Towards a New Socialism:
New preface, 3rd draft

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1 The political background to the book

This book was written during the late 1980s and first published in English in 1993 under the title *Towards a New Socialism*. It is marked by the conjuncture in which it was written, the Gorbachev period. The Soviet system still existed but was clearly in crisis. Reforms introduced by advocates of market socialism were already begining to disrupt the economy and giving political encouragement to social groups who wanted a complete restoration of capitalism. In Britain, the extreme right-wing Thatcher government was in power. For a decade her government had been systematically destroying the social gains made by the working class under previous social-democratic governments. State-owned industry was being privatized, repressive legislation was introduced against trades unions and the poor were being deprived of their right to vote by the Poll Tax.

Thatcher's program for rolling back socialism and entrenching the power of the rich was justified by the school of economic thought subsequently labelled neo-liberalism. Its leading theorists, people like Hayek and Friedman, advocated unrestrained free markets, minimal social welfare, and an economic role for the state that was reduced to the control of inflation. The Pinochet dictatorship in Chile had given the neo-liberals their first chance to put their ideas into practice; Thatcher's regime was their second experiment. Their next economic triumph was to be Yeltsin's Russia.

A century ago, pressing for the establishment of the Russian communist party, Lenin wrote that "without revolutionary theory there could be no revolutionary movement". We can generalize this to say that without adequate theoretical understanding no social group can constitute itself as a class in the political sense. One and a half centuries ago, on the foundation of the German communist party Marx wrote that "the immediate aim of the Communists is the same as that of all the other proletarian parties: formation of the proletariat into a class". The formation of the Russian and German workers into classes was linked to the propagation of the revolutionary interpretation of political economy in Marx's *Capital*. The social democratic parties that grew to strength in the late 19th and early 20th centuries had *Capital* as their bible. It was not, of course, read by every member, but through the mediation of party intellectuals its outlook shaped the social democratic press and the speeches of socialist politicians. Socialist educators, such as John Maclean in Glasgow, taught Marxist economics to workers in Labour Colleges.

By the mid 20th century, things were looking grim for capitalism. Facing Stalinism's triumph in the USSR then Eastern Europe, and salami-slicer socialism in Western Europe, right-wing economists like Hayek feared for the very survival of liberal capitalism. In response their theoretical project aimed to do for capital what Marx had done for labour—to provide it with a coherent political economy adequate to the needs of the age. Where Marx's *Capital* was, to paraphrase Bordiga, as much a manifesto for communism as a work of economics, Hayek's *Road to Serfdom* was a manifesto for counter-revolution. In the following half-century the ideas of neo-liberalism moved from the back shelves of libraries to dominate economic policy around the world.

They did this because they both met a class need and provided a plausible critique of an existing social order. They became hegemonic, defining the terms of reference of debate. They were openly adopted by politicians such as Thatcher, but they also exercised an influence at one remove in the socialist movement. They created an intellectual climate in which left-wing theorists lent a sympathetic ear to critiques of planned economy and advocacy of the market. Both in the West and the East, socialist economists like Brus, Kornai, Aganbegyan and Nove started to advocate models of market socialism.

The event which immediately precipitated our decision to write *Towards a New Socialism* was probably the publication of Alec Nove's *Economics of Feasible Socialism* (1983). This combined deep knowledge of Soviet experience and a sympathy for markets with a social-democratic political outlook. It was read by, and directly influenced, leading politicians in the Labour Party. It was cited by Neil Kinnock (leader of the Labour Party from 1983 to 1992) to justify moving away from the programmatic aim of public ownership of the means of production. We felt that while Nove's arguments were plausible, they were both politically dangerous and fundamentally wrong. Markets were not the only way to run a complex economy. Central planning was not only viable, it was becoming more and more viable due to the advance of computer technology. Our book was conciously cast as a refutaion of Nove, rather than directly as a refutation of Hayek, but Hayek and Mises stood in the shadows behind Nove.

A successful revolutionary movement needs both a guiding economic theory and a guiding political theory. The old communist movement had Marx's economics and Lenin's theory of the state and party as its twin pillars. Neo-liberalism has free market theory and the idea of representative government. In responding to neo-liberalism our aim must be to update Marxist economic ideas and Leninist ideas about the state. At the start of the 21st century we cannot be content with applying the labour theory of value to the analysis of capitalism, we have to apply it to socialism. Ninety years after Lenin's *State and Revolution* we have to re-write and radicalize Lenin's critique of representative government. We believe that one must combine three key ideas—the labour theory of value, cybernetic coordination, and participatory democracy—as an alternative to the liberal trinity of prices, markets and parliament. We have developed these themes in a number of publications (Cockshott and Cottrell 1989, 1992, 1993; Cockshott 1990).

Our emphasis on participatory democracy may owe something to the specific political circumstances of Scotland in the 1980s, when the country was treated almost as a colony by the Thatcher government. This led to a broad national democratic movement both of the working classes and the

mass of the intelligentsia against Thatcherism and for self-determination. This movement was broadly ‘socialist’ and in favour of constitutional reform. It encompassed umbrella groups like the Scottish Socialists, to which we belonged (as did Nove), and the more bourgeois-democratic Scottish Constitutional Convention. We found ourselves working with the far left wing of this movement, believing that only direct participatory mass actions could defend the people against the government. This wing of the national movement was responsible for initiating the campaign of mass civil disobedience against the Poll Tax which the English government had imposed on Scotland. We advocated that this tax on the right to vote be met by a refusal to pay. At the height of the campaign about half of the working-class population of Glasgow were withholding their taxes, and mass pickets were defending working-class homes against tax collectors. The book was written in the midst of this campaign. The mass movement was completely successful: opposition to the tax spread to England and led to Thatcher’s demise.

2 Questions raised

The editors of the Czech edition have asked us to answer a number of questions in our new Preface which can be summarized as follows:

1. Does our perspective rest upon any particular assumptions about the dynamics of capitalism?
2. What is our view of the transition process between existing economic systems and a socialist economy?
3. What is our view of the failings of the Soviet model of socialism?
4. How do we answer the criticism that our advocacy of direct democracy is naive and would not allow a socialist state to survive any serious internal or external political pressure?
5. What was the ‘socialist calculation debate’?
6. How do we conceive of the relationship between socialism and communism?

In addition others have asked us to justify why we make labour-time calculations the basis of our proposals for a socialist economy. We attempt to answer some of these questions in the following.

3 Capitalism and socialism

3.1 Contradictions of property relations

The conjuncture of the 1980s was the immediate condition of existence of our perspective, but that perspective had an intellectual history which went back a decade earlier. We drew intellectual influences from the French Althusserian, and to some extent the Italian Bordiguist traditions. By the late 1970s we were convinced on the one hand that further development of communist politics in Western Europe required advances in Marxist theory and, on the other, that such theoretical advance could

only occur in the context of questions posed by the needs of the political movement. In particular we were concerned with the programmatic questions posed by the transition to socialism in Western Europe and the nature of socialist economy.

In writing *Towards a New Socialism*, we had a definite conception of what modes of production were and how transitions between them occurred. Some of these ideas are working in the background of the book, laying the path along which the overt ideas are explained.

Our analysis was that the tendency of the development of capitalism has been towards the abolition of private property and thus towards communism. This development is manifested initially at the level of property relations, where a sequence of property forms arises reflecting the increasing socialization of the means of production: petty commodity producers, capitalist enterprises, joint stock companies, state capital, socialist property. At the same time as these developments in property forms take place, the accumulation of capital starts to meet internal limits. The working class population stabilizes and becomes better able to defend its conditions of life. Capital meets barriers to accumulation associated with falling rates of profit. The establishment of universal suffrage allows the working class some leverage on politics. The combined effects of these developments lead to periodic restructuring crises. These crises can be resolved either in a progressive or a reactionary manner. Crucial to the outcome is whether there is a working-class movement with its own distinctive political economy and approach to economic transformation. Without a distinctive and progressive economic program, there is no possibility of resolving the restructuring crises in favour of the working class. In the crises which arise, the transformation of property relations towards or away from communism is the key political question.[1]

Our approach to analysing the problem of socialist property relations started out with a critique of empiricist readings of what property relations mean. An empiricist account holds that the essence of capitalist property relations is the private ownership of the means of production; the essence of the communist revolution is its abolition. This formulation has two theoretical effects: it removes the distinction between different forms of capitalist property (e.g. individual ownership, limited liability property, state property and cooperative forms of ownership) and their economic and political articulation; and it reduces the question of the construction of communism to a single act of ‘abolition’. In contrast one needs to see the process of abolition of capitalism as something which goes through a sequence of property forms which in themselves tend to abolish private property.

To understand the transition from capitalism to communism it is not the invariant property relations of capitalism that one must understand, but the range of their variation under capitalism and in the transition to communism. Such an investigation is essential to an adequate comprehension of any current conjuncture, the elaboration of a communist programme, and hence the specification of the objectives of communist intervention.

In examining property relations, one does not start with property as it appears, with the legal expression of property relations. Instead one recognizes property relations to be particular types of reproduction relations. In consequence, property relations must be understood in the context of the

[1] Whether or not the crisis leads to revolution, in the sense of the forcible overthrow of the state power, is a relatively independent question relating to the balance of political and military forces in the state.

form of social reproduction to which they belong. Social continuity depends upon the ever-repeated production of the material goods needed for survival. Social unity arises from the interconnection and interdependence of the different aspects of social production. Thus, the starting point of any study of society must be its process of material reproduction, just as scientific biology makes its starting point the reproduction of the species. The material reproduction of a society must take place in an organized way, within the framework provided by one or more forms of social reproduction, which Marx termed modes of production.

A mode of production needs a coherent structure of productive forces, that is, a specific technical organization of the elements of the labour process. This organization sets up definite technical relations between the various elements of the production process. Raw materials and other objects of labour require appropriate means of labour if they are to be worked up into finished products. The type of technical relations that make up the system of productive forces is determined mainly by the implements used. These determine what resources are available as objects of labour, what types of physical operations the workers must carry out, and what types of cooperation and division of labour are possible. Most importantly, the system of productive forces determines the size and properties of the basic units of production, and in doing so it determines which forms of exploitation are compatible with the continuation of production.

Units of production are central to understanding property relations. Units of production are aggregations of workers and means of production within which certain organically linked labour processes take place. Within the unit of production the various different labour processes are directly connected, and stand in definite, technical relationships, the output of one process becoming the immediate input of another. As Bettelheim states,

> The material base of the unit of production is a grouping of means of labour serving to reproduce a determinate labour process. A unit of production exists only so long as the reproduction of an aggregate of labour processes is continued; the existence of the unit of production through time is nothing other than the existence of successive cycles of the same labour process using the same means of production. (Bettelheim, 1971, p. 94)

We distinguish three functions which property relations perform:

- *Level 1 property relations* act to ensure the reproduction of the units of production.
- *Level 2 property relations* act to ensure the extraction of surplus labour.
- *Level 3 property relations* act to govern the distribution of surplus labour.

Although these functions are analytically distinct it does not follow that a particular type of property relation will perform only one function.

At any given moment, changes to an existing concrete set of property relations are limited to those compatible with the continued material reproduction of society. It is only within such a range of variation that effective political struggles can change property relations. Movements within this range are

the resultant of two kinds of forces: the system of productive forces, particularly in its technological aspect, and the class struggle. Changes in the system of productive forces act to shift the limits or margins of the range of variation. For example, the development of large-scale machine industry is a precondition for either limited liability companies or state capitalism becoming the dominant form of capitalist ownership.

The range of variation of dominant forms changes over time. It now includes limited liability companies and state capitalism, but the present configuration of the productive forces excludes domination by sole proprietorship. The impossibility of a return to this form of dominance is attested to by the repeated defeats of the reactionary populist movements of the petty bourgeoisie since the development of machine industry. This points to the second force that enters into the transformation of property relations, namely, the class struggle. Once a new system of productive forces and relations is established the variations within that field are determined by politics. Political class struggle is always a struggle around and about state power, but state power is the means by which particular property relations may be changed or abolished. Changes in property relations are the strategic objectives of conscious class struggle. They give the struggle strategic content. Without a concrete understanding of the range within which this struggle is waged, and the significance of the various possible transformations, no scientific practice of the class struggle is possible.

