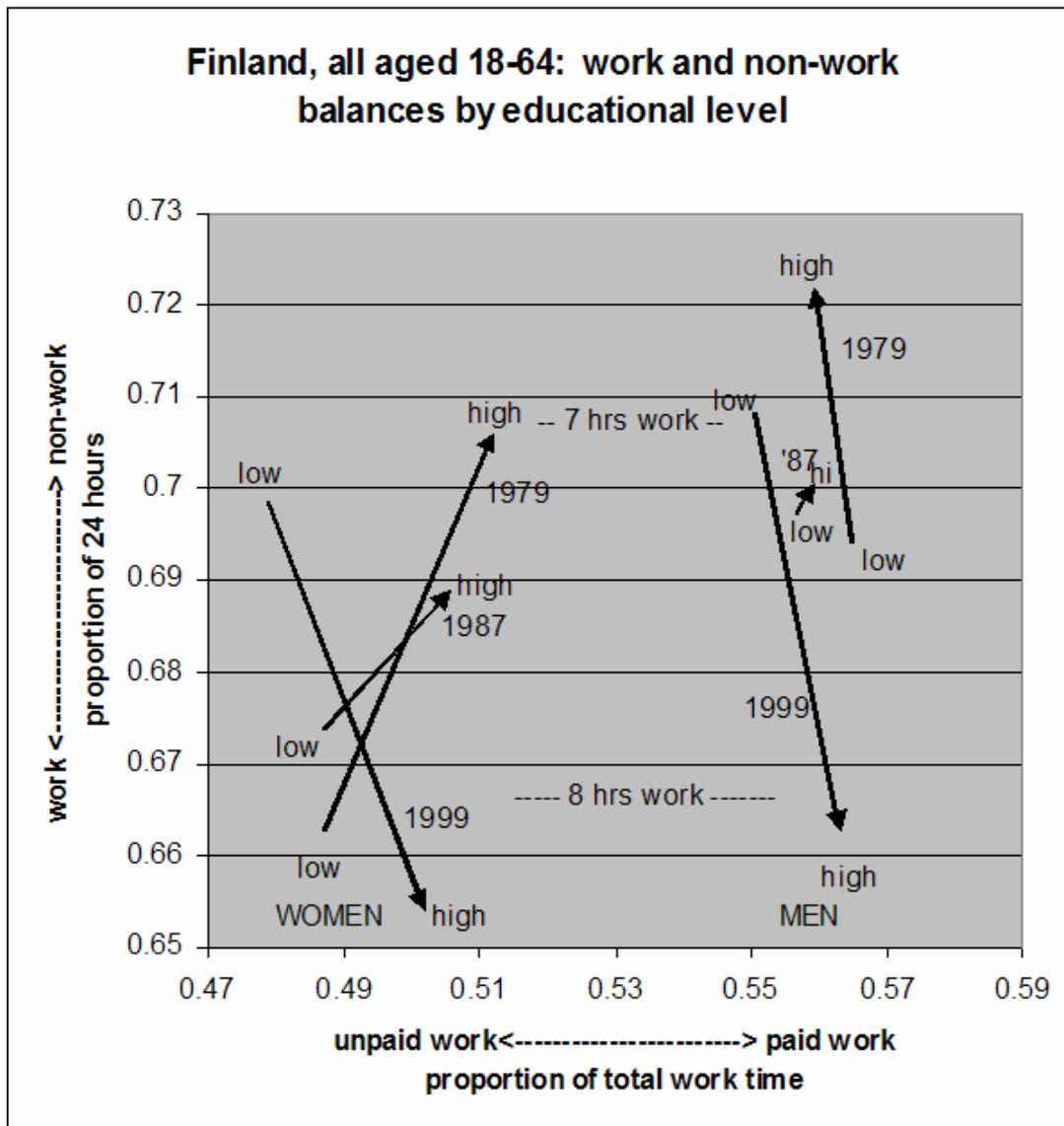
total, we can consider them neatly in just two dimensions, in what we might think of as *the triangle of the day*.



The triangle represents, simply, the set of all arithmetically possible combinations of paid work and unpaid work and consumption. I've set this up so that the bottom right apex of the triangle represents combination of all paid with no unpaid work or leisure, and the bottom left hand apex represent all unpaid work with no paid work or leisure. The apex at the top

represents all leisure/consumption time and no work. The further up from the base of the triangle, the less work. Since work—in this inclusive sense of the word—does seem to occupy about 8 hours per day on average in most societies, we expect to find most social groups about two thirds of the way up the triangle. Paid and unpaid work are still partially gendered, even in progressive societies like Finland, so women are more likely to be found on the left-hand side of the centre line of the triangle, men on the right-hand side of the centre line.