The immanent tendency of the capitalist mode of production is towards the abolition of all personal private property. First the direct producers are expropriated and reduced to the status of propertyless proletarians. Then the centralization of capital and the formation of joint stock companies dissolves the personal property of the private capitalist. With the limited liability company, ownership is separated from control: the capitalist as organizer and controller of the production process is reduced to a paid functionary (albeit well paid) while the capitalist as owner is reduced to a functionless rentier. The personal ownership of the rentier, in its turn, becomes a juridical fiction, a pure level 3 relation concerned only with the distribution of surplus value and carrying with it no effective control over the means of production. Being functionally redundant to the operation of capitalism, rentier property can wither away. This ‘withering away’, however, is not the same as an abolition. The dominance of rentier property is reduced to make way for new forms of capital, but shareholding persists because:

1. The development of technology and the concentration of capital are uneven processes. Some areas concentrate more slowly: capitals arising for the first time in new areas of technology recapitulate the development of capital as a whole. Some capitals at earlier stages of development still continue to exist.

2. Share ownership remains the standard juridical form of capitalist property. In this capitalism shows conservatism, retaining the same juridical form with changed economic content. Companies remain constituted as objects of private property through the ownership of their shares, but the concrete personalities who constitute the subjects of this property relation change. Into the place of the rentiers there steps a handful of big financiers, and a still smaller group of impersonal financial institutions, banks, insurance companies and investment trusts. The private shareholder is not abolished outright or expropriated, just progressively displaced.

The continuous depersonalization of capital ownership, however, does not undermine the capitalist character of production. It ushers in no new age of managerialism or technocracy, it just proves the impersonal character of the laws governing the mode of production. Modern capitalism retrospectively proves Marx's thesis that the personalities who walk the economic stage are personalities only as agents or personifications of objective functions laid down by the mode of production. Capitalism as a mode of production remains legally feasible without joint stock companies or sole owners. So in the abstract Bettelheim's claim that the USSR was capitalist is not ridiculous. But the crucial issue is whether the units of production reproduce themselves via commodity relations. For this to be the case—for the law of value to regulate—there must be the possibility of bankruptcy. A shift of ownership from private owners to the state undermines bankruptcy as a regulator; indeed, this was one of the key objections to socialism by the Austrians. Closing down a firm becomes a political decision, subject to political pressure by the workers not the automatic act of an autonomous economic domain.

As capitalism progresses, an increasing share of the assets of firms consists of 'intellectual property': patents, copyrights, trade-marks. This rise in the importance of intellectual property is a consequence of technological changes. Information technologies, conceived in the broadest sense as those technologies that facilitate the copying and transmission of information, have been the most dynamic field of technical development in the last 40 years. Telecommunications, photocopying, faxing, software, the internet, digital games, digital cinema, have all vastly driven down the cost of copying and distributing information. As the distribution of information has become cheaper, an increasing fraction of the population has been drawn into occupations that involve the production of information: writing software, making TV and video material, publishing. What all of these have in common is that while the labour required to produce the information in the first place may be considerable—millions of person hours for a blockbuster film—the labour required to replicate it becomes vanishingly small.

An analogous case exists with the pharmaceutical and biotechnology industries. Here the labour required to discover and test a drug can be large, but once the chemical formula and its usage are understood the incremental costs of mass producing tablets is typically very low.

Let us call the information required to replicate these products 'embodied information'. This embodied information has a value, namely, the work required to produce that information in the first place. Under capitalist property relations the reproduction of firms engaged in these industries is possible only if they are given legally enforced monopoly rights that allow them to recover the costs of producing or discovering the embodied information. They do this by selling the product well above its value. This is an inherently unstable situation. Capitalist juridical property relations here come into sharp conflict with the potential of the forces of production. The enforcement of the property relations becomes problematic.

This is seen in more and more areas. The explosion of file-copying over the internet allows people to evade the monopolies of the film and recording industries. The producers of cheap generic drugs potentially allow AIDS patients access to life saving drugs that the pharmaceutical monopolies would deny them. In most cities there are shops selling nothing but bootleg software disks. Attempts by big media firms to encrypt pay-TV stations and recording formats are almost immediately broken by black-market hacking devices. The basic problem for capitalism now is that the evolution of

technology militates against private property. In the past, property inhered ultimately in physical objects whose ownership is much easier to police than an ownership of information. Yet unless private ownership of information can be enforced, it brings no revenue and its production is unprofitable.

At the same time we see nascent communist forms of anti-property brought into existence by the same revolution in technology—the open-source movement and the copyleft movement. Much of the internet now runs on open-source software such as the Linux operating system and the Apache web server. This software, written not for profit but for the simple satisfaction of producing a useful product, prefigures a future in which productive social labour becomes an end in itself. These are harbingers showing that private property has become a constraint on the development of technology. Within a continental scale socialist economy the overhead costs of producing information—whether it be videos, software or new pharmaceuticals—could be met out of general taxation, allowing the information itself to be disseminated free of charge.

3.2 Contradictions in the accumulation process

In addition to the changes in property relations discussed above there are long term structural developments which encourage the progressive incursion of socialist elements within the capitalist system.

Capitalism is built around the accumulation of property values. The aim of all firms is to increase the value of their capital stock, and increase the value of their turnover. But there are inherent limits to this process, limits which mean that any long period of capitalist growth ends in stagnation and recession. There is a huge Marxist literature on this, which we cannot go into here, but some of the key concepts are relatively simple to understand.

Consider a ‘typical’ firm in a developing capitalist economy. Let us suppose that the firm makes a 10% profit on turnover. Suppose half of the profit is consumed by the owner and the other half retained for internal investment. Then ideally the firm should be able to grow at 5% a year. In a rapidly developing capitalist economy like China, this is what happens. The capitalist sector of the economy can show sustained growth rates of this order for a few decades. As the typical firm grows, it takes on more staff, buys additional stocks of raw materials and purchases larger premises. Let us suppose that the number of workers it employs grows in line with its turnover at 5%. Now if something grows at 5% a year, it doubles in size roughly every 14 years. Suppose that in 1990 there were 200 million people employed in such Chinese firms. By 2004 the figure would have grown to 400 million. Clearly even in the most populous country in the world this kind of growth rate could not continue much longer. Such rapid growth in employment depends upon the existence of a surplus population drawn in from agriculture. Historically, peasant populations have had a relatively high birthrate, necessary for survival in the face of severe infant mortality. The first phases of modernization have typically been accompanied by public health measures which reduced infant mortality, such as inoculation campaigns, measures to restrict inset pests and provision of clean water supplies. This has, across the world as a whole, created an enormous surplus population that can potentially be drawn into capitalist employment.

As people move into cities and become wage workers instead of peasants there are changes in the

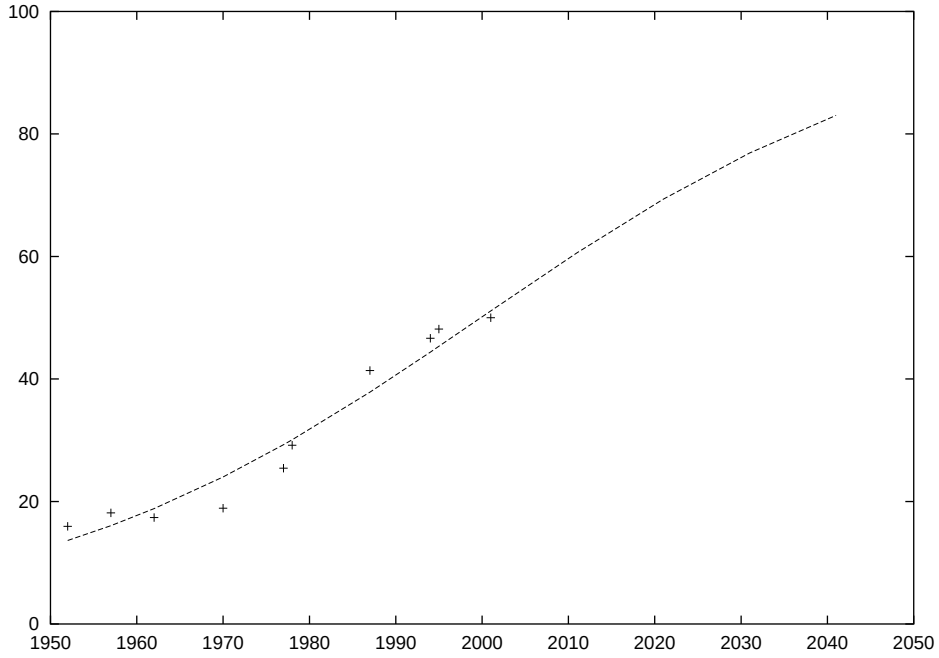

Figure 1: Growth of the non-agricultural percentage of the Chinese working population. Figures after 2001 are projections using a logistic curve. Original data from Maddison (1998).

family structure. The family is no longer a unit of production in which children figure as additional labour. Industrial society demands that children go to school and be financially supported by their parents. After a generation or so, working-class families end up being smaller, the population growth slows down and migration to the cities becomes less significant. Figure 1 shows how this process is developing in China, where the historical shift has been accelerated by the one-child family policy, but if we look at earlier capitalist countries we can see the effects of this demographic transition.

In Britain the migration from country to town was effectively complete 100 years ago. As the proletarian population became more stable and hereditary, trades union organization spread, and strikes and labour disputes became more common. It became harder for employers to expand their workforce at the old level of wages. The rising cost of labour and the limitations on new employment forces investment to be more capital intensive. Capital accumulation shifts from an extensive to an intensive mode. The capital to labour ratio rose (Cockshott, Cottrell and Michaelson, 1995).

Suppose we transport our ‘typical’ firm back a century to England in 1904. On an annual turnover of £100,000 the boss paid out wages of £20,000, paid £60,000 for raw materials and depreciation on his factory, and was left with a profit of £20,000. That gave him a rate of profit of 20% on his turnover and 25% on capital advanced. Being unable to hire more workers he decides that he will invest £10,000 a year in new machinery and buildings. By 1912 he had a capital of £160,000, and much more modern plant, but what had happened to his profitability?

He was still likely to only be earning £20,000. Why? *Because the profit that a firm makes tends to depend not on the capital that they employ but on the number of workers they employ*. The value added in production comes from employing people not machines. This value added is then divided between wages and profits. The share of value added going as profits fluctuates between firms and from year

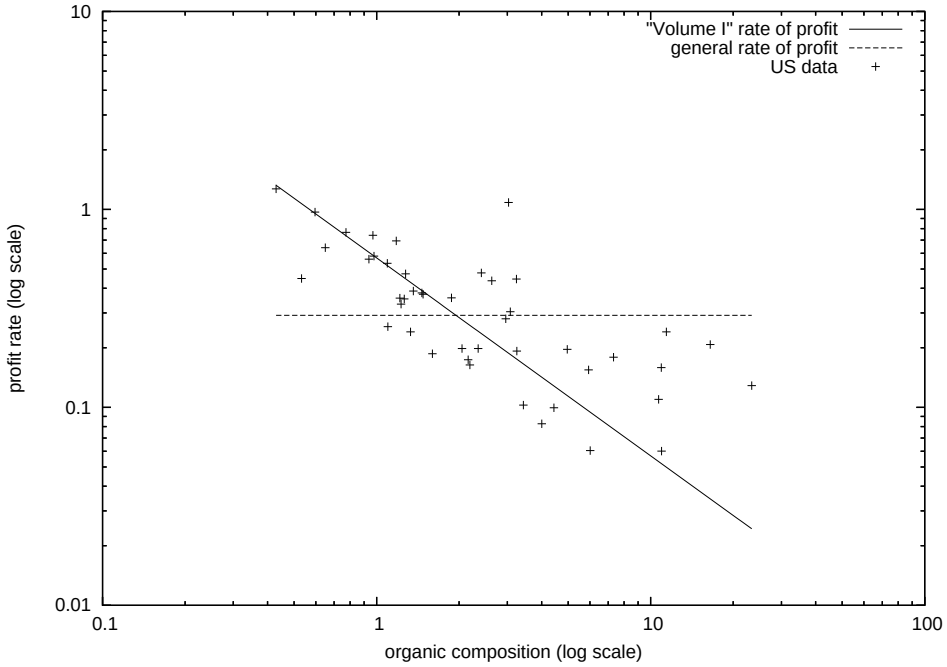

Figure 2: Relationship between organic composition of capital and profit rate for 47 industries in the USA, 1987. The downward-sloping line is the rate of profit we would expect if industries' profits were proportional to the labour they employ. The horizontal line is what we would expect if all industries earned the same rate of profit on their capital. The rate of profit tends to be lower for firms with a higher organic composition. Source: Cockshott and Cottrell (2003).

to year, but the mean share of profits tends to be roughly 50% of value added (Farjoun and Machover, 1983). In consequence as the capital to labour ratio rises firms tend to earn lower percentage profits on their capital. Our capitalist would still have an annual value added of roughly £40,000, split £20,000 profit and £20,000 in wages. Of course he might be lucky and sell his goods at a somewhat higher price, or defeat a strike and pay lower wages. But he might be unlucky and be forced to sell cheap, or lose the strike. If we take a representative firm these possibilities tend to cancel out.

The general point is illustrated by Figure 2. This shows, for the USA, how industries with high capital to labour ratios tend to earn low rates of profit. Similar data are available for the UK, exemplifying what Marx termed the law of the falling tendency of the rate of profit. As intensive capital accumulation leads to higher capital labour ratios the rate of profit tends to decline. This holds both across time and across industries. The more capital-intensive industries are less profitable, and, as more and more industries become capital-intensive the expected profit rate of a 'typical' firm tends to decline over time (see Figure 3 and Table 1).

The decline in the rate of profit with increasing organic composition is an early indicator of the incompatibility of private property with the long-term development of technology. It is one reason why 20th century capitalism was so poor at developing highly capital-intensive industries like railways. Their chronic low profitability forced many capitalist states to take these into public ownership. Attempts by British Tory governments in the 1980s and 90s to reverse this trend—for example, the privately built channel tunnel and the privatization of the rail network—bear this out. The channel tunnel company repeatedly ran into insolvency and the project only survived after the original share-

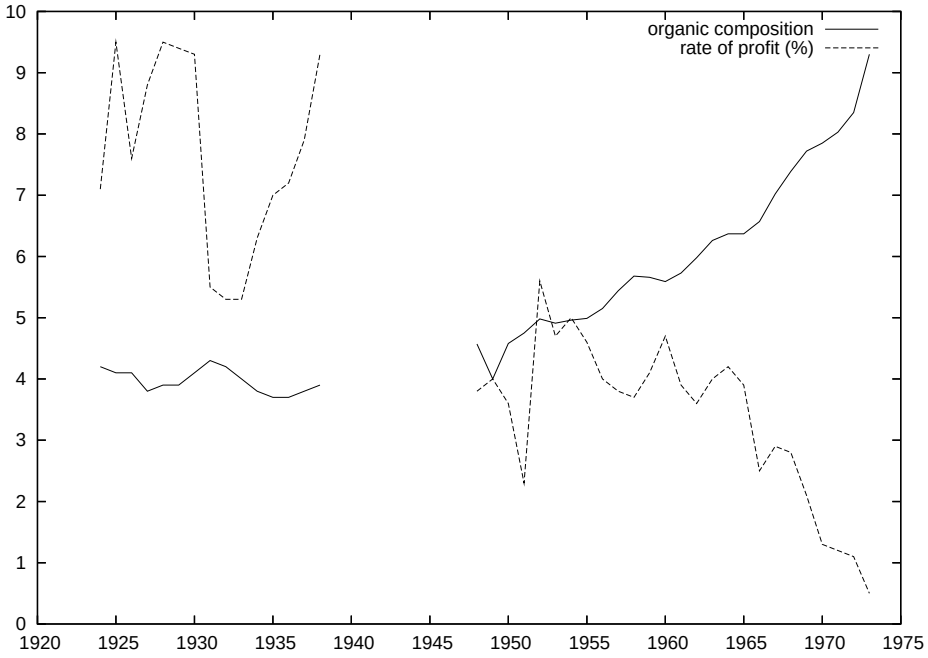

Figure 3: Time series plot of the evolution of the organic composition of capital and the rate of profit for UK industry as a whole, 1924–1973, from Cockshott, Cottrell and Michaelson (1995).

holders had lost most of their investment and public subsidies were provided to complete the project. In the case of the railway industry as a whole in Britain, it is only viable in private hands through the provision of massive public subsidies. Without this, the rate of return on the vast sums of capital involved would be too low to attract private capital.

The basis of the law of the declining rate of profit was famously questioned by Okishio (1961). This objection was raised within the context of an argument over whether a rising organic composition of capital will occur for reasons of technical economy under conditions of profit-rate equalization. We reject the assumption of profit-rate equalization as being directly applicable to real capitalist economies (Cockshott and Cottrell, 2003) and we also reject the notion that the mean rate of profit is available as a benchmark to firms making investment decisions. Instead we see the rate of interest playing this role, and argue for falling profit rates purely on the basis of the dynamics of accumulation compared to the dynamics of population growth. We assume that if interest rates are lower than the rate of profit of a significant fraction of capitals, accumulation will continue. The trend terminates when interest rates have to be held close to zero to sustain the economy, as in contemporary Japan.

The temporal decline in the rate of profit only occurs during sustained periods of capital accumulation, but at the same time acts as a limiting factor upon the ability of capitalism to sustain accumulation. If accumulation is sustained the rate of profit declines, tending to precipitate a long-term recession. This imposes on capitalist social development a long-term cycle of crisis and prosperity. Periods of economic crisis such as the 1930s or the 1970s and 80s interrupt the continued accumulation of capital and precipitate political and class struggles over the restructuring of the economy. Depending on politics these crises can be resolved in a progressive or reactionary way. Examples of progressive restructurings were the New Deal in the US during the 1930s and the post-war recon-

struction of the main Western European economies. Examples of reactionary restructurings include European Imperialism in the 1890s, National Socialism in Germany in the 1930s, and Thatcherism in the UK.

Table 1: Rising organic composition of capital: Swedish data, figures for Manufacturing and Mining. Source: Edvinsson (2003, Table 7.5).

	1871–1900 average	1971–2000 average	% change
$\frac{c}{s+v}$	184%	305%	66
$\frac{s+v}{c}$	54%	33%	−40
$\frac{s}{s+v}$	34%	21%	−38
$\frac{s}{c}$	19%	7%	−61

c = constant capital, v = variable capital, s = surplus value

A progressive restructuring tends to amend the property relations against the rentier interest. Reactionary restructurings move things the other way. For instance the neo-liberal policies of the 1980s tried to solve the problem of low profit rates by:

1. Raising the share of the population subject to capitalist relations of production by privatizing state services. This allowed a period of extensive capital accumulation into activities with a relatively low capital to labour ratio.

2. Generally weakening trades unions to hold down wages.

3. Allowing whole capital-intensive industries to close.

4. Changing international trade rules to allow greater international capital mobility.

5. Setting the overthrow of socialism in the East as a major political objective.

The first three of these options are relatively short-term in their effects, being effective for perhaps a couple of decades at the most. Points 4 and 5 however, give a longer span to the forces of reaction. They effectively opened up a huge scope of extensive capital accumulation, drawing whole new continental populations under the exploitation of capital. With the globalization of capitalism the previous national historic processes of capitalist development no longer constrain accumulation. It does not matter so much to the British or American rulers if their domestic populations are growing slowly if there is an elastic supply of labour in China, India, Romania, or elsewhere.

The great political strength of reaction today is based on the fact that while in the metropoles capitalism has outlived its progressive historical role, this is not true on a world scale. Unless new socialist revolutions again take continental economies out of the capitalist world system, extensive capital accumulation can continue for a few more decades. But eventually the law of the rising organic composition of capital will impose itself as a world-historical constraint. This will occur unevenly. The areas of Eastern Europe now being incorporated into the EU will be affected long before India,

for example, since they are already relatively urbanized and industrialized. But even in China one can see from Figure 1 that the point at which capitalist maturity will arrive is only a few decades into the 21st century. It is thus inevitable that a new restructuring crisis will occur. But this time it will occur in without the option of capital export. The objective necessity of the abolition of private property will re-present itself.

4 Economic Transition to Socialism

One of the most obvious gaps in *Towards a New Socialism* is the lack of any systematic discussion of the process of transition from capitalist to socialist economy, that is, the transition from an economy regulated by the exchange of commodities for money and the extraction of surplus as surplus value, to one regulated *in natura* by the plan and with a plan-governed extraction of the surplus product. In this section we attempt to remedy that deficiency.

Broadly speaking we see the transition as occurring through the intermediary forms of cooperatives and state-owned capitalist enterprises, in a three-stage process.

A first stage of transition involves moving from a system of shareholder capitalism to a combination of state capitalism and worker-owned enterprises. A second phase involves a transition to a fully planned economy.

What has to be ensured here is the continuity of material production while the property relations change. Since it is commonplace for enterprises to change ownership in a capitalist economy, the mere change in ownership need not directly threaten the continuity of production. There is a substantial history of orderly transitions of enterprises from private to state ownership and back. All that is required for a smooth transition at the level of commodity production is for the staff of the enterprises to remain at work, and for a clear line of state-guaranteed credit be provided to pay commercial bills falling due for the supply of raw materials. A recent example of this was the effective re-nationalization of the railway network in the UK, where almost overnight and without any special legislation the government had the private company running the railways declared insolvent, and its assets passed to a new ‘not for profit’ company. In the process, the shareholders found, like the shareholders in any liquidated company, that they were entitled to only a fraction of what they thought they had owned. This was a special case, however, since the enterprise being taken over was almost insolvent and dependent on government orders.

Turning to the formation of workers’ cooperatives, it would be relatively easy to legislate that the board of limited companies was to be elected either entirely by employees or, say, 75% by employees. In such circumstances the enterprises remain liquid, retain their assets, but change their board of management.

In the formation of both ‘not for profit companies’ and employee-managed companies, the losers are the original shareholders. In the case of the enactment of a law allowing the formation of worker-managed companies the issue is fudged somewhat: the rights of shareholders are restricted without being completely abolished. But it is clear that a board elected by the employees would be likely to

pay lower dividends than one elected by shareholders. The inevitable consequence would be a drastic fall in the price of the shares of the companies.

Where the state directly takes companies into its ownership the question of compensation for shareholders inevitably arises. It was the practice of Labour governments in the UK to fund the nationalization of companies by issuing government bonds to former shareholders. The net cost to the exchequer both on the revenue and capital account can be negligible. On the capital account the increase in state liabilities is offset by the shares acquired, while on the revenue side the obligation to pay interest on the bonds can be offset against the expected profits of the new state-owned firms. One can envisage an analogous provision in legislation creating worker-owned enterprises, whereby equity shares are converted to debentures.

Measures like this would enable the transition from rentier-owned capitalism to state- and employee-owned capitalism to be relatively smooth, but would have the disadvantage in the medium term of burdening both the worker-owned and state-owned firms with annual interest payments to the rentier class. It is clear that substantial differences in income and wealth would persist in such a scenario.

During the period in which these transitional forms dominate the economy, some alternative would be needed for the limited real role that the stock market continues to play as a source of new investment funds. The obvious recourse here would be an expansion of the role of the banks, perhaps particularly the state bank, as a source of investment funding.

After this phase of transition the economy would still be capitalist, but the ownership role of individual capitalists would be greatly reduced. The most serious economic disruption would have been to the financial sector, where the profitability of stockbroking and investment banking firms would drastically decline. But this decline would be manageable, being no worse than the structural changes to many heavy industries that occurred during the last twenty years.

A second phase of transition involves the development of the capacity for detailed planning—setting up of the administrative system, establishment of the democratic control mechanisms and construction of the computer networks and software that would be required to carry out the sort of planning we discuss in the book. Initially these plans would be indicative, becoming mandatory as the system bedded down.

A third phase involves the actual abolition of monetary exchange and the movement to payment in labour tokens. At this point the class interests of the residual rentier class and the mass of the employed population come into sharp conflict. The installation of a system of payment by labour tokens is incompatible with paying interest, since the money in which the interest payments were made will cease to be legal tender. By this point, the essentially parasitic nature of the rentier class will be generally evident, since they would have lost any remaining productive function. The major complication that arises here is the extent to which the pensions system of a country depends upon financial assets—stocks and shares. If many people are dependent upon pension schemes whose assets might suddenly become worthless, then the political opposition to a movement to labour tokens would be serious. However, pension schemes based on the stock market are encountering serious liquidity problems anyway. It should be possible to make a transition to a non-stock market based public pension scheme attractive provided that prospective pensioners can transfer pro rata. If this were done

prior to the transition to labour tokens, then the prospective losers would be limited to the capitalist class properly speaking.

The political appeal of the final abolition of money among the bulk of the population would be based on two prospects. First, it would simultaneously abolish all debts. Since a very large part of the population are net debtors—whether on credit cards or on house mortgages—this would create a strong constituency of gainers to outvote the minority who would lose under the scheme. Second, the transition to an egalitarian payment system would produce a significant improvement in income for the majority of the population.

5 Historical failings of socialism

The collapse of socialism of the Soviet type was due to identifiable causes embedded in its economic mechanism, but which are not inherent in all possible socialisms. In this section we will examine some of the well known contradictions within the economics of "previously existing socialism" and highlight some key ways in which our proposals differ from the policies and practices of the Soviet type.

5.1 The extraction of a surplus product

In the latter days of the USSR under Gorbachev the mechanism for the extraction of a surplus product progressively collapsed. This debacle underlines a key point: Marxist economics views the method of extracting a surplus product as the distinguishing feature of a mode of production.