Now, let us take—as an example of a change that is pretty general across the developed world—men and women in Finland, considered separately by sex and level of human capital. I have taken as my high human capital category, simply those with completed high school education. The tips of the arrows represent the point in the triangle of the day occupied by the high human capital group, the end of the tail, that occupied by the low human capital group. The direction of the arrow represents the work-leisure gradient between the two groups.



In 1979, which is the earliest for which we have any time-use data for Finland, we see just the work-leisure gradient we'd expect from my historical summary. Women on the left-hand side, men on the right, with the high-human-capital group with more leisureed than the low human capital group. But now let us roll the years forward, through the 1980s to the end of the 1990s. The arrow representing the work-leisure gradient rotates in a clockwise manner, so that by the turn of the 21<sup>st</sup> century the gradient is negative, with the low human capital groups having overall substantially less work time than the high human capital groups. As we can see, it's around an hour per day of extra work.

This is a dramatic change. And just the same reversal happened around the same time in a number of European countries – UK, France for example. It happened, I think, a couple of

decades earlier in the US. It does seem to be a pretty general feature of post-industrial societies. And of course it happens for reasons that are closely connected with the processes of industrial discussed earlier in this paper.

Simply: as production becomes more technically complex, so the relative bargaining power of people with high level human capital rises, not just relative to other fractions of human capital, but also relative to other sorts of fixed or financial capital. Why *own* a factory, when you can design and market a high-concept product, and then let factory owners across the globe compete for the subcontract to produce it? Over historical time, the advantage shifts ever more decisively away from the owners of fixed capital to those who own and control embodied capital. Knowledge, as Daniel Bell told us a third of a century ago, becomes the axis of post-industrial power.

But the distinguishing feature of human capital, is that to extract the rent from it, it must be *used*. The owner of financial capital can just collect the dividends. The owner of human capital must charge out her or his time by the hour. So where in previous sorts of society, the members of the dominant classes might have demonstrated their social position by the ability to be conspicuously idle, the post-industrial rich may demonstrate their social position by their conspicuous busy-ness. The badge of honour is now not leisure, but work.

Which finally brings us to Thorsten Veblen, whose Theory of the Leisure Class remains quite the best source on the nature of leisure and work—particularly since, as I’ll briefly suggest, the analysis he provided at the beginning of the 20<sup>th</sup> century applies quite as powerfully, but with quite different implications, at the beginning of the 21<sup>st</sup> century.

Despite his title, Veblen’s explicit focus is not on work and leisure but on the contrast between what he calls “industry” and “exploit”. His account of economic development starts out, not with a leisure class, but with a leisure *sex*: women, in what he terms “primitive societies”, are devoted to the industrious (or “*industrial*”) activity of gathering and gardening, while men are devoted to *exploit* (pursuit of wild game, petty warfare and the search for plunder). And in Veblen’s interpretation of 1900s USA, the dominant (leisure) class’ conspicuous idleness still consists of participation in activities that might similarly be classed as exploit: violent games and pastimes, military preparations, political leadership

activities, unpaid administration of great estates, enterprises and charities, scholarship and science, and so on. In 2005 the dominant class is no longer non-employed, its members generally have paid jobs. They are working in politics, the administration of great enterprises and charities, in the military or in higher scholarship and science..... in short, one interpretation of “post-industrial” is that in Veblen’s terms the dominant class is now also a *working class*—but the work activity they are engaged in is no longer “industry” but “exploit”.

To exaggerate only slightly, one possible reason for the growth of work time, among the dominant class at least, is that the substance of much of the work in the 21<sup>st</sup> century has more than a little in common with the high-end leisure of the 19<sup>th</sup> century.

## **5 In Summary**

We see change in the temporal and spatial ordering of work activities. “Post-industrial” in this context means the break-up of the old dominance of vertically integrated manufacturing industry in the economy. This also encourages and enables change in the distribution of profits between different sorts of capitals—between “human capital” and fixed capital, and among different fractions of human capital.

The boundary between production and consumption, or the location of these activities in relation to those “industries” which are conventionally included in “the economy”, shifts dramatically and in a complex manner. Activities move out of the economic nexus, or back into it, as a result of changes in the way we organise the satisfaction of human wants—changes in what I call “modes of provision”.

And “work” itself has taken on two particular new meanings.

First as a consequence of historical shifts of work into and out of the economy – “work” must now unambiguously include unpaid work as well as paid. Women in industrial societies of course always understood this. We men won’t understand what’s going on, in post-industrial society, until we take this seriously.

The second concerns paid work specifically. Paid work increasingly includes a range of activities providing income, position and power through employment, which are not “laborious” (in the sense of physically onerous, or psychologically distressing) but correspond in some respects to activities that once constituted the play of the rich.

So finally, what’s post-industrial in post-industrial society, is that we’re moving, slowly but quite decisively away from *industry*, towards *exploit* as the basis for our economic activity.

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