> The specific economic form, in which unpaid surplus labour is pumped out of the direct producers determines the relationship of rulers and ruled, as it grows directly out of production itself and, in turn, reacts upon it as a determining element. Upon this, however, is founded the entire formation of the economic community which grows up out of the production relations themselves, thereby simultaneously its specific political form. It is always the direct relationship of the owners of the conditions of production to the direct producers—a relation naturally corresponding to a definite stage in the development of the methods of labour and thereby its social productivity,—which reveals the innermost secret, the hidden basis of the entire social structure, and with it the political form of the relation of sovereignty and dependence, in short, the corresponding specific form of state. (Marx, 1972, p. 791)

In a socialist economy the extraction of a surplus product takes place by means of *a politically determined division of the material product between consumer goods and other products in the state plan*. This is socialism's "innermost secret, the hidden basis of the entire social structure". The system of extracting a surplus is quite different from that under capitalism in the following respects:

- The division of the product is determined directly in material terms rather then indirectly as a result of exchange relations.

- The division is determined centrally rather than through numerous local bargains over the price of labour power, hours worked etc.

- The actual level of money wages is irrelevant because the supplies of consumer goods are predetermined in the plan. Higher money wages do not necessarily result in increased real wages. In addition, a large part of the real wage is in the form of free or subsidized goods.

This form of extraction rises out of the highly integrated and socialized character of production under socialism. From it is developed the absolute necessity of individual factories being subordinated to the center, and the comparative irrelevance of their individual profitability. Following on, it determines the centralized character of the state and the impossibility of local authorities having an autonomous disposition over resources. All these are invariant characteristics of socialism.

This "innermost secret" determines the relationship of rulers and ruled as follows. Consider two possibilities: either the rulers and the ruled are distinct groups, or they are one and the same. If, as in hitherto existing socialism, they are distinct, then whoever controls the planning authority is both the effective owner of the means of production, and a ruler. These rulers (in practice the Central Committee of the Communist Party), though often venal, cannot fulfill their social function by the shameless bourgeois pursuit of self-interest. They are compelled instead to take on the highly social and public role of so organizing the political and ideological life of the society as to ensure compliance with the plan. One of the most effective ways of doing this is through the cult of a charismatic leader, backed to a greater or lesser extent by state terror.

Personality cults, in which the leader is presented as the General Will incarnate, are no accident, but an efficient adaptation to the contradictory demands of a socialist mode of production (which dictates the dominance of political over civil society), combined with institutions of representative government.

It may seem odd to speak of representative government in the context of Soviet-type socialism, but the concept is quite applicable. Representative government selects certain humans, commonly called politicians, to stand in for, or represent, others in the process of political decision making. This is just what the Leninist party does in power. It acts as a representative of the working class and takes political decisions on its behalf. As such, it is no less representative a form of government than the parliamentary system. There are differences in respect of who is represented and how they are represented, but the representative principle remains the same: decisions are not taken by those affected but are monopolized by a group of professional rulers, whose edicts are legitimized in terms of some representative function. The selection of such rulers via multi-party elections cannot diminish their representative character nor abolish the distinction between rulers and ruled.

The contradictory character of socialist representative government is clearly evident. The representatives of the proletariat—through their control of the plan, and thus the method by which unpaid surplus labour is pumped out of the direct producers—become effective controllers, *pro tem*, of the means of production. As such their individual class position is transformed and their ability to go on representing the proletariat is compromised.

Only when the distinction between ruler and ruled is abolished, when the masses themselves decide all major questions through institutions of participatory democracy, does the totalitarian inner secret at the heart of socialism cease to be contradictory. Only when the masses in referenda decide the disposition of their collective social labour—how much is to go on defence, how much on health, how much on consumer goods, etc.—can the political life of socialism cease to be a fraud.

But to return to the question of surplus extraction. Under socialism this is an inherently totalitarian process, a subordination of the parts to the whole, the factory to the plan, the individual to the collective. Production is not for private gain but for the totality of society. Under a system of participatory democracy, this totalitarian conformism might take on a Swiss democratic rather than German fascist air, but it would be no less real.

Gorbachev undermined the whole surplus extraction process by attacking the totalitarian principle. One of his first measures was to allow factories to retain the greater part of their profit. At a stroke, he introduced an antagonistic bourgeois principle of surplus extraction: the pursuit of profit by individual enterprises. He threw the whole system into chaos. From the establishment of the planned economy in the USSR up to the time of Gorbachev, the turnover tax was the main the juridical form under which the state was financed. In capitalist language this was equivalent to meeting most state expenditure (new investment in infrastructure, education, welfare, defence, scientific research, pensions and so on) out of the profits of nationalized industries. Another big source of revenue was the vodka tax. Together these provided a stable tax base until Gorbachev's teetotalism campaign, and his simultaneous decision to allow enterprises to retain most of their profits, destabilized state finances and debauched the Rouble.

But these taxes were (as Keynes would have realized) just an administrative measure necessary to maintain monetary stability.[2] The taxes neither ensured the production of a surplus nor determined its magnitude. The real magnitude of the surplus was determined by the plan, when it laid down how much social labour was to be allocated to producing consumer goods and how much was to be allocated to other activities. Once the plan specified how many workers were to build new steel plants, new railway lines, mines, tanks and bombers, the ratio of surplus to necessary labour time was given. The production of a surplus product at the societal level was the result of conscious and explicit political decisions. The socialist state, unlike the "nightwatchman" state of capitalist society, could not be content simply with collecting taxes on an autonomously produced surplus. The state had to turn itself into a mechanism for actually producing and directing that surplus. This is the inner logic of the socialist mode of production, its basic law of motion.

Just as the production of surplus value through the purchase and exploitation of labour power is the inner secret of capitalism, ultimately determining the whole character of capitalist society, so the public, planned social appropriation of the surplus is the inner secret of socialism. From the exploitation of wage labour spring the class contradictions of capitalism. From the necessary appearance of the surplus in money form spring the financial crises, recessions and economic cycles that punctuate capitalism's history. From the planned appropriation of the surplus under socialism spring the class

[2]The reference to Keynes here relates to his pamphlet 'How to Pay for the War' (Keynes, 1940) where he made a similar point regarding the financing of the war effort in Britain.

antagonisms and class struggles of the socialist period. From the necessarily political form of surplus extraction spring socialism's political cycles: Stakhanovism, the great purges, de-Stalinization, the Great Leap Forward, the Cultural Revolution.

After Gorbachev had undermined the tax base, the state, deprived of its main form of revenue, resorted to the printing press. The factories had extra money, but since the division of the social product was still determined by the plan they could not act as private firms would and convert this new money into productive capital. The socialist system of surplus extraction was sabotaged without a bourgeois system to replace it, and the economy spiraled into an inflationary decline.

5.2 Prices and economic calculation

Previously existing socialism was limited by a deficient system of economic calculation. This point is made by all right-wing critics. They point out, with justification, that the price system operating in the USSR made rational economic calculation impossible. Numerous anecdotes tell of this:

> Here is one of many examples. Some time ago it was decided to adjust the prices of cotton and grain in the interests of cotton growing, to establish more accurate prices for grain sold to the cotton growers, and to raise the prices of cotton delivered to the state. Our business executives and planners submitted a proposal on this score which could not but astound members of the Central Committee, since it suggested fixing the price of a ton of grain at practically the same level as a ton of cotton, and, moreover, the price of a ton of grain was taken as equivalent to that of a ton of baked bread. In reply to the remarks of the members of the Central Committee that the price of a ton of bread must be much higher than that of a ton of grain, because of the additional expense of milling and baking, and that cotton was generally much dearer than grain was also borne out by their prices in the world market, the authors of the proposal could find nothing coherent to say. (Stalin, 1952)

Some forty years after Stalin made this observation pricing policy had improved so little that Gorbachev could cite the example of pigs being fed bread by collective farmers because the price of bread was lower than that of grain.

When the relative prices of things differs systematically from their relative costs of production, it becomes impossible for people to choose cost-effective methods of production. Following from this, we may say that, unlike capitalism, *previously existing socialism lacked an inbuilt mechanism to economize on the use of labour, and thus to raise its productivity*.

The fundamental economic justification of any new production technology has to be its ability to produce things with less effort than before. Only by the constant application of such inventions throughout the economy can we gain more free time to devote either to leisure or to the satisfaction of new and more sophisticated tastes. This implies that in socialist production workers must seek always to economize on time. Time is, as Adam Smith said, the 'original currency' by which we purchase from nature all our wants and necessities; a moment of it needlessly squandered is lost for ever. A socialist system will be historically superior to capitalism only if it proves better at husbanding time.

The wealth of capitalist societies is of course unevenly divided, but its inbuilt tendency to advance the productivity of labour underpins the continuing progressive role of capitalist economic relations. Had capitalism lost this potential—as some Marxists believed it had in the 1930s—then it would long ago have lost out in competition with the Soviet block.

In a capitalist economy, manufacturers are driven by the desire for profit to try to minimize costs. These costs include wages. Firms often introduce new technology in order to cut the workforce and reduce labour costs. It is a very naive form of socialism that criticizes technical change under the pretext that it causes unemployment. The real criticism that can be levied at capitalist economies in this regard is that they are too slow to adopt labour-saving devices, because labour is artificially cheap.

But in this respect the USSR was even worse. The state subsidized food, rent, children's clothes and other necessities. The subsidy on basic goods compensated for low money wages. But subsidies and social services had to be paid for out of the profits of state-owned industries. For these industries to make a profit, wages had to be kept low, and low wages meant that the subsidies had to be retained!

The worst aspect of all this was that enterprises were encouraged by the cheapness of labour to be profligate with it. Why introduce modern automated machinery if labour was so cheap?

5.3 Planning mechanisms: orthodoxy and conservatism

The Soviets, for reasons both ideological and technical, did not come close to building the sort of systems we identified as essential in *Towards a New Socialism*. Of course the Soviet planning system was quite effective at first. The Soviets were able to build a heavy industrial base, and in particular an armaments industry capable of defeating the Nazi war machine, in a much shorter time than any capitalist economy, albeit at a very high cost. At that stage of development, crude planning methods were adequate: the economy was much less technologically complex than at present, and the plans specified relatively few key targets. Even so, there are many tales of gross mismatches between supply and demand during the period of the early 5-year plans; a huge expansion of the inputs of labour and materials meant that the key targets could be met despite such imbalances.

The early Soviet plans were not drawn up according to the schema described in our book. Working backwards from a target list of final outputs to the required list of gross outputs, consistently and in detail, was quite beyond the capacity of Gosplan. Often, instead, the planners started out from targets that were themselves set in gross terms: so many tons of steel by 1930, so many tons of coal by 1935, and so on. This early experience arguably had a deleterious effect on the economic mechanism in later years. It gave rise to a sort of 'productionism', in which the generation of bumper outputs of key intermediate industrial products came to be seen as an end in itself.[3] In fact, from an input–output point of view, one really wants to economize on intermediate goods so far as possible. The aim should be to produce the minimum amounts of coal, steel, cement, etc., consistent with the desired volume of final outputs.

[3]It is noteworthy that Stalin (1952) felt obliged to take issue with the idea that the basic purpose of economic activity under socialism was production itself (see his criticisms of Comrade Yaroshenko). As with his criticism of the 'excesses' of forced collectivization in agriculture in 'Dizzy with Success' (1930; reprinted in Stalin, 1955), this is surely a case of Stalin belatedly attacking a view or practice that he had earlier encouraged.

At any rate, it became increasingly evident after the period of post-war reconstruction that the sort of planning system inherited from the 1930s was incapable of developing a dynamic, technologically progressive economy that would satisfy consumer demand. Certain priority sectors such as space exploration showed remarkable successes, but it seemed to be an inherent feature of the system that such successes could not be generalized. The converse of the priority given to the privileged sectors was the relegation of the production of consumer goods to the role of residual claimant on resources. Over the course of the 1960s and 70s, repeated attempts at reform of one kind or another were basically a failure, leading to the notorious stagnation of the later Brezhnev years.

Why this outcome? One technical point that suggests itself is the state of Soviet computing and telecommunications facilities at the time. We have argued that effective, detailed planning is possible using current Western computing technology, but the technology available to Soviet planners in the 1970s was very primitive by comparison. This point is important, and we shall return to it, but it is only part of the story and some other considerations deserve emphasis.

It is well known that official Soviet adherence to 'Marxist' orthodoxy placed obstacles in the way of the adoption of rational planning methods. New approaches to planning were generally regarded with suspicion, even those which had nothing to do with the introduction of market relations. As regards the input–output method, Augustinovics (1975, p. 137) has pointed out the double irony whereby this method "was accused of smuggling the evil of Communist planning into the free democratic economy and the evil of bourgeois ideology into the socialist economy." Treml (1967, p. 104) also suggests that the very idea of starting the planning process from final output targets was seen by the official guardians of orthodoxy as consumption-oriented and therefore somehow 'bourgeois'. Similarly, Kantorovich's path-breaking work on linear programming was for long rejected.

It would appear that the worst of this sort of ideological rejection of theoretical innovation had been overcome by around 1960. But although input–output analysis and linear programming eventually received some degree of official blessing, these techniques remained marginal to actual Soviet planning procedures. This was due in part to the computational problems alluded to above, which meant that input–output methods could not replace the much cruder 'material balance' calculations for the full range of goods covered by the latter (which was itself only a relatively small subset of the complete list of goods produced).[4] Some other reasons are noted below.

First, there was a damaging 'disconnect' between the routine activities of the state planning agencies Gosplan and Gossnab (lacking an adequate theoretical basis, and driven by ad hoc political pressures from the Politburo) and the growth of unworldly high-mathematical theorization of planning in the research institutes. This disconnect has two sides to it. On the one hand the 'practical planners' seem to have been resistant to innovation even when their resistance was not rationalized in ideological terms. Moving to a system of planning final outputs in the first instance, as we have recommended, would have marked a substantial change from the traditional Soviet pattern, a change that Gosplan was apparently reluctant to make. As Kushnirsky notes, "since the demand for goods and services in the Soviet economy is substituted with 'satisfied' demand, which is derived from the level of output,

[4]For the limitations on the size of the input–output systems which the planners reckoned themselves able to deal with at various times, see Treml (1967), Ellman (1971), Yun (1988), Treml (1989).

planners believe they can determine production plans more precisely than they can components of final demand" (Kushnirsky, 1982, p. 118). Translation: It's easier for the planners if they produce whatever they like, rather than what people actually want. Examples of this sort of attitude could be multiplied; see Cottrell and Cockshott (1993) for details.

The other side of the disjunction lies in the abstracted nature of much of the work done in the research institutes. The latter produced some good ideas for planning at the micro level (e.g. Kantorovich's linear programming), but much of the work done on 'optimal planning' of the system as a whole was hopelessly abstract, in that it required a prior specification of some sort of 'social welfare function' or general measure of 'social utility'.[5] While making little headway on this quixotic task, the 'optimal planning' theorists contributed to the 'cooling of interest' in input–output methods described by Tretyakova and Birman (1976, p. 179): "Only those models and methods that would lead to optimal results were worthy of attention. Inasmuch as it became clear almost immediately that an optimal model could not be built on the basis of input–output, many simply lost interest in the latter."

It is noteworthy that S. Shatalin—author of the briefly celebrated but absurdly impractical '500 Days' plan for the crash introduction of capitalism in the USSR in 1990—was in a previous incarnation the author of an equally impractical notion to optimize the plan. (See the account in Ellman, 1971, p. 11, where Shatalin is cited as discussing both input–output and 'optimal planning', and claiming that only the latter is 'really scientific'.)

The point is that our own proposals in *Towards a New Socialism*—although they certainly depend on sophisticated information systems—are relatively robust and straightforward. There is no attempt to define a criterion for social utility or optimality a priori; rather 'social utility' is revealed (a) via democratic choice on the broad allocation of resources to sectors, and (b) via the pattern of ratios of market-clearing prices to labour values for consumer goods.

A further reason for the failure of attempted reform of the Soviet planning system in the period from the 1960s to the early 1980s was the idea—apparently held by the leadership of the CPSU—that the application of new mathematical or computational methods offered a 'painless' means to improve the functioning of the economy, a means that would not fundamentally disturb the existing system (as opposed to the widespread introduction of market relations). In fact, advanced technical methods could yield real dividends only in the context of an overhaul of the economic system as a whole, involving, *inter alia*, a re-examination and clarification of the goals and logic of planning, as well as reorganization of the systems for assessing and rewarding the performance of enterprises.

Consider the sort of planning scheme we outline in chapter 8 of *Towards a New Socialism*, in which production is expanded for those products showing an above-average ratio of market-clearing price (expressed in labour tokens) to labour value, and reduced for those products showing a below average ratio. Such a system effectively rewards (with an increased allocation of labour and means of production) enterprises making particularly effective use of social labour. So enterprises should have an incentive to employ any methods which enable them to economize on labour input (both direct

[5] Besides this sort of problem, Kushnirsky notes the poor quality of the studies of existing planning technology conducted in the research institutes in the context of the ASPR project. He found that the accounts produced in the institutes were not amenable to algorithmic presentation, and "it was difficult to ascertain the purpose of these materials" (1982, p. 124).

and indirect) per unit of output. Some such scheme would be required to break out of the traditional Soviet pattern whereby enterprises merely aimed at securing easily attainable plan output quotas, and had no interest in improving their own efficiency.

5.4 Computing technology

We have argued for the feasibility of our planning proposals by reference to the latest generation of Western supercomputers, and there is no doubt that the computing technology available to the Soviets was primitive by comparison. Goodman and McHenry (1986, p. 329) describe the state of the Soviet computer industry as of the mid-1980s, noting that the substantial lag behind the West was in part the result of that industry's isolation: "no computing community, including that of the United States, would be able to move at its current pace if it were to have its contacts with the rest of the world severely restricted".

Nonetheless, although we found it convenient to take supercomputers as a benchmark in our calculations, we have argued elsewhere (Cockshott and Cottrell, 1989, appendix) that the same object could be achieved—more slowly, but still on a time scale useful for practical planning purposes—by means of a distributed network of personal computers at enterprise level, in communication with a relatively modest central computer. From this perspective, the most serious technical limitation in the Soviet case was the backwardness of the telecommunications system. Goodman and McHenry (1986) draw attention to the slow speed and unreliability of the Soviet phone system, and the problems of finding links that are good enough for data transmission. They also quote the striking statistic that as of 1985 only 23 per cent of urban families had phones.

Once again, however, we do not wish to over-emphasize technology. The economic information systems developed by Stafford Beer in Allende's Chile (described in Beer, 1975) show what could be done with modest resources, given the political will and theoretical clarity on the objectives of the system. If the Soviets had been equally clear on what they hoped to achieve via the computerization of planning, then even if it were impossible at first to implement all that they hoped for, they would have been in a position to exploit new developments in computer and communications technology as they appeared. In fact, of course, it would seem that Soviet economists—or at any rate, those who had the ear of the political leadership under Gorbachev—were little interested in developing the sorts of algorithms and computer systems that we have discussed. By the mid-1980s they had apparently lost their belief in the potential of efficient planning, and many had jumped on the bandwagon of resurgent free-market economics epitomized by the Reagan and Thatcher administrations.

6 Defending direct democracy

The process of surplus extraction via planning is a potentially contradictory process, that can give rise to class antagonisms pitting a state aristocracy against the working class. The process of struggle between these classes is characterized by a complex dynamics in which tendencies towards capitalist restoration are constantly generated. The state aristocracy, while prone to corruption and the private use of state resources, was only able to personally consume a small portion of the surplus. This

contrasts with the situation in mature capitalist countries where a large share of surplus value ends up funding the personal consumption of the upper classes. The state aristocracy had the opportunity to consume public resources only by virtue of their public position in an avowedly egalitarian state. Their private consumption thus appeared inherently shameful and could only be justified, if at all, by their record as patriots and revolutionary veterans. As the revolutionary generation passed, their successors looked longingly at the capitalist world which provided people like them not only with a much better life-style, but one in which luxury was legitimate, not shameful.

The tendencies towards capitalist restoration were held in check by politics—whether 'soviet power', tyranny, the dictatorship of the Communist Party, or mass revolutionary enthusiasm. Our view is, quite bluntly, that the revolutionary classes in socialist society failed to discover a state form adequate to the task of preserving and developing socialism in the long run. The characteristic socialist state forms have, up till now, been the revolutionary tyranny or the revolutionary aristocracy. Tyranny is functional so long as the original hero-king survives. As Castro shows, that can be quite some time, but it is a hard act to follow. Revolutionary aristocracy, or the 'leading role of the Communist Party', independent of individual mortality, survived longer. Rule by the Leninist party starts out as the rule of the most conscious and self-sacrificing representatives of the oppressed, but by the iron law of aristocratic decay, transforms itself into a self-serving oligarchy.

Against these forms, reformers and revolutionary enthusiasts have advanced two alternatives.

1. From the social democratic right came the advocacy of regularized parliamentary 'democracy'. This has been the consistent and honourable position of social democrats, dating back to Karl Kautsky's critique of the nascent USSR. Instead of socialist monarchy, or party dictatorship, they have advocated free and open parliamentary elections.

2. From the extreme left came an advocacy of a Paris Commune type of state. In this delegates were to be elected by districts, subject to recall by their electors, and in receipt of only average workers wages.

We believe there are good grounds, both of reason and experience, for rejecting both these alternatives in favour of direct democracy.

Parliamentary government, legitimized by regular elections, is presented to the modern world as 'democracy' plain and simple. We view it differently. We think, as Lenin did, that it is the most perfect form of rule by the rich. We think, as Aristotle taught, that elections are always and everywhere the mark of an aristocratic rather than a democratic state. Experience teaches that those elected to parliaments are always, everywhere, unrepresentative of those who elect them. Whatever indicator one looks at—class, gender, race, wealth or education—those elected are more privileged than those who vote for them. The elected are always socially more representative of the dominant classes in society than they are of the mass of the population. Once elected they will always tend to represent the interests of the classes from whom they are drawn. There are 101 detailed circumstances to explain this fact, but they all come down to the same thing. Those features which mark you out as one of society's 'elect', one of its better sort, are also the features that help you get elected.

It did not, therefore, surprise us that the institution of free and fair elections in Eastern Europe led to the immediate establishment of bourgeois power, symbolically marked as it was by the new Hungarian government's disarming of the factory militias. The USSR was a different case. There, the strange preference of the population for communist candidates meant that the road to 'democracy' had to go via Yeltsin's banning of the CPSU and subsequent use of tanks to shell the Russian parliament into oblivion.

Those advocating open parliamentary elections in the socialist bloc were in the main conscious advocates of capitalist restoration who drew behind them a few naive social democrats. Those advocating a Commune-type state, in contrast, wanted to reform and secure the socialist system. Their only problem was that Stalin had got there before them. The Stalin constitution of the USSR was already modeled on the Commune state: it was a council state, with peoples' delegates elected and subject to recall. This constitutional form was of course nothing but a mask for Communist Party rule. Why else had Lenin been such a strong advocate of the Commune style state?

Just as Lenin saw the parliamentary republic as the ideal form of bourgeois rule, he saw the council state, the Soviet Republic, as the ideal form of workers' dictatorship. But central to his revived Blanquist slogan of the workers' dictatorship was the Blanquist–Leninist revolutionary party. Just as the dominance of the Paris Commune by the Blanquists and Internationalists was the key to its bid for power, so the dominance of the Soviets by the Bolsheviks was the *sine qua non* of effective Soviet Power. Proto council-states are thrown up in most revolutionary crises, the most recent European example being Portugal in 1975. Their existence produces a profound crisis of legitimacy which must be quickly resolved, either in favour of parliament or in favour of the councils. If the councils are dominated by a revolutionary party and there are simultaneous military mutinies, this can lead to socialist revolution. Without the mutinies or without the revolutionary party's dominance, parliament wins.

The leftist suggestion that a council state be used to overpower the aristocracy of an existing socialist state has, to our knowledge, been attempted only once, by the Shanghai left during the Cultural Revolution in China. Although this produced the biggest shake-up ever experienced by a socialist aristocracy, in the end the attempt failed. The revolutionary committees set up during the Cultural Revolution ended up being dominated by the Communist Party (CP) just as much as the Russian soviets had been. We think that it is inevitable that in a socialist country with a well established CP, grass-roots representative bodies will either be dominated by the CP or by representatives of reaction. The overwhelming majority of convinced socialists will be in the CP, and their political experience and discipline will enable them to easily dominate grass-roots organizations where the general tenor is pro-socialist. Occasions when grass-roots organizations became consistently anti-CP tended to coincide with occasions when they were dominated by pro-capitalist sections of the intelligentsia and middle classes, the signal example being Solidarity in Poland. Those advocating an ideal council state as against the actual Soviet state were attempting to occupy a political ground that could not exist: for the council state to exist the CP would have to be abolished. Trotsky had the good sense to see the implications of this at Kronstadt. Some 70 years later some of his self-proclaimed followers with less sense found themselves cheering on Yeltsin's suppression of the CPSU.

To make headway one must recognize the hollowness of the claims of elective institutions to the title of democracy. It does not matter whether the institution calls itself a parliament or a council, if its members are chosen by election you can be sure that the representatives will be unrepresentative. It will be packed by the dominant social group in the society—the business and professional classes in bourgeois society, or the revolutionary aristocracy and party in a socialist society. We believe the only viable alternative is direct democracy.

7 Socialism versus communism

Our book was titled *Towards a New Socialism*, but it was essentially an elaboration of what Marx called the first stage of communism. That the title referred to socialism rather than communism was an accommodation to the political climate of the times. The English edition came out at a nadir for socialism. In the decade since then the advance of neo-liberalism has slowed down. An international anti-capitalist movement has come into being, although not yet an new international socialist movement. It is inevitable that there will be a growing readership for a coherent alternative to capitalism. But it was difficult enough in the early ’90s to find a publisher willing to print a book advocating socialism. We judged that a title explicitly advocating communism would have made it impossible to place or would have reduced the readership. Socialism was a sheepskin for our communist wolf. But this now leaves us with an obligation to explain what we understand by socialism and communism.

To repeat, what we advocated in the book was the first stage of communism. We called it socialism for political expediency. We reject the orthodox Soviet view of socialism as a prolonged period during which the productive forces are built up in preparation for an eventual communism. Our objection is not to the idea that the Soviet system was socialist, nor to the attempt to rapidly develop the productive forces, but rather to the conception of communism that is involved in this. The CPSU and western Trotskyist parties shared a common problematic when it came to thinking of communism. Communism is seen as a stage following socialism, a stage predicated upon material plenty with the free distribution of consumer goods. The sequence of development here is seen as capitalism $\rightarrow$ socialism $\rightarrow$ communism. This is not the same as the formulation put forward by Marx, which was capitalism $\rightarrow$ dictatorship of the proletariat $\rightarrow$ first stage of communism $\rightarrow$ second stage of communism. In *State and Revolution* Lenin equated the first stage of communism with socialism (Lenin, 1964), and treated both as synonymous with the public ownership of the means of production. This formulation was then adopted by all the traditions that base themselves on Leninism. In our opinion this is unfortunate since it represents an oversimplification of what Marx was saying.

Socialism, defined as public ownership of the means of production, is not equivalent to Marx’s first phase of communism, because the latter presupposed the elimination of money and a movement to calculation in labour time. Socialism as defined by Lenin can be quite compatible with the continued existence of money. The USSR after collectivization was socialist in Lenin’s sense but money persisted, as did wages and the commodity form. This continuation of money was not seen as a short-term phenomenon lasting maybe 5 or 10 years, but as something that was to persist for decades, and did indeed persist for half a century. The effect of Lenin’s formulation was to make the specific

features of Marx's first phase of communism invisible. The notion of calculation and payment in terms of labour time vanished, and with it any programmatic concept of achieving the first phase of communism as a distinct task.

It should be clear that payment in money terms allowed for significant disparities in hourly pay. People's incomes could all be ideologically presented as 'payment according to labour', albeit differentiated by the quality of the labour. While these economies did not have forms of property income such as interest, rent or dividends, the notion that widely differing money wages were all 'payments according to labour' was just as much an ideological fiction as the idea in bourgeois economics that wages, prices and profits are all equivalent as payments to 'factors of production'.

What remained of communism in the Leninist view was Marx's second phase: 'from each according to their ability, to each according to their need'. The path to this goal was seen as leading through the provision of free or subsidized consumer goods, moving eventually to a situation where all distribution would be free and unlimited.

We strongly disagree with this conception. We think that it rests on a misunderstanding of distribution according to need and had pernicious consequences.

1. When combined with monetary payment for labour, it installed a system of economic calculation that systematically held back the productivity of labour.

2. It made communism an ever receding mirage, since however much the productivity of labour did rise, it was never sufficient to allow the free distribution of all goods.

Distribution according to need is not the same thing as unlimited free distribution. In the British National Health Service, medical treatment is free at the time of need.[6] But this free distribution only works because there is some relatively objective assessment of need by doctors, combined with waiting lists for treatments (plus an element of privatization). This is quite different from saying that free distribution of clothes, for example, would be a case of 'to each according to their need'. If consumer goods in general were distributed free this would lead either to profligate waste, or alternatively to military-style uniformity of consumption if waste were curtailed.

Marx does not talk about free distribution, he talks about 'to each according to their need'. This is more compatible with the model followed by social-democratic welfare states of making supplementary payments to those with disabilities, to students, to large families etc. Payment according to need presupposes some procedure for socially assessing need. In this, welfare-state capitalism prefigures communism, but it does so in a monetary economy with wide income differentials. The gap between the first and second phases of communism is now much less than in Marx's day, when no welfare state existed. The principle of distribution according to need has already been accepted for some sectors of the economy in Canada and most European capitalist countries, and much of this would be carried over into communism. Those with special needs would either receive gratis specific goods and ser-

[6] With the exception of charges for medical prescriptions outside of hospital. These are levied at a flat rate unrelated to the commodity value of the drugs dispensed.

vices for which they had a need, or would be credited with additional labour time to acquire what they needed from the social stores.

8 The socialist calculation debate

In this section we offer a brief account of the socialist calculation debate of the 1920s and 30s, and indicate some of the connections between the arguments made at that time and the points we make in *Towards a New Socialism*. A full discussion of the historic debate can be found in Cockshott and Cottrell (1993a). Here we will concentrate on Ludwig von Mises' invervention, Oskar Lange's response, and the further responses of Mises and Hayek.

In 1920, with the Bolsheviks victorious in the Russian civil war and the spectre of communism once more haunting Europe, Mises produced his classic article on 'Economic Calculation in the Socialist Commonwealth'. His claims were striking, and, if they could be sustained, apparently devastating to the cause of socialism. The dominant Marxian conception of socialism involved the abolition of private property in the means of production and the abolition of money, but Mises argued that "every step that takes us away from private ownership of the means of production and the use of money also takes us away from rational economics" (1935, p. 104). The planned economy of Marx and Engels would inevitably find itself "groping in the dark", producing "the absurd output of a senseless apparatus" (106). Marxists had counterposed rational planning to the alleged 'anarchy' of the market, but according to Mises such claims were baseless; rather, the abolition of market relations would destroy the only adequate basis for economic calculation, namely market prices. However well-meaning the socialist planners might be, they would simply lack any basis for taking sensible economic decisions: socialism was nothing other than the "abolition of rational economy".

How did Mises arrive at this conclusion? His argument involves, first, a statement of what economic rationality is all about, and second, a supposedly exhaustive listing of possible means of rational economic decision-making; his task is then to show that none of these means can be implemented under socialism.

As regards the nature of economic rationality, Mises has in mind the problem of producing the maximum possible useful effect (satisfaction of wants) on the basis of a given set of economic resources. The problem may also be stated in terms of its converse: how to choose the most efficient method of production in order to minimize the cost of producing a given useful effect. Mises repeatedly returns to the latter formulation in his critique of socialism, with the examples of building a railway or building a house:[7] how can the socialist planners calculate the least-cost method of achieving these objects?

As regards the means for rational decision-making, Mises identifies three possible candidates: planning in kind (*in natura*); planning with the aid of an 'objectively recognizable unit of value' independent of market prices and money, such as labour time; and economic calculation based on market prices. We consider these three possibilities in turn.

[7] The railway example is in Mises (1935, p. 108). The house-building example is in *Human Action* (Mises, 1949, p. 694).

8.1 Planning in kind

The problem is deciding how to deploy given resources so as to maximize the resulting useful effect. This involves some kind of 'judgment of value' (i.e. assessment of useful effect). In the case of final consumer goods (in Mises terminology, 'goods of a lower order') this is quite straightforward, and requires no real calculation as such: "As a rule, the man who knows his own mind is in a position to value goods of a lower order" (1935, p. 96). And in very simple economic systems, this immediate valuation may be extended to the means of production:

> It would not be difficult for a farmer in economic isolation to come by a distinction between the expansion of pasture—farming and the development of activity in the hunting field. In such a case the processes of production involved are relatively short and the expense and income entailed can be easily gauged (1935, p. 96).

Or again:

> Within the narrow confines of household economy, for instance, where the father can supervise the entire economic management, it is possible to determine the significance of changes in the processes of production, without such aids to the mind [as monetary calculation], and yet with more or less of accuracy (1935, p. 102).

In these cases we may speak of planning in kind, without the intermediary of any accounting-unit such as money (or labour time). The point is that 'apples and oranges' *can* be compared at the level of subjective use-value, and in cases where the connection between the allocation of means of production and the production of specific use-values is readily apparent, this may be sufficient for achieving efficiency.

The limits of such planning in kind are set by the degree of complexity of the production processes. At some point it becomes impossible to achieve a clear overview of the relevant interconnections; beyond this point, rationality in the allocation of resources requires the use of some objective 'unit' in which costs and benefits may be expressed. Interestingly, the impossibility of planning in kind for complex systems is explicitly argued by Mises in terms of the capabilities of the human mind:

> [T]he *mind of one man alone*—be it never so cunning, is too weak to grasp the importance of any single one among the countlessly many goods of a higher order. *No single man* can ever master all the possibilities of production, innumerable as they are, as to be in a position to make straightway evident judgments of value without the aid of some system of computation (1935, p. 102, emphasis added).

So might the employment of means other than human minds might make possible planning in kind for complex systems? The main pro-planning argument in our book involves the use of labour time as a unit of account (and hence does not fall in the category of pure planning in kind), but nonetheless we would argue that advances in artificial intelligence, in particular recent work on neural nets, may be relevant to this question.[8]

[8] Results in the theory of neural nets, also known as parallel distributed processing, are presented in Rumelhart *et al.* (1986). A useful summary of the issues involved is given by Narayanan (1990).

Mises is in effect arguing that optimization in complex systems necessarily involves arithmetic, in the form of the explicit maximization of a scalar objective function (profit under capitalism being the paradigmatic case). But arithmetical calculation can be seen as a particular instance of the more general phenomenon of computation or simulation. What a control system requires is the ability to compute, whether the control system in question be a set of firms operating in a market, a planning agency, an autopilot on an aircraft or a butterfly's nervous system; it is by no means necessary for the computation to proceed by arithmetical means. The important point is that the control system is able to model significant aspects of the system being controlled. Firms do this by means of stock control and accountancy, in which marks on paper model the location and movement of commodities. In preparing these marks the rules of arithmetic are followed; the applicability of arithmetic to the problem relies upon number theory being a model for the properties of commodities.

On the other hand, consider an example of a neural control system. A butterfly in flight has to control its thoracic muscles to direct its movement towards objects, fruit or flowers, that are likely to provide it with sources of energy. In so doing, it has to compute which of many possible wing movements are likely to bring it nearer to nectar. Different sequences of muscle movements have different costs in terms of energy consumption and bring different benefits in terms of nectar. The butterfly's nervous system has the task of optimizing with respect to these costs and benefits, using non-arithmetical methods of computation. The continued survival of the species is testimony to its computational proficiency. It appears that neural networks are capable of producing optimal (or at least highly efficient) behavior, even when faced with exceedingly complex constraints, *without* reducing the problem to the maximization (or minimization) of a scalar.

A planning agency is likely to make widespread use of arithmetic and indeed, if one wants to make localized decisions on the optimal use of resources by arithmetic means, then Mises' argument about the need to convert different products into some common denominator for purposes of calculation is quite correct. If, however, one wishes to perform global optimizations on the whole economy, other computational techniques, having much in common with the way nervous systems are thought to work, may be more appropriate, and these can in principle be performed without resort to arithmetic.

Of course it would be anachronistic to fault Mises for failing to take into account developments in computer science which took place long after he wrote. He and Hayek were probably correct to argue that the proposals for planning in kind offered in 1919 by the likes of Neurath and Bauer, on the basis of the experience of the war, were highly problematic in peacetime conditions.[9] But it is fair comment on contemporary critics of socialism, who are often eager to recycle Mises' arguments, that they should not repeat uncritically pronouncements on planning in kind made prior to the scientific understanding of the nature of computation.[10]

[9] See Hayek (1935, pp. 30–31). Mises mentions Neurath on p. 108 of the same work. They refer to books by Neurath and Bauer (*Durch die Kriegswirtschaft zur Naturalwirtschaft* and *Der Weg zum Sozialismus* respectively, both published in 1919) which do not appear to be available in English translation.

[10] Cockshott (1990) presents a specific proposal for the balancing of an economic plan in the presence of constraints in the form of stocks of specific means of production, drawing on the idea of 'simulated annealing' from the neural net literature. His proposal does in fact involve the use of arithmetic—essentially the minimization of a loss function in relation to a desired vector of final outputs—but it points the way to application of artificial intelligence techniques to the task of economic planning.

8.2 Use of labour values

Having rejected the possibility of planning in kind, Mises considers the possibility that the socialist planners might be able to make use of an 'objectively recognizable unit of value', i.e. some measurable property of goods, in performing their economic calculations. The only candidate Mises can see for such a unit is labour content, as in the theories of value of Ricardo and Marx. Mises, however, rejects labour as a value unit. He has two relevant arguments, each purporting to show that labour content cannot provide an adequate measure of the cost of production.

First, he claims that valuation in terms of embodied labour time necessarily involves neglecting the cost associated with using up non-reproducible natural resources. Second, he argues that labour time is not homogeneous: it is misleading, he says, to add up hours of labour time with regard to skill or intensity. In a capitalist economy, the labour market provides a set of wage rates which make labours of different quality commensurable, but in a socialist economy without a labour market there can be no rational means of commensuration.

Mises' claims on these points form part of background to our arguments in *Towards a New Socialism*. You can find our response on the issue of natural resource use in chapters 5 and 14. We discuss the issue of labour quality in chapter 2, and the appendix to that chapter shows how Mises' problem can be solved via the calculation of 'skilled labour multipliers'.

It is worth noting that Mises' critique of the use of labour time as a unit of value is very brief and sketchy. Two pages or so of substantive argument appear in Mises (1935) and are reproduced in Mises (1951). In *Human Action* (Mises, 1949) the topic is dismissed in two sentences. This doubtless reflects the fact that although Marx and Engels had laid great stress on planning as an allocation of labour time, this conception had been more or less abandoned by Western socialists by the time Mises was writing. We return to this point below.

8.3 Use of market prices

In his discussion of market prices, Mises is concerned to establish two points: the adequacy of market prices as a means of rational calculation under capitalism, and their necessary unavailability under socialism.

It is clear that market prices *do* provide a basis for calculation under capitalism. By reference to prices, firms are able to decide on cost-minimizing technologies, and to decide between producing different products on the basis of their profitability. We don't dispute Mises' claim that the price system provides for a reasonably effective coordination of economic activities, up to a point. This was explicitly recognized, even emphasized, by Marx and Engels, as we note in section 9.2 below. Despite his critique of the 'anarchy' of the market, Marx saw the price mechanism as leading to an (imperfect, but better than arbitrary) adjustment of the supplies of commodities in line with demand, while enforcing convergence on production methods which require no more than the socially necessary labour time. Neither do we claim that the minimization of monetary cost of production or the maximization of profit have *nothing* to do with achieving efficiency in the satisfaction of human wants. But the two criteria are much less closely identified that Mises allows. Consider the following passage:

> Anyone who wishes to make calculations in regard to a complicated process of production will immediately notice whether he has worked more economically than others or not; if he finds, from reference to the exchange values obtaining in the market, that he will not be able to produce profitably, this shows that others understand how to make a better use of the higher-order goods in question (Mises, 1935: 97–8).

The person Mises refers to may 'immediately notice' whether he has worked more *profitably* than others or not, but the implicit assertion of identity between what is most profitable and what is most 'economical,' or simply 'better,' is unjustified.[11] Certainly, capitalists cannot make profits by producing something nobody wants, or producing with gratuitous technical inefficiency, but that is not enough to sustain Mises' claim. Is it not possible to reduce monetary cost of production by recklessly exploiting natural resources, cheap for the time being, yet ultimately exhaustible? If the production of luxury cars proves more profitable than producing buses for public transport, does that show that the cars represent a better use of resources?

One point that socialists often urge, as undercutting the alleged identity of the pursuit of profit and the satisfaction of needs, concerns the inequality of incomes under capitalism. Mises' response to this argument is interesting; he claims that the very notion of a 'distribution of income' under capitalism is misleading, on the grounds that "incomes emerge as a result of market transactions which are indissolubly linked up with production" (1951, p. 151).[12] There is no question of 'first' producing output and then 'distributing' it. Only under socialism could we speak of a 'distribution of incomes', decided politically as a separate matter from the production plan. But to adopt Mises' position—that the allocation of purchasing-power under capitalism is an endogenous element in the productive system—is to admit that the production of commodities for profit is *not* governed by the 'maximal satisfaction of human wants', unless one tries to argue that human wants themselves are generated in miraculous correlation with money incomes.

We then come to the unavailability of prices as a means of economic calculation under socialism. Mises accepts that there may be markets, and hence market prices, for consumer goods in a socialist economy, but the problem comes with the means of production. "Production-goods in a socialist commonwealth are exclusively communal; they are an inalienable property of the community, and thus *res extra commercium*," writes Mises (1935, p. 91). And "because no production-good will ever become the object of exchange, it will be impossible to determine its monetary value" (p. 92). For Mises, meaningful prices are necessarily the outcome of genuine market transactions between independent property-owners. The key feature of price or exchange-value is that it "arises out of the interplay of the subjective valuations of all who take part in exchange"; only by virtue of this fact does exchange-value "furnish a control over the appropriate employment of goods" (p. 97). We tend to agree with Mises on this. There may be other means of 'controlling the appropriate employment of

[11] This assertion is made quite explicitly in *Socialism*: "To direct production towards profit simply means to direct it to satisfy other people's demand. . . Ḃetween production for profit and production for needs there is no contrast" (Mises, 1951, p. 143).

[12] This is not dissimilar to Marx's view that the distribution of income is governed by the mode of production (specifically the distribution of the means of production—see for instance Marx, 1974, p. 348). In both cases, the argument gives rise to a dismissive attitude towards schemes for the radical re-distribution of incomes under capitalism.

goods,' but we accept his concept of *price* as the terms on which property-owners are willing to part with or acquire commodities. Oskar Lange, however, believed that Mises was vulnerable on precisely this issue, and made it the point of entry for his attack.

8.4 Lange and neoclassical socialism

"[T]he term 'price'," says Lange, "has two meanings. It may mean either price in the ordinary sense, i.e., the exchange ratio of two commodities on a market, or it may have the generalized meaning of 'terms on which alternatives are offered.' ... It is only prices in the generalized sense which are indispensable to solving the problem of allocation of resources" (1938, pp. 59–60). Lange bases his defence of socialism on the idea that a socialist economy can operate a price system in the generalized sense, emulating in certain ways the working of a market system, yet without having actual markets in means of production. We will outline the main features of Lange's position in order to draw a contrast with our own proposals, and to provide a context for the Austrian counter-arguments of the Austrians.

Lange starts from the principles of Walrasian general equilibrium, emphasizing the point that the equilibrium price vector of a competitive economy is determinate on condition that it balances the supply and demand for all commodities, while (a) agents treat prices as given and beyond their control, and (b) they optimize in a definite manner with respect to those prices. Given (a) and (b), each price vector maps onto a definite pattern of excess demands or supplies for all commodities, and only one price vector maps onto the zero vector of excess demands.[13] There is no reason, he argues, why a socialist economy cannot exploit this principle. What we require is that the planning authority sets 'accounting prices' for all means of production, and issues certain instructions to the managers of enterprises: treat the accounting prices as given; choose that combination of the factors of production that minimizes average cost of production at the given prices; and fix output such that marginal cost equals price of output. At the same time the managers of whole industries should follow the latter rule "as a principle to guide them in deciding whether an industry ought to be expanded (by building new plants or enlarging old ones) or contracted" (1938, pp. 76–77). Consumers and workers, meanwhile, make their demand and labour supply decisions respectively, based on the prices and wage rates they face.

There is no guarantee, of course, that the decisions made in the face of any given vector of accounting prices will be mutually compatible. In case of incompatibility, the planning authority performs the role of the Walrasian 'auctioneer', raising the accounting prices of goods in excess demand, and lowering the prices of those in excess supply.[14] This should lead, over a number of iterations, to socialist general equilibrium. There is no denying the ingenuity of this 'solution'. Neither is it difficult to see its tactical advantage: neoclassical economists inclined to accept the Walrasian theory as an adequate account of the working of capitalist economies will, it appears, be forced to accept the validity of Langean socialism, *mutatis mutandis*.

[13] While he is aware that problems of multiple solutions and instability of equilibrium can arise under certain conditions, Lange assumes that a unique and stable general equilibrium is the norm.

[14] The reference here is to Léon Walras, who in his *Eléments d'économie politique pure* of 1874 introduced the theretical fiction of an economy-wide auctioneer.

8.5 Some Austrian counter-arguments

Against this brief outline of Lange, let us examine some of the objections raised by his Austrian critics. We identify three main points: the claim that Lange's proposal compromises the basic premises of socialism, the static nature of Lange's theory, and the problem of incentives.

Mises (1949, pp. 701–2) states that on the traditional definition, socialism necessarily involves "the entire elimination of the market and catallactic competition." The presumed superiority of socialism rested on the "unification and centralization" inherent in the notion of planning.

> It is therefore nothing short of a full acknowledgment of the correctness and irrefutability of the economists' analysis and devastating critique of the socialists' plans that the intellectual leaders of socialism are now busy designing schemes … in which the market, market prices for the factors of production, and catallactic competition are to be preserved.

Although Lange is not mentioned by name, it seems clear that schemes such as his are the target here. While we accept that much of the subsequent 'market socialist' literature *does* compromise socialism, several points might be made in defence of Lange. First, he stresses that in his system the distribution of income is under social control, and will be quite different from capitalism. Second, he argues that the socialist planners will take into account external costs and benefits which are ignored by private firms (though he does not say exactly how). Third, while his system emulates in certain ways a *competitive* economy, he points out that in *actual* capitalism "oligopoly and monopoly prevail" (1938, p. 107), leading to an inferior allocation of resources. Finally, we make reference to Lange's (1967) essay in which he re-visits his arguments of thirty years earlier. Here he situates his original market-like proposals as essentially means of solving a system of simultaneous equations (those of general equilibrium). Now that electronic computers are available, he says, why not solve the equations directly? "The market process with its cumbersome *tâtonnements* appears old-fashioned. Indeed, it may be considered as a computing device of the pre-electronic age" (1967, p. 158). In this light it may be more appropriate to label Lange's ideas as 'neoclassical socialism' rather than 'market socialism': it is clear that he thought of the market—even his artificial market of 1938—as merely one possible means of achieving a certain kind of optimization.

A second objection to Lange made by the Austrians concerns the static nature of his solution. Lavoie (1985, chapter 4) maintains that Lange answered a question which Mises regarded as trivial, while failing to engage with the difficult question of dynamics. Now there is no doubt that Lange employs a static equilibrium theory, but his method is *comparative* statics, and he does specify an adjustment mechanism which will supposedly converge on general equilibrium following any parametric change (e.g. a change in technology or consumers' preferences). It is true, Mises denied that economic calculation was a problem under static conditions. However, by "static conditions" Mises meant true *stasis*, where "the same events in economic life are ever recurring" (1935, p. 109). Whatever problems the Langean system may have, one may hardly claim that Mises refuted him in advance.

The more substantial point raised by Mises and Hayek, and later emphasized by Lavoie, involves the speed of adjustment following parametric changes. Hayek, for instance, noting that in the real

world "constant change is the rule," states that "whether and how far anything approaching the desirable equilibrium is ever reached depends entirely on the speed with which the adjustments can be made" (1949, p. 188). Hayek goes on to argue that centrally-dictated prices cannot respond to change as flexibly as true market prices. The importance of this point goes beyond the assessment of Lange's particular argument. More generally, if the calculations required for socialist planning take too long, in relation to the pace of changes in consumer demand and technology, then planning is in trouble. We argue in chapters 3 and 6 of this book that with present computing technology the relevant calculations can be carried out fast enough.

Perhaps we should pause on this question a moment longer. The charge that the 'static' nature of Lange's system robs it of any purchase on reality is the centrepiece of the modern revival of the Austrian case, and although the proposals in this book are substantially different from Lange's they may be thought to be vulnerable to the same criticism. Particularly relevant to our ideas is the claim of Mises and Hayek that the socialist planners cannot, outside of a static economy, have the full and up-to-date information on production possibilities which they need. To the extent that such claims are based on the limitations of communications and data-storage facilities, they are now simply out of date, but is there a further basis? Lavoie suggests that the problem lies not so much in data-*collection*, as in the *creation* of relevant data. True, if technology and consumer demand are changing over time, the best way of accomplishing any given end is not always (or even generally) known in advance. Experimentation is needed. To the extent that capitalist entrepreneurs carry out such experimentation, they perform an important social function. But the idea that only capitalist entrepreneurs are capable of performing this function seems to us baseless.[15] A socialist economy could set up an 'innovation budget', whereby an agreed fraction of social labour time is devoted to just such experimentation with new processes and products. Existing enterprises or groups of people with new ideas could apply for a share of this budget. The disposition of the budget might be divided between two or more parallel agencies, so that prospective innovators have more than one chance to have their ideas funded (hence lessening the risk of 'ossification' of the process). As the results of such experimentation come in, successful new products could be incorporated into the regular plan, and successful technologies 'registered' as an element of the regular input–output structure of the economy. See chapters 6 and 9 for further discussion related to these points.

The third objection concerns incentives, in connection with the social function of the capitalists. Lange has his socialist managers following certain rules in order to achieve an optimal allocation of resources. Mises responds that while it might seem reasonable to draw a parallel between such socialist managers and the salaried managers of a capitalist joint-stock company, the whole argument overlooks the vital role of the *capitalists* themselves, which cannot be emulated by salaried functionaries. The dynamic adjustment of a capitalist economy requires

> that capital should be withdrawn from particular lines of production, from particular undertakings and concerns and should be applied in other lines of production.... This is

[15] The valid point that a dynamic economy must be constantly in search of new methods and products, and hence 'production function' information is not given once and for all, tends to shade over, in Mises and Hayek, into what one might call a 'mysticism of the entrepreneur'—a radical subjectivism for which we can see no scientific justification.

> not a matter for the managers of joint stock companies, it is essentially a matter for the capitalists—the capitalists who buy and sell stocks and shares, who make loans and recover them, ... who speculate in all kinds of commodities (Mises, 1951, p. 139).

Furthermore, Mises argues, "no socialist would dispute that the function which capitalists and speculators perform under Capitalism ... is only performed because they are under the incentive to preserve their property and to make profits which increase it or at least allow them to live without diminishing their capital" (p. 141). Maybe so, but the import of the argument here is not entirely clear. At one level, Mises is arguing against market socialism, claiming that the *market* system cannot work without capitalists. This may well be true, but as we noted above, 'market socialism' may not be an accurate label for Lange's system. Then again, he may be saying that major investment decisions, decisions to wind up or consolidate enterprises and so on, cannot be reduced to following simple rules. This is also true, and perhaps does cut against Lange. If, however, Mises is claiming that such decisions may be made conscientiously, with due attention to risk but without excessive conservatism, *only* by individuals motivated by the prospect of great personal wealth (in case of success) or personal financial ruin (in case of failure), then we flatly disagree.

9 Why labour time?

At a conference in 1992 organized at the instigation of Waclaw Klaus at the Pareto Institute in Lausanne we were the only economists defending the idea of a planned economy. Our use of the labour theory of value was criticized as a form of 'naturalism'. It was argued that it made no more sense to say labour was the basis of value than it did to say oil was the basis of value. One element of our research program over the last decade has been to contribute to re-establishing the scientific validity of the labour theory of value. There is now an increasing body of empirical research that validates the labour theory of value, and we are more confident than ever of the soundness of this approach.[16]

Two other issues have been raised, this time by left-wing economists. First there is the question of whether it is valid to use the category labour value in a socialist economy. Should we not see value, and the 'abstract labour' on which it is based, as something specific to capitalism? Second, wasn't Marx a severe critics of the idea of 'labour money', and aren't we proposing just what Marx attacked?

9.1 Value and abstract labour

As regards the first question, the idea that the concept of labour value is specific to capitalism has some initial appeal. One does not want to make the error of classical and neo-classical economics and mistake transient historical forms such as wages and capital for eternal features of all economies. With the abolition of commodity production under socialism, will value itself not disappear?

We think this idea confuses transhistorical categories with their historical form of appearance. Instruments of production are a transhistorical category; capital is a historically specific form in which

[16] See Ochoa (1989), Petrovic (1987), Shaikh(1984), Valle Baeza (1994), Cockshott and Cottrell (1997), Cockshott, Cottrell and Michaelson (1995), Cockshott and Cottrell (2003).

these can be represented. We see abstract human labour as a similar transhistorical category. It is the adaptability of human labour that distinguishes us from other animals. Unlike worker ants or bees, we are not born to a task: we learn our roles in life and can learn to move between roles. It is this abstract, polymorphous potentiality of human labour that makes human society possible. All societies are constrained by the hours in the day and the size of the population. They differ in the means by which human individuals are taken from being undifferentiated infants to being productive agents fulfilling concrete roles. In caste-based societies the abstract potentiality of each individual may not be realized but the potentiality is there. There is no significant genetic difference between an untouchable infant and a brahmin one, but the fixed nature of social customs may make it appear to the actors in such a society that such differences exist.

Capitalist society, which in principle allows any person to be hired for any job they can be trained to do, brings out the abstract polymorphism of human labour more clearly than previous modes of production. Of course we know that discrimination on grounds of skin colour, religion or gender exist in such countries, but such discrimination is in contradiction with the underlying principle of labour mobility, and the tendency in capitalist society is towards reducing such discrimination. The abstract fluidity of human labour is further held back in capitalist society by class divisions which restrict education and training to working class families. But it is just these remaining restrictions on abstract labour that socialism will abolish allowing all children the same choices of occupations. This is an essential feature of socialism: *it transforms the abstraction of human equality into a social reality*.

9.2 Marx and the critique of 'labour money'

Are we guilty of proposing a 'labour money' scheme of the sort attacked by Marx? The short answer is, No. Nonetheless Marx's (and Engels') critiques of labour-money schemes have been misread by writers from Karl Kautsky to the anti-communist historian of economics Terence Hutchison, so in this section we attempt to set the record straight.

The basic object of Marx and Engels' critique might be described as a naive socialist appropriation of the Ricardian theory of value. If only, the reformers argued, we could impose the condition that all commodities really exchange according to the labour embodied in them, then surely exploitation would be ruled out. Hence the schemes, from John Gray in England, through a long list of English 'Ricardian socialists', to Proudhon in France, to Rodbertus in Germany, for enforcing exchange in accordance with labour values.[17] From the standpoint of Marx and Engels, such schemes, however honourable the intentions of their propagators, represented a utopian and indeed reactionary attempt to turn back the clock to a world of simple commodity production and exchange between independent producers owning their own means of production.

The labour-money utopians fail to recognize two vital points. First, capitalist exploitation occurs though the exchange of commodities in accordance with their labour values (with the value of the spe-

[17] Marx criticizes Proudhon's scheme in his *Poverty of Philosophy* ([1847] 1963), and deals with John Gray in his 1859 *Contribution to the Critique of Political Economy* (the relevant section of which is reprinted as an Appendix to Marx, 1963), while Engels tackles Rodbertus's variant in his 1884 Preface to the first German edition of *The Poverty of Philosophy* (again, in Marx, 1963). Between Marx in 1847 and Engels in 1884 we find a consistent line of attack on such proposals.

cial commodity labour-power determined by the labour content of the workers' means of subsistence). Second, although labour content governs the *long-run equilibrium* exchange ratios of commodities under capitalism, the mechanism whereby production is continually adjusted in line with changing demand, and in the light of changing technologies, under the market system, relies on the *divergence* of market prices from their long-run equilibrium values. Such divergences generate differential rates of profit, which in turn guide capital into branches of production where supply is inadequate, and push capital out of branches where supply is excessive, as analysed by Adam Smith and David Ricardo. If such divergence is ruled out by fiat, and the signalling mechanism of market prices is thereby disabled, there will be chaos, with shortages and surpluses of specific commodities arising everywhere.[18]

One point which emerges repeatedly in the Marxian critique is this: according to the labour theory of value, it is *socially necessary* labour time which governs equilibrium prices, and not just 'raw' labour content (Marx, 1963, pp. 20–21, 66, 204–5). But in commodity-producing society, what is socially necessary labour emerges only through market competition. Labour is first of all 'private' (carried out in independent enterprises), and it is validated or constituted as social only through commodity exchange. The social necessity of labour has two dimensions. First, we are referred to the technical conditions of production and the physical productivity of labour. Inefficient or lazy producers, or those using outmoded technology, will fail to realize a market price in line with their actual labour input, but only with the lesser amount which is defined as 'necessary' (with respect to either average productivity or best-practice technique—Marx is not always consistent on precisely which). Second, there is a sense in which the social necessity of labour is relative to the prevailing structure of demand. If a certain commodity is over-produced relative to demand, it will fail to realize a price in line with its labour value—even if it is produced with average or better technical efficiency. The proponents of labour money want to short-circuit this process, to act as if all labour were *immediately* social. The effects within commodity-producing society cannot but be disastrous.

Now the lessons which Marx and Engels read to the labour-money socialists, concerning the beauties of the supply/demand mechanism under capitalism and the foolishness of the arbitrary fixing of prices in line with actual labour content, are rather pleasing to the critics of socialism. Terence Hutchison (1981, pp. 14–16), for instance, lauds Engels for his recognition of "the essential role of the competitive market mechanism" as displayed in his critique of Rodbertus. "Mises and Hayek," writes Hutchison, "could hardly have made the point more forcefully." But as Hutchison's praise is merely a preface to his denunciation of Engels for failing to realize that the very same critique cuts the ground from under his and Marx's own proposals for socialist planning, we must be careful to define the limits of the Marxian critique of labour money.

Of greater importance for the history of the debate, it appears that Kautsky also read the critique of labour money as casting doubt on the Marxian objective of direct calculation in terms of labour content, so that by the 1920s the figure widely regarded as the authoritative guardian of the Marxian legacy in the West had effectively abandoned this central tenet of classical Marxism.[19] Against this

[18] Direct quotation is hardly necessary to establish these points. See for instance Marx (1963, pp. 17–20, 60–61, 66–9, 203–6).

[19] In his book *The Social Revolution* (1902, pp. 129–33), Kautsky offers a brief and rather ambiguous discussion of

background, one can appreciate why Mises was able to get away with a brief and rather offhand dismissal of planning by means of labour values.

From the account of the critique of labour money we have given above, the limits of that critique should be apparent. What Marx and Engels are rejecting is the notion of fixing prices according to actual labour content *in the context of a commodity-producing economy* where production is private. In an economy where the means of production are under communal control, on the other hand, labour *does* become 'directly social', in the sense that it is subordinated to a pre-established central plan. Here the calculation of the labour content of goods is an important element in the planning process. And here the reshuffling of resources in line with changing social needs and priorities does not proceed via the response of profit-seeking firms to divergences between market prices and long-run equilibrium values, so the critique of labour money is simply irrelevant. This is the context for Marx's suggestion for the distribution of consumer goods through 'labour certificates'.

This suggestion appears in its fullest form among Marx's critical comments on the Gotha Programme of the German Social Democratic Workers' Party of 1875 (Marx, 1974, pp. 343–8). First, against the claim that each worker should receive 'the undiminished proceeds of labour', Marx points out that a socialist society must allocate a substantial part of the total product to cover depreciation, accumulation of means of production, social insurance, administration, the communal satisfaction of needs (schools, health services, etc.), and for the needs of those unable to work. Nonetheless, this leaves a portion of the total product for distribution as means of personal consumption. As to the nature of this distribution, Marx talks of two stages in the development of communism. At some future point, when 'all the springs of cooperative wealth flow more abundantly' it will become possible to 'cross the narrow horizon of bourgeois right' and institute the famous principle of 'from each according to his abilities, to each according to his needs,' but in the first stage of communism Marx envisages a situation in which the individual gets back—after the deductions noted above—what he has given to society.

> What he has given it is his individual quantum of labour. For instance, the social working day consists of the sum of the individual hours of work. The individual labour time of the individual producer thus constitutes his contribution to the social working day, his share of it. Society gives him a certificate stating that he has done such and such an amount of work (after the labour done for the communal fund has been deducted), and with this certificate he can withdraw from the social supply of means of consumption as much as costs an equivalent amount of labour (p. 346).

The labour certificates Marx talks of here are quite different from money. They do not circulate, rather they are canceled against the acquisition of consumer goods of equivalent labour content. And

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the 'law of value' and socialism, which combines statements of the classical Marxian theses with strangely incongruous comments on the 'indispensability' of money. In his later work, *The Labour Revolution* (1925. pp. 261–70) the formulations of Marx and Engels are dropped in favour of a general argument for the necessity of money and prices. This argument appears to owe something to the 'critique of labour money' discussed above; it also draws on the idea that the measurement of labour content is impracticable—it "could not be achieved by the most complicated State machinery imaginable" (p. 267). Incidentally, Kautsky (1925) is highly critical of Neurath's 'planning in kind' on very much the same grounds as Mises and Hayek.

they may be used for consumer goods alone—they cannot purchase means of production or labour power, and hence cannot function as capital.

The logic of Marx's position is clear: 'labour money' in a commodity-producing society is a utopian and economically illiterate notion, but the allocation of consumer goods via labour certificates under socialism is quite a different matter. It is a possible mode of distribution of a certain portion of the social product in a system where the mode of production has itself been changed through the socialization of the means of production and the institution of planning. Furthermore, it is a mode of distribution which Marx himself advocates.

